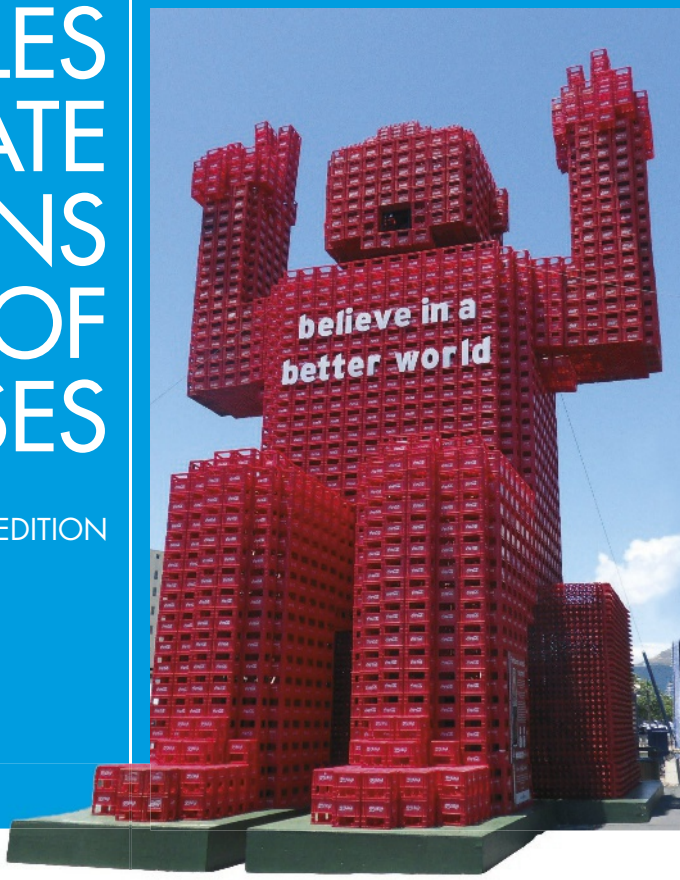
Legal Perspectives
for Global Challenges

5

PRINCIPLES ON CLIMATE OBLIGATIONS OF ENTERPRISES

SECOND EDITION



Expert Group on
Global Climate Change
Edited by Jaap Spier

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Legal Perspectives for Global Challenges

Climate change is the most important challenge humankind ever faced. GHG emissions must be reduced at great pace and to a significant extent to keep global warming below fatal thresholds. This can only be achieved if the obligations of major players are sufficiently clear. The Principles on Climate Obligations of Enterprises' main focus is on the obligations of enterprises. They identify the reduction obligations, and articulate a series of related obligations.
The Principles aim to provide a legal basis for active investment management and engagement geared at stimulating enterprises to comply with their legal obligations.

This edition also contains obligations of accountants, credit rating agencies, (re)insurers and attorneys. An extensive commentary explains the Principles and their legal underpinning. The members of the Expert Group are: Jaap Spier, Bastiaan Kock, Brian J. Preston, Daniël Witte, Thomas Pogge, Philip Sutherland, Yann Aguila, Jörg Fedtke, Miquel Martin Casals, Qin Tianbao, Eva Schulev-Steindl, Jim Silk, Jessica Simor, and Elisabeth Steiner.

"This document will help corporate leaders to make informed decisions about the measures to be taken, and allows others – investors, Prudential Authorities, accountants and NGOs – to assess whether the required measures have been implemented."
Gordon Brown, former Prime Minister of the UK

"The principles, as now updated, can be taken as a fair indication as to how the law stands or is likely to develop."
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Principles on Climate Obligations of Enterprises

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Preface by Gordon Brown

In recent years the whole global community – international organisations, national governments, companies and citizens – have signed up to one shared climate change objective: to keep the increase of global temperature well below 2 degrees Celsius, and close to 1.5 degrees compared to preindustrial level. But to meet our shared goals each nation state, each company, and each citizen needs to understand and agree what contribution is expected of them.

At international meetings there is much discussion of the responsibilities and liabilities of nation states, but until recently there has been less discussion on what a collective global commitment means for companies, not least the largest companies that dominate the supply chains of the global economy.

While pledges made by individual companies are much to be welcomed and applauded, we will make little progress as a global community if we simply rely on every company devising their own rules and tests. That is why there has been a focus on Impact Weighted Accounting – with a view to measuring the environmental and social impacts of companies' activities. Just as governments require profit and loss to be reported transparently, the idea is that companies report on the basis of a common set of standards. Now in the same spirit of openness – and in less than 6,500 words – some of the world's most eminent lawyers have laid out a set of rules for determining future corporate responsibilities.

'Principles on Climate Obligations of Enterprises' cover reduction obligations, governance, obligations concerning suppliers, products and services, disclosure, and impact assessments and formulate concrete obligations of enterprises, investors, accountants, (re)insurers, and others in the face of climate change. The document will help corporate leaders to make informed decisions about the measures to be taken, and allows others – investors, Prudential Authorities, accountants and NGOs – to assess whether the required measures have been implemented. As *opinio juris*, these Principles also contribute to the development of the law.

It is in everyone's interest that such a set of rules be taken seriously and implemented and of course it is in the interest of the companies themselves who might otherwise leave themselves open to future legal challenge for their actions.

Some of the principles are based on the drafters' interpretation of the law as it stands or will likely develop. One may disagree with their view, but one should then take up the challenge to match its range, specificity, coherence and sophistication with an alternative set of propositions. Some of the Principles are demanding. But in examining them in detail,

it is important to ask ourselves whether, if some of the difficult but ultimately unavoidable measures are postponed, it will be harder to keep climate change below fatal thresholds and hence be costlier for future generations.

What is clear is that 'business as usual' is no longer a viable option. Nor is simply betting on hoped-for, but not yet available, technical solutions. So in congratulating the drafters on their work, I hope that companies and governments will respond by taking their proposals seriously and work towards an agreed plan for a sustainable future.

Gordon Brown
Former Prime Minister of the United Kingdom
Former Chancellor of the Exchequer

Preface by Yann Aguila

We need principles; they possess the power to provide guidance and define concrete rules. Over the years, they have proven to work efficiently in numerous fields. Whether soft or hard law, principles are indispensable in the legal system, to which they provide a general framework. The temple of law rests on their foundation. They add necessary coherence to a branch of law, and unity to a regime. We used to say that principles have two main functions. The first one, is the 'gap-filling' function – or the suppletive function: if there are no specific rules, principles could apply. It allows a gap to be filled. The second one is the interpretative function: in the case of obscurity, in the case of doubt, principles help to clarify the meaning of a specific provision.

This is why, in many fields of law, there is a framework instrument that exists to bring together the principles of the field in question.

Simultaneously, in a world stricken by climate change, stakeholders are willing to do their part to provide future generations with the best possible place to live. However, with the absence of instructions, it is often difficult to discern the right path to follow. Therefore, this updated version of the Principles on Climate Obligations of Enterprises responds to a pressing lack of common direction in the business world when facing environmental issues. These principles display concrete rules to assist enterprises in assuming their environmental responsibility.

In this respect, climate principles for enterprises connect with the goal of a Global Pact for the Environment (see the website: https://globalpactenvironment.org). The initiative for a Global Pact for the Environment aims to recognize the principles, rights and duties shared by each of the world's inhabitants. Through the establishment of principles, knowledge is shared, a foundation is forged, and the players can better protect their environment.

Principles are like stars: we cannot touch them, but they show us the way.

Yann Aguila
Lawyer, Bredin Prat
Executive Director of the Global Pact Coalition

Preface by Lord Carnwath of Notting Hill CVO

I am very pleased to welcome this updated version of the now well-established Climate Principles for Enterprises.

The principles seek to formulate in precise but accessible language the responsibilities of enterprises, investors and other key players such as accountants in the face of climate change. The key features are: reduction obligations, consideration of suppliers, emissions caused by products and services, governance, impact assessments and disclosure. A commentary of more than 200 pages elaborates on the meaning and legal basis of the 49 principles. The new version not only updates the Principles in the light of relevant developments in law, practice and policy; but also adds valuable detail, such as, for example, on the requirements of "effective climate governance" (Principle 24) and on the obligations of insurers and accountants (principles 45 and 46).

Although they have not all necessarily been given specific recognition yet by domestic courts as giving rise to legally enforceable duties, the principles, as now updated, can be taken as a fair indication as to how the law stands or is likely to develop. As was said of the previous edition by James Thornton, Chief Executive of ClientEarth: "Businesses that reduce their total emissions in line with these principles are likely to avoid the risk of future litigation and liability for contributing to the loss and damage from climate change." There is little doubt that enterprises which fail to live up to these responsibilities will not only see their businesses suffer, but will see themselves increasingly as the targets of litigation by campaigning groups in this and other countries.

I congratulate Prof Jaap Spier and his distinguished team of contributors on this impressive compilation, and commend it to businesses and enterprises large and small. The responsibility for addressing climate change is shared by us all.

Robert Carnwath
Former Justice of the UK Supreme Court

Preface by Paul Fisher

Corporate imperatives in the face of climate change

Climate change is one of the great issues of our time – potentially existential for the way we live on this planet. Rising global temperatures, leading to more extreme weather events and rising sea levels, pose significant financial risks and create major business opportunities for corporate entities. In addition to the physical risks, the global economy will witness great changes as it transitions away from greenhouse gas emissions – both through changing demand by consumers and from the actions of the authorities. Recognising these risks and opportunities is a business essential.

A commercial company tends to be driven most by economic considerations – no business can survive for long if it is losing money. And yet the criteria for sustained economic success are broad. Successful, long-standing companies must meet the needs of their owners, customers, employees, local communities, industry sector and a broad swathe of the authorities. There are various ways to fail in business, but being short-sighted about one's objectives covers many.

Given the significant global warming already under way, and inevitable action to mitigate it, what should a company be doing to ensure its continued success? A good starting point is the work of the G20 Financial Stability Board's Taskforce for Climate Related Financial Disclosures. And not just for the disclosure aspects. If a firm ensures that it is consistent with global commitments to limit climate change through appropriate governance, a good strategy and proper risk management, all supported by meaningful targets and metrics, then it will be on the right track.

Is there a trade-off between maximising private returns and contributing to global efforts to combat climate change? That would be a very short-sighted view. Yes, there is a free-rider problem: it would be natural to want everyone else to deal with climate change whilst retaining complete freedom in one's own actions.

There are at least two reasons why free-riding would be a dangerous approach for any individual firm to take. The first is that reputation is all-important to long-term business success. Ignoring the wider social impacts of one's actions is going to be increasingly damaging as the different stakeholders become more sensitised to the issues.

Second, one shouldn't assume that the authorities will stand idly by. They will demand that businesses play their full part in climate change mitigation and adaption. That may imply new laws, rules and taxes. But in many cases, there is already a body of hard and soft requirements which can be applied to companies, without any need for amendment. As an example, we might take the case of prudential regulations for banks. The globally recognised Basel regime can be – and is already is in some jurisdictions – used to ensure

that climate-related risks are properly recognised and reflected in banking risk management systems.

In most industries, legislative rules are national, not international, although cross-border trade helps to impose common standards. Despite the country differences, there is significant commonality in most systems of business rules and these can all be applied to climate change -just as they can to any other significant financial risk issue. If businesses don't engage on this agenda then they will open themselves up to legal challenge and they will likely miss the positive opportunities. The principles in this book are not just a matter of legal niceties – they underpin how businesses can survive – indeed thrive – in the face of one of the biggest challenges the human race has ever faced.

Paul Fisher, August 2020
Fellow University of Cambridge Institute for Sustainability Leadership
Former Executive Director, Bank of England

Preface by Prof. Dr. L. Lavrysen

It is my immense pleasure to present to you the updated version of the *Principles on Climate Obligations of Enterprises*.

The Climate Crisis is, along with the Biodiversity Crisis, the biggest challenge of the Anthropocene, the current geological epoch which is marked by a significant human impact on Earth's geology and ecosystems, including anthropogenic climate change.

The World Community engaged itself in December 2015 with the *Paris Agreement* to strengthen the global response to the threat of climate change by keeping the global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. The Paris Agreement requires all Parties to put forward their best efforts through nationally determined contributions (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts.

From the *UNEP Emissions Gap Report 2019* it is crystal clear that GHG emissions continue to rise, despite scientific warnings and political commitments. G20 members account for 78 per cent of global GHG emissions. Collectively, they are on track to meet their limited 2020 Cancun Pledges, but seven countries are currently not on track to meet 2030 NDC commitments, and for a further three it is not possible to say. Although the number of countries announcing net zero GHG emission targets for 2050 is increasing, only a few countries have so far formally submitted long-term strategies to the UNFCCC.

The emissions gap is therefore large. In 2030, according to the Report, annual emissions need to be 15 Gt CO_2e lower than current unconditional NDCs imply for the 2°C goal, and 32 Gt CO_2e lower for the 1.5°C goal. The NDCs need to be stepped up dramatically as quickly as possible. Countries must increase their NDC ambitions threefold to achieve the "well below 2°C" goal and more than fivefold to achieve the 1.5°C goal. Enhanced action by G20 members will be essential for the global mitigation effort. Decarbonizing the global economy will require fundamental structural changes, which should be designed to bring multiple co-benefits for humanity and planetary support systems. Renewables and energy efficiency, in combination with electrification of end uses, are key to a successful energy transition and to driving down energy-related CO2 emissions.

The 2018 *IPCC Special Report Global Warming of 1.5 ºC* gives an insight into what would be the disastrous consequences of not limiting global warming to max 1.5° C above pre-industrial levels. Even the 1.5° C limit will not prevent very negative consequences.

The *Expert Group on Global Climate Obligations* published in March 2015, ahead of COP 25, the *Oslo Principles on Global Climate Change Obligations*, followed in January 2018 by the *Principles on Climate Obligations of Enterprises*. The second set of Principles has now been updated in light of recent developments.

We will not achieve our climate objectives and fulfill our obligations towards future generations if, apart from states, private actors fail to take up their full responsibility in this matter. The *Expert Group on Climate Obligations of Enterprises* has spelled out what this means in practice, building on the great legal expertise of its members. I hope these principles will find their way to everyone who has a say in business management.

Prof. Dr. L. Lavrysen
Ghent University
Justice Constitutional Court of Belgium
President of the EU Forum of Judges for the Environment

Preface by David Pitt-Watson

These Principles on the Climate Obligations of Enterprises address a critical question to which we desperately need an answer: "What is the responsibility of a business organization in responding to the challenge of climate change?"

It is extraordinary that we have failed to address this issue. Because few doubt that governments, companies and individuals each have some responsibility, and that taken together these must lead us to a sustainable world. Otherwise the future for humanity is grim.

But more selfishly, if companies have responsibilities, but don't know what they are, there is every likelihood that in the future they will be called to account for their failure. For example, in the 1960's asbestos companies were aware of the hazards of their products. At the time, it was not illegal to mine, or process asbestos, without proper protection. By the 1980's the mood had changed. The asbestos companies were taken to court and sued out of existence.

Any energy company today is exposed to a similar future legal threat if it has recklessly contributed to climate change. But companies need to know what their responsibilities are, since they cannot be limitless. They need safe harbor. And that safe harbor must in turn be defined by a series of responsibilities which, taken together with those of governments, individuals and others, will lead to a sustainable world.

So the answer to the question the Expert Group has tried to address, is not just essential for a sustainable planet. It is also essential as part of the quasi-legal architecture that allows commerce to flourish, and gives companies a license to trade both now and in the future.

Addressing this question is therefore 'business friendly', since finding an answer is to the advantage of companies, their shareholders and their stakeholders. The answer may not be precisely the one that the Expert Group has offered – but if it is not, it is urgent that an alternative solution is found.

So I would urge every businessperson, policy maker, investor and citizen to take note of what the Expert Group has to say. And to ask themselves, 'If not these principles, then what alternative do we advocate, and if not now, when?'

By the time our great energy, power and transportation companies are taken to court for breaching their duties, it may be too late.

David Pitt-Watson
Investor, and advisor to Sarasin and Partners
Former Chair UN Environment Finance Initiative

Preface by Hon. Dr. Emmanuel Ugirashebuja

Climate change shows us that the strength of our human rights regime depends on the scope of the legal duties undergirding it. At present, our human rights regime is vulnerable. The rise in our planet's temperature is poised to sweep vast numbers of people into poverty and homelessness, to make inadequate the water sources of 1-2 billion people, to leave 100-400 million people at risk of hunger, and to cause 250,000 deaths per year from 2030 to 2050, totaling 5 million. The international community has a duty to avert this* impending

* Philip Alston Report, Climate change and poverty.

human rights catastrophe. But that duty cannot fall on States alone – not when private enterprises contribute so much to humanity's carbon footprint.[**]

The great achievement of the Principles on Climate Obligations of Enterprises is their recognition of this reality.

By making explicit that private enterprises and investors – actors left unregulated in the Oslo Principles – share the universal obligation to reduce greenhouse gas emissions, the Principles take a crucial step toward halting the global temperature rise. Yet this conceptual advance is not, I believe, the Principles' only contribution to that goal. They also state enterprises' and investors' duties with admirable concreteness and specificity. Believing that clearer duties command more compliance, I regard these attributes as essential in thwarting the human rights threat posed by climate change.

My endorsement of these principles, which are as reasonable as they are concrete, is firm. Like other commentators, I recognise that these principles are not the only possible interpretation of the law, but the hope is that those who challenge them will offer concrete alternatives. If this hope is realized, these principles would represent a major accomplishment regardless of whether they resolve the debate on enterprises' substantive duties once and for all. The principles will still have established that private enterprises share the duty to reduce their carbon footprint, and they will have shifted the debate as to what those duties should be from the general to the specific. These would be promising strides toward a regime of legal duties capable of preserving human rights throughout the 21st Century. Confident that these principles represent progress, I am proud to count myself among their distinguished endorsers.

Hon. Dr. Emmanuel Ugirashebuja
President of the East African Court of Justice

[**] *See generally* P. Vandenbergh & Jonathan A. Gilligan , *Beyond Gridlock*, 40 C OLUM . J. E NVTL . L. 217 (2015) (highlighting how private climate efforts can reduce emissions by billions of tons per year over the next decade).

Preface by Jaap Spier

Shortly after a series of launches and thought provoking discussions we started thinking about an update of the Principles on Climate Obligations of Enterprises (EP) to cope with the suggestions and criticism. New insights from climate science, recent case law, a host of important reports and academic writings and – those days – the still rising global GHG emissions were other reasons for doing so.

Philip Sutherland and I discussed at quite some length a pre-draft of an updated version. Based on these discussions I started working on a more elaborate draft. This was discussed with Brian Preston whose valuable suggestions were incorporated. At the same time – and throughout the entire venture – I executed new research and worked through the astounding number of new reports, declarations, case law and writings. These were incorporated in a first draft of the general part of the commentary and on a few new Principles which were discussed with Brian Preston. Brian's feedback and constructive criticism led to new drafts.

In September 2019 Bastiaan Kock joined the group as associate reporter. Since we have collaborated in working on further elaboration of both the Principles and the commentary thereto. We have had many thought provoking discussions about all key issues. Bastiaan majorly contributed to subsequent versions of the Principles (19 were added and existing principles were reconsidered and, if useful, amended) and the commentary thereto. Bastiaan has been actively involved in developing a strategy how to get the update on the map. Together we have incorporated the feedback we received on the respective drafts. We have had the privilege of having a series of meetings with Brian Preston during his sabbatical at Oxford, with key stakeholders and experts. Unfortunately the coronavirus crisis affected our intensive cooperation. To the extent feasible Bastiaan has been involved in the finalisation of our venture.

Throughout this project my learned friends warmly supported the update; in this respect Thomas Pogge deserves to be mentioned specifically. They were always willing to answer pertinent questions. Various working drafts have been circulated for the members of the group to contribute such comments as they thought appropriate. In reviewing the various drafts, we worked on the understanding that I assumed they agreed with the suggestions in the drafts unless they indicated to the contrary.

Brian always kindly gave well-considered feedback on more than ten drafts of the Principles and several drafts of the commentary. Daniël Witte provided us with valuable and detailed feedback on the Principles and the commentary.

At a later stage a few new members – all most distinguished experts – joined the group. My colleagues and I are most thankful to them for accepting our invitation; we are proud to have them as much appreciated members.

Working on such a challenging project is demanding. We have tried to the best we can to offer an interpretation of "the law" as it stands or will likely develop. At times our

proposals are quite aspirational, but without aspirations (and, even more importantly, action) humankind is doomed to perish.

The input, feedback, support and friendship of all members of our group made it a unique experience.

On behalf of the Expert Group,
Jaap Spier

Text of the Principles

I Definitions

1. In the Principles, except in so far as the context or subject matter otherwise indicates:
Above Permissible Quantum country refers to a country that, at the beginning of a base year, has GHG emissions that exceed its permissible quantum under Principle 2.2.1 (b) if the country would continue to emit unabated quantities of GHGs.
Activity refers to all relevant energy consumption.
Base period refers to the base year and the subsequent four years.
Base year refers to the year that counts as the reference point for the determination of the enterprise's reduction obligations in the relevant base period.
Below Permissible Quantum country refers to a country that, at the beginning of a base year, has GHG emissions that are less than its permissible quantum under Principle 2.2.1 (b) if the country would continue to emit unabated quantities of GHGs.
Board refers to the group of executive and non-executive directors of an enterprise responsible for controlling and organising the enterprise.
CO2 equivalent refers to the global warming potential values relative to CO2 as mentioned in the Greenhouse Gas Protocol, Global Warming Potential Values, https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf.
Countervailing measure refers to a measure to be taken to fully offset non-compliance with a relevant Principle.
Emissions refers to the release of anthropogenic greenhouse gases.
Enterprise refers to

(a) a business, company, firm, venture, organisation, operation or undertaking that is private, unless it can be shown that it does not carry out commercial or industrial activities, or
(b) any non-private entity when and to the extent that it carries out commercial or industrial activities.

GHG (Greenhouse gases) refers to gaseous constituents of the atmosphere that absorb and re-emit infrared radiation.
Global Carbon budget refers to the GHGs that can still globally be emitted. In calculating the carbon budget both anthropogenic and non-anthropogenic GHGs must be taken into account. The calculation is to be based on the precautionary principle to ensure that global average surface temperature does not exceed pre-industrial temperature by more than 1.75 degrees Celsius.

Global enterprise refers to an enterprise or a group of enterprises that belongs to the most recent Forbes Global 2000 ranking of public companies before a new base period, or manufactures products or offers services that are, for a significant part, consumed in multiple Above Permissible Quantum countries.

An enterprise in a Below Permissible Quantum country is not a global enterprise if the parent company is based in a Below Permissible Quantum country and if the turnover of the group of enterprises was less than US$ one billion annually over the past five years, or if the group of enterprises is exclusively or predominantly active in Below Permissible Quantum countries.

Group of enterprises refers to the parent company and its direct and indirect subsidiaries.

Investor refers to major investors, such as pension and hedge funds, charities, and investment funds.

Least developed country refers to any country that qualifies as least developed, as defined and classified by the United Nations Committee on Development Policy.

Nationally Determined Contributions refers to the reductions to be achieved by a country on the basis of art. 4.2 of the Paris Agreement. The Nationally Determined Contribution, in CO2-equivalents, has to be (re)calculated as a percentage related to the relevant base period.

Oslo Principles refers to the Oslo Principles on Global Climate Obligations, drafted by the Expert Group on Global Climate Obligations, adopted on 1 March 2015.

Paris Agreement refers to the agreement done at the 21st meeting of the Conference of the Parties under the United Nations Framework Convention on Climate Change on 12 December 2015, FCCC/CP/2015/L.9/Rev.1, including any further elaboration or amendment of this agreement, or any subsequent international agreement, treaty or convention superseding this agreement.

Permissible Quantum per base period refers to the quantities of GHGs a country is allowed to emit under Principle 2.2.1 (b).

Primary reduction obligation refers to the reduction obligation under Principle 2.1.1, or Principle 5.1 as the case may be.

Reduction percentage that the world at large would have to achieve in a relevant base period refers to the reduction percentage consistent with a glidepath of steady reductions towards net zero emissions without exceeding the global carbon budget.

Relevant country refers to the country in which the enterprise undertakes its activities.

II Enterprises' GHG Reduction Obligations

Percentage GHG reduction to country's permissible quantum

2.1.1 An enterprise must reduce its GHG emissions, expressed in CO2-equivalents, in a relevant country by the percentage required under the Oslo Principles, as amended in Principle 2.2.1.

2.1.2 If an enterprise has reduced its GHG emissions in a given base period by a higher percentage than required under these Principles, while there are no remaining reductions not achieved in previous base periods, any remaining surplus can be deducted from reductions required in subsequent base periods.

2.1.3 If an enterprise has reduced its GHG emissions in a given base period by a significantly higher percentage than required under these Principles, while there are no remaining emission reductions not achieved in previous base periods, 4% can be added to the surplus mentioned in Principle 2.1.2.

2.1.4 If an enterprise or a global enterprise has taken countervailing measures to achieve significantly higher reductions of GHG emissions than its own obligations under Principle 2.1.1, or Principle 5.1 if the enterprise is a global enterprise, or has provided States or other enterprises with the financial or technical means to achieve significantly higher reductions of GHG emissions than its own obligations under Principle 2.1.1, or Principe 5.1, the enterprise does not have to comply with Principle 2.1.1, or Principle 5.1 if it is beyond any doubt that the countervailing measures or given means have achieved the intended purpose and double counting is avoided.

2.2.1 For the purpose of these Principles the primary reduction obligation of States under the Oslo Principles, expressed in a percentage, is to be defined as follows:

(a) in calculating the global carbon budget per capita both anthropogenic and non-anthropogenic GHGs must be taken into account. The calculation is to be based on the precautionary principle to ensure that global average surface temperature does not exceed pre-industrial temperature by more than 1.75 degrees Celsius;
(b) the permissible quantum per base period is the annual global budget per capita over the first five years of a glidepath of steady reductions towards net zero emissions without exceeding the global carbon budget;
(c) Below Permissible Quantum countries are required to reduce their emissions per base period at the rate of their Nationally Determined Contributions;
(d) every Above Permissible Quantum country has to reduce its per capita GHG emissions within its jurisdiction per base period to the higher of:

   i. the extent to which they exceed the per capita emissions resulting from the calculation under (b), after deduction of the sum of GHG emissions to be curbed on the basis of the Nationally Determined Contributions of all Below Permissible Quantum countries, divided by the population of all Above Permissible Quantum countries together, or
   ii. the country's Nationally Determined Contributions for the relevant base period;
(e) both the country's GHG emissions and its required reductions are to be expressed in CO2-equivalents;
(f) the country should take reasonable steps to ensure that, in the course of the relevant base period, the reductions are 1/5 of the figure resulting from Principle 2.2.1 (c) or (d) per annum;
(g) the global carbon budget and the permissible quantum mentioned under (b) and the amount and percentage to be reduced are to be recalculated each base year.

2.2.2 In addition to their Nationally Determined Contributions, countries must take reasonable steps to avoid unnecessarily inefficient or excessively emitting new activities, or expansion of unnecessarily inefficient or excessively emitting existing activities within their territories. The reasonableness, necessity, inefficiency and excessiveness are to be determined in light of all relevant circumstances.

Flexibility in allocating reduction obligations

3.1 A country complying with the higher of its reduction obligations under the Oslo Principles, as amended by Principle 2.2.1 (d), or its Nationally Determined Contribution over the previous base period, may determine the reduction obligations for the subsequent base period of any enterprise within its jurisdiction to be different from the reduction obligations under Principle 2.1.1. In doing so, the country must consider the following factors:

(a) recent reductions achieved by the enterprise and their significance compared to the reductions of its competitors and the industry as a whole;
(b) the GHG efficiency of the enterprise and its significance compared to the GHG efficiency of the enterprise's competitors and the industry as a whole;
(c) the GHG efficiency of the enterprise's products or services and their significance compared to that of its competitors and the industry as a whole;
(d) the extent to which the enterprise is taking measures to increase its GHG reductions, improve its GHG efficiency, or improve the GHG efficiency of its products and services during the period for which the enterprise would have obligations different from the obligations under Principle 2.1.1;
(e) the extent to which the enterprise's products or services contribute to (the development towards) a low-carbon society;

(f) whether the enterprise provides goods or services that are vital and, in the short term, cannot be substituted in the relevant country, even if the production or use of those goods and services is GHG inefficient or emits significant amounts of GHGs, and whether the country is taking effective measures to reduce its dependence on such goods and services;
(g) whether the enterprise avoids its obligations under these Principles to reduce GHG emissions by outsourcing a not insignificant part of its manufacturing process or other activities to enterprises in another country that is a Below Permissible Quantum country, and
(h) whether the enterprise discontinues outsourcing a not insignificant part of its manufacturing process or other activities to enterprises in another country that is a Below Permissible Quantum country.

3.2 If a country determines, under Principle 3.1, the reduction obligations of an enterprise to be different from the reduction obligations under Principle 2.1.1, the relevant enterprise must nevertheless comply with the obligations under Principles 6 to 14.

3.3.1 If a country does not make use of Principle 3.1 at all, an enterprise can self-determine its reduction obligation to be different from the reduction obligation under Principle 2.1.1 to the extent it is beyond reasonable doubt that it has achieved, or at the end of the relevant base period will have achieved, reductions of GHG emissions at such a rate that a stringent application of Principle 3.1 would justify that the enterprise does not have an additional reduction obligation over the self-determined obligation for the relevant base period.

3.3.2 If an enterprise determines its reduction obligation on the basis of Principle 3.3.1, it has to comply with the self-determined obligation.

3.3.3 If an enterprise has invoked Principle 3.3.1, but did not comply with the reductions based on the stringent application of Principle 3.1 it cannot invoke Principle 3.3.1 for future base periods and has to add the non-fulfilled reductions along with 8% over the non-fulfilled reductions to the next base period.

4.1 If a country did not comply with the higher of its reduction obligations under the Oslo Principles, as amended by Principle 2.2.1 (d), or its Nationally Determined Contribution over the previous base period, it may determine the reduction obligations of any enterprise within its jurisdiction to be different from the reduction obligation under Principle 2.1.1 only if:
(a) there is compelling reason to do so in the particular circumstances of the enterprise for the relevant base period;

(b) the aggregate reductions of GHGs of all enterprises in the country amount to a reduction of at least the same amount of GHG emissions as is required for all enterprises together in the country, and
(c) the country considers the factors in Principle 3.1.

4.2.1 If the condition of Principle 4.1 (b) is not fulfilled, a country may determine the reduction obligations of any enterprise within its jurisdiction to be different from the reduction obligation under Principle 2.1.1 only if not doing so would be manifestly unreasonable.

4.2.2 If a country aims to apply Principle 4.2.1 it must consider the factors in Principle 3.1 and the adverse impact on global climate change.

4.2.3 If a country determines, under Principle 4.1, the reduction obligations of enterprises to be different from the reduction obligations under Principle 2.1.1, the relevant enterprise must nevertheless comply with the obligations under Principles 6 to 14.

4.3.1 If a country does not use Principle 4.1 at all, an enterprise does not have to comply with Principle 2.1.1 to the extent that it would be manifestly unreasonable to require further reductions during the relevant base period. If an enterprise aims to invoke this Principle, the factors enumerated under Principle 3.1 and Principle 4.1 (a) and (b) and the adverse impact on global climate change must be taken into account.

4.3.2 If an enterprise determines its reduction obligations on the basis of Principle 4.3.1 it has to comply with the self-determined obligation.

4.3.3 If an enterprise has invoked Principle 4.3.1, but did not comply with the reductions based on Principle 4.3.1 it cannot invoke Principle 4.3.1 for future base periods and has to add the non-fulfilled reductions along with 8% over the non-fulfilled reductions to the next base period.

Global enterprises' GHG reduction obligations

5.1 An enterprise being or belonging to a global enterprise must reduce its GHG emissions per base period:
(a) by the higher of the reduction percentage that the world at large had to achieve in the preceding base period or the reductions that must be achieved in accordance with Principle 2.1.1 for the activities of the global enterprise in all of the relevant Above Permissible Quantum countries, adjusted in accordance with Principle 3.1, Principle 3.3, Principle 4.1 or Principle 4.3;

(b) by the higher of the reduction percentage that the world at large had to achieve in the preceding base period or the NDC of the relevant country for the activities of the global enterprise in all of the relevant Below Permissible Quantum countries.

5.2 The parent company may reallocate the reductions to be achieved by enterprises belonging to its group of companies, provided that:
(a) the reductions allocated to the designated companies will be achieved in the relevant period;
(b) the reallocation is based on a legally binding agreement between the parent company and the designated enterprises;
(c) the reductions shall count as reductions of the enterprise of which the reductions are reallocated, and
(d) all reasonable steps to avoid double counting are taken.

Obligations of controlling enterprise
6. An enterprise must ensure that any enterprise that is within its direct or indirect control complies with its obligations to reduce its GHG emissions and fulfil its other obligations emanating from these Principles.

Taking GHG reduction measures where no relevant additional cost
7.1 An enterprise must take all measures to reduce the GHG emissions from its activities performed in the relevant country as can be taken without incurring relevant additional cost. Examples include:
(a) switching off energy-consuming equipment when not in use, such as lighting;
(b) eliminating excessive energy consumption where possible, including for heating, or cooling;
(c) using more carbon efficient transport over less carbon efficient transport;
(d) promoting, to the maximum extent possible, measures that will reduce the need for consuming energy, such as improved insulation of buildings and improved efficiency of energy-consuming devices, and
(e) switching from fossil fuel-based energy sources to renewable energy sources.

7.2 An enterprise must take all measures to improve the energy efficiency of its products and services as can be taken without incurring relevant additional cost. Examples include:
(a) reducing the energy consumption of a car by using lighter materials;
(b) avoiding unnecessary energy consumption of devices by installing an automatic switch-off function, and
(c) increasing the lifetime of products.

Taking GHG reduction measures where offset financially

8. An enterprise must take measures to reduce its GHG emissions from its activities performed in the relevant country that incur additional costs if the costs will, beyond reasonable doubt, be offset by future financial savings or financial gains within a reasonable time period.

Avoiding activities, products or services causing excessive GHG emissions

Activities

9.1 An enterprise must not carry out activities that will or are likely to cause excessive GHG emissions, including, for example, operating coal-fired power plants, without taking countervailing measures in line with Principles 9.4 to 9.6 to offset the excessive GHG emissions.

9.2 In relation to a new activity, an enterprise must achieve and maintain best practice.

9.3 GHG emissions caused by activities will not be considered excessive if the excessive emissions from putting the relevant products on the market are counter-balanced by lower emissions caused by the use of the products.

9.4 If the relevant products resulting from the activities mentioned in Principle 9.1 can be shown to be indispensable in light of prevailing circumstances the activity's excessive emissions must be reduced, or countervailing measures to offset the excessive emissions must be taken to the extent reasonable in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs.

9.5 If the relevant products resulting from the activities mentioned in Principle 9.1 can be shown to be non-luxury and not indispensable products the enterprise must take reasonable action to reduce the activity's excessive emissions or take reasonable countervailing measures to offset the excessive emissions at the highest rate reasonably possible in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs.

9.6 If the relevant products resulting from the activities mentioned in Principle 9.1 are luxury products, the activity's excessive emissions must be fully reduced so as not to be excessive, or countervailing measures must be taken to offset the excessive emissions.

Products and services

10.1 An enterprise must not make available products, including packaging, that cause excessive GHG emissions, or render services that cause excessive GHG emissions, without

taking countervailing measures in line with Principles 10.2 to10.4 to offset the excessive GHG emissions.

10.2 If the relevant products and services mentioned in Principle 10.1 can be shown to be indispensable in light of the prevailing circumstances, the excessive emissions must be reduced, or countervailing measures to offset the excessive emissions must be taken to the extent reasonable in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs.

10.3 If the relevant products and services mentioned in Principle 10.1 can be shown to be non-luxury and not indispensable products or services, the enterprise must take reasonable measures to reduce the excessive emissions or take reasonable countervailing measures to offset the excessive emissions at the highest rate reasonably possible in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs.

10.4 If the relevant products and services mentioned in Principle 10.1 can be shown to be luxury products or services, the excessive emissions must fully be reduced so as not to be excessive, or countervailing measures have be taken to offset the excessive emissions.

Emissions deemed excessive

11. For the purpose of Principle 9 and Principle 10 emissions will also be deemed excessive if and to the extent:

(a) the cost of taking the relevant measures could reasonably be offset by increasing the price of the products or services; or
(b) the profits generated by the relevant activity, products or services easily allow for taking the measures.

12. For the purpose of Principles 9.6 and 10.4 emissions from consumed electricity generated by excessively emitting fossil fuels will have to be offset if and to the extent:

(a) the emissions are not offset by the electricity supplier;
(b) the cost of taking the relevant measures could reasonably be offset by increasing the price of the products or services; or
(c) the profits generated by the relevant activity, products or services easily allow for taking the measures.

The reduction obligations cannot be fulfilled

13.1 If and to the extent that an enterprise or a global enterprise has taken all steps reasonably available but nevertheless has failed to fulfil the obligations under Principle 2.1.1, as adjusted in accordance with Principle 3.1, Principle 3.3, Principle 4.1, or Principle

4.3 or the obligations under Principle 5.1, that enterprise must take sufficient countervailing measures to offset the amount of GHG emissions that the enterprise has failed to reduce under its obligations or provide financial or technical means to a country or another enterprise to enable reduction of at least that amount of GHG emissions.

13.2 The receiving country or enterprise must use these means for GHG-reduction purposes.

13.3 Reductions achieved through such financial or technical means shall count as reductions of the enterprise that has provided the financial or technical means and not as reductions of the receiving country or enterprise.

13.4 To avoid double counting, the enterprise that has provided financial means, and the receiving enterprise must enter into a legally binding agreement to the effect that the reductions of the enterprise that has provided the financial or technical means, count as emissions achieved by the providing enterprise. That agreement shall be made available upon request to accounting institutions and others, not being competitors, that have sufficient interest in receiving the information.

13.5 On the request of the enterprise that has provided financial or technical means, the receiving country or enterprise must provide information to allow the providing enterprise to prove that the means were used to achieve the intended purpose and that double counting is avoided.

Transition period to achieve GHG reductions

14.1 If and to the extent that an enterprise can meet neither its obligations to reduce GHG emissions under Principle 2.1.1, adjusted in accordance with Principle 3.1, Principle 3.3, Principle 4.1, or Principle 4.3, or its obligations under Principle 5.1 in the short term, nor the alternative obligation under Principle 13.1, because it would be unreasonably burdensome, the enterprise may have a transition period in which to meet its obligations, provided that:

(a) the enterprise complies with its obligations under Principles 6 to 10;
(b) the enterprise proceeds as expeditiously as possible to comply with Principle 2.1.1, adjusted in accordance with Principle 3.1, Principle 3.3, Principle 4.1, Principle 4.3, or with Principle 5.1;
(c) the enterprise adds the reductions that could not be achieved in each base period during the transition period to the reductions that otherwise would be required in the subsequent base periods, and
(d) the enterprise adds 8% to the reduction required under (c) to offset the climate change and other consequences of not having met the GHG-emission reduction required

under Principle 2.1.1, adjusted in accordance with Principle 3.1, Principle 3.3, Principle 4.1, or Principle 4.3, or its obligations under Principle 5.1, per base period in which it does not comply with its GHG-emission reduction obligations.

14.2 Principle 14.1 can only be invoked if the enterprise is sufficiently likely to achieve its obligations under Principle 2.1.1, adjusted in accordance with Principle 3.1, Principle 3.3, Principle 4.1, or Principle 4.3 as the case may be, or its obligations under Principle 5.1, as expeditiously as possible from the time Principle 14.1 was invoked.

Obligations to reduce GHG emissions apply even if minimal

15. An enterprise is not relieved of its obligations under these Principles to reduce its GHG emissions from its activities performed in the relevant country even if its contributions to the global GHG emissions are minimal.

Obligations to comply with Principles apply even if less stringent domestic laws

16. An enterprise must comply with the obligations under these Principles even if relevant national laws or international agreements would require less.

Exemption in case of exceptional circumstances

17. An enterprise is exempted from its reduction obligations under Principles 2.1.1 and 3 to 10 if and to the extent that its non-compliance is the direct result of exceptional circumstances beyond the enterprise's control, such as a natural disaster, unless it can reasonably be expected to achieve the required reductions in full or in part.

III Consideration of Suppliers' GHG Emissions

18.1 An enterprise must, to the extent that is reasonable and feasible possible, ascertain and take into account the compliance of any supplier to the enterprise with these Principles when selecting its suppliers.

18.2 The selection of a supplier that provides energy from coal fired power plants, or other excessively GHG emitting fossil fuels, or manufactures goods by means of energy from coal fired power plants or other excessively GHG emitting fossil fuels requires a compelling justification. If the supplier is based in a least developed country a justification is required.

18.3 When selecting a supplier an enterprise must ascertain and take into account the emissions of transporting the relevant goods and services.

18.4 The selection of a supplier of goods manufactured in or services provided from a country that significantly falls short of meeting its key reduction obligation mentioned in the Oslo Principles as amended by Principle 2.2 above requires a justification.

18.5 The selection of a supplier of goods with its head office in a country that significantly falls short of meeting its key reduction obligation mentioned in the Oslo Principles, as amended by Principle 2.2 above, requires a justification.

18.6 The selection of suppliers engaged in lobbying for measures irreconcilable with the imperative of keeping the increase in global average surface temperature below 1.75 degrees Celsius compared to pre-industrial levels, requires a compelling justification.

IV Advertising Products and Enticing Consumers

19.1 Advertising excessively GHG emitting products, or products of which the manufacturing caused excessive GHG emissions, requires a compelling justification.

19.2 An enterprise must not misrepresent its carbon footprint or the carbon footprint of its products and services as such or in relation to its competitors.

20. Enticing consumers to buy excessively GHG emitting products or services, or products of which the manufacturing or transport caused excessive GHG emissions, by offering special deals, offering products or services at bottom prices, huge rebates, two for the price of one, or free other products requires a compelling justification.

V Obligations of Buyers of Fossil Fuels

21.1 Purchasing coal for production purposes requires a compelling justification.

21.2 An enterprise is only allowed to increase its purchasing of coal for the purpose of increasing production during the shortest possible period to allow the materialisation of its transition to renewable energy.

21.3 An enterprise is only allowed to increase its purchasing of oil for the purpose of increasing production during the shortest period reasonably possible period to allow the materialisation of its transition to gas or renewable energy.

VI Supermarket Chains, Major Internet Sellers and Other Major Retailers

22.1 Supermarket chains, major internet sellers and other major retailers of products and services must provide a compelling justification for,

(a) putting products and services on the market that emit excessive amounts of GHGs, and

(b) putting products and services on the market the manufacturing of which emitted excessive amounts of GHGs per product,

compared to similar and price-competitive products and services.

22.2 Supermarket chains, major internet sellers and other major retailers of products offering delivery at home must

(a) confine packaging to the minimum required in the given circumstances, and

(b) bring the GHG emissions of the offered modes of transport to the attention of their customers and promote the use of the least emitting mode of transport.

VII Outsourcing

23. In case of outsourcing the manufacturing process or part thereof with the apparent aim of avoiding the reduction obligations under Principle 2.1.1 or Principle 5.1, the enterprise to which the manufacturing process is outsourced has to reduce its emissions to the higher of the percentage mentioned in Principle 2.1.1 or Principle 5.1 (a).

VIII Effective Climate Governance

24. The board of an enterprise should ensure that it has access to sufficient knowledge, skills, and experience to effectively debate and decide on climate-related risks and opportunities.

25. The board of an enterprise should ensure that:

(a) the management assesses on an ongoing basis the short-, medium- and long-term materiality of climate change related risks to the enterprise;

(b) the enterprise's climate change-related accounting assumptions and reporting procedures are robustly tested;

(c) the enterprise's adaptive actions and responses to climate change are proportionate to the materiality of climate change to the enterprise;

(d) the enterprise does not engage in lobbying and similar endeavours irreconcilable with the imperative of keeping the increase in global average temperature above pre-industrial levels below 1.75 degrees C.

26. The board shall ensure that executive incentives, such as bonuses, are not linked to profits generated from or otherwise linked to activities or actions that are a violation of these Principles, or activities or actions irreconcilable with keeping global warming below 1.75 degrees C compared to pre-industrial levels.

IX Enterprise's Obligations of Disclosure

Disclosure of vulnerability to climate change

27. An enterprise must evaluate, in accordance with Principle 25:

(a) the vulnerability of its facilities and property to climate change;
(b) the short-, medium- and long-term financial effect that climate change will, or is likely to have on the enterprise;
(d) the enterprise's options to increase its resilience to climate change;
(d) the short-, medium- and long-term technically and financially feasible and cost effective options available to reduce GHG emissions and the risks involved if it opts for carbon capture and storage or countervailing measures, and
(e) whether the enterprise's adaptive actions and responses to climate change are proportionate to the materiality of climate change to the enterprise.

28. An enterprise must publicly disclose in an accessible manner, including by posting on the enterprise's websites, the information in Principle 27 (a) to (e) and ensure, in particular, that it is readily accessible to those who are or are likely to be directly or indirectly affected by the enterprise's activities, including investors, shareholders, clients, financiers, employees, securities and environmental regulators and the public.

Disclosure of compliance performance

29. An enterprise must publicly disclose in an accessible manner, including by posting on the enterprise's websites, information about its performance in complying with its obligations under these Principles and ensure, in particular, that this information is readily accessible to those who are or are likely to be directly or indirectly affected by the enterprise's activities, including investors, shareholders, clients, financiers, employees, securities and environmental regulators and the public.

Disclosure of GHG emissions from products and services

30. An enterprise must publicly disclose in an accessible manner, including by posting on the enterprise's websites, information about the GHG-efficiency and GHG emissions connected to the enterprise's products and services, and how these emissions and efficiency compare to those connected to the products and services of other enterprises, and ensure, in particular, that it is readily accessible to users, consumers and customers.

Disclosures transparent, accurate, complete, comparable and consistent

31.1 To the extent reasonable and feasible, the disclosures required by Principles 27 to 30, 33 and 34 shall be transparent, accurate, complete, consistent and shall avoid double counting.

31.2 The disclosures must include quantifiable information on the reference point, including an identified base year, and assumptions and methodological approaches for estimating and accounting for GHG emissions and removals.

Disclosure to be proportionate

32. The content and manner of disclosure required by Principles 27 to 30, 33 and 34 should be proportionate to the relevant products and services and enterprises concerned, recognising the special circumstances of enterprises in least developed countries.

Disclosure of risk of stranded fossil fuel assets

33. An enterprise whose activities include fossil fuel production must assess the impact that any limitations imposed on the future extraction or use of fossil fuels, consistent with the "carbon budget" concept enunciated by the Intergovernmental Panel on Climate Change, will have on its financial situation. The enterprise must disclose this information, and ensure, in particular, that it is readily accessible to investors, shareholders, clients, financiers, employees, securities, and environmental regulators and the public.

Disclosure of corporate lobbying for insufficient reductions

34. An enterprise must publicly disclose in an accessible manner, including on the enterprise's websites, any steps taken by the enterprise, in spite of Principle 25 (d), to lobby government not to take action to reduce GHG emissions, or to set GHG emission targets inconsistent with keeping the increase in the average global temperature above pre-industrial levels to below 1.75 degrees C.

X Environmental Impact Assessment of New Facilities

35. An enterprise must conduct environmental impact assessment complying with the best possible practise before building any major new, or expanding existing facilities, including an assessment of:
(a) the proposed facility's carbon footprint;
(b) the adverse upstream and downstream effects and ways to reduce such effects, and
(c) the potential effects that future climate change may have on the proposed facility.

XI Obligations of Investors and Financiers

Obligations of financiers
36. An enterprise in the banking or finance sector and any other major investor, irrespective of whether they are defined as an enterprise under Principle 1, must:

- ascertain and take into account the GHG emissions of any project, during both construction and operation of the project, that it considers financing;
- ascertain the likelihood of the borrower's ability to repay the loan granted having regard to the risks posed to the project by climate change and the liability risk posed to the enterprise; and
- refrain from mechanistically relying on credit ratings or accountant reports on the issues mentioned in the Principles, unless the credit ratings or accountant reports unambiguously disclose that and how the risks were assessed.

Obligations of investors and investment managers
37.1 Any investor must ascertain and take into account whether or not the entity in which it aims to invest or has already invested, be it a State under the Oslo Principles or an enterprise under these Principles, complies with its obligations under these Principles.

37.2 Investors must refrain from mechanistically relying on Credit Ratings or accountant reports on the issues mentioned in the Principles, unless the credit ratings or accountant reports unambiguously disclose that and how the risks were assessed.

37.3 The obligations of States under the Oslo Principles have to be read as amended by Principle 2.2.

38.1 Investment in a non-complying entity, be it a State under the Oslo Principles, or an enterprise under these Principles, requires a justification that the investor must provide

on request to those who are or are likely to be directly or indirectly affected by the investment, and to security-, environmental- and other regulators.

38.2 The obligations of States under the Oslo Principles have to be read as amended by Principle 2.2.

39. Investment by a prospective investor in coal-fired power plants, enterprises engaged in energy generation from other excessively emitting fossil fuels, or in otherwise excessively GHG emitting enterprises requires a compelling justification.

40. If and to the extent that an investor decides to keep its investments in a non-complying entity, be it a State under the Oslo Principles, or an enterprise under these Principles, or if it decides to make new investments in such an entity, it has to forcefully promote compliance by the relevant entity with the obligations under these principles, or the Oslo Principles as amended by Principle 2.2, by making use of its power as investor.

41.1 Major investors shall appoint, vote for, or, if they are appointed by others, promote appointment of auditors familiar with:
(a) the relevant features of climate change, including the related risks to enterprises, and
(b) the legal obligations of enterprises and their boards.

41.2 Investors shall vote against appointment, or, if they are appointed by others, promote non-appointment of directors to the board of an enterprise not complying with one of more of the obligations emanating from these Principles.

42. Investors must also promote robust testing of the enterprise's climate change-related accounting assumptions, risk management and reporting procedures.

43.1 If investors outsource the management or selection of their investments, or the use of voting rights, or parts thereof, to others such as investment managers, they must ensure these others comply with the obligations under Principles 37 to 42.

43.2 Irrespective of whether the investor has instructed the investment manager to comply with the obligations emanating from Principles 37 to 42, the investment manager has to comply with these obligations.

43.3 Investors must disclose in a timely, accurate and accessible manner to those who are likely to be directly or indirectly affected by their investments, including supervisory institutions:

(a) their investment portfolio, and
(b) their investment strategy in light of the threat of climate change.

43.4 On the request of a beneficiary or a supervisory institution investors must also disclose whether and, if so, to whom they have entrusted the asset management as well as their guidelines or instructions to the investment manager, unless they provide a justification for not disclosing such information.

44. Taking the measures required by Principles 37 to 43 should be proportionate to the relevant investment in light of the relevant circumstances.

XII Obligations of Insurers and Reinsurers

45.1 An insurance or a reinsurance company in deciding whether to cover the liability of an enterprise for losses caused by anthropogenic climate change, it must consider whether the relevant enterprise complies with its obligations under these Principles.

45.2 Covering the liability risk of an enterprise that does not comply with these Principles requires a compelling justification, such as:
(a) the aggregate of the liability risk covered is sufficiently limited, or
(b) the non-compliance is not material.

XIII Obligations of Accountants

46.1 Accountants in fulfilling their fiduciary duties towards enterprises whose annual accounts they audit and relevant others relying or likely to rely on their reports, have to assess whether the relevant enterprise complies with its obligations under these Principles.

46.2 If the enterprise does not comply with these Principles the accountant has to assess and subsequently provide relevant information about the assessment of the inherent liability risk.

XIV Obligations of Credit Rating Agents

47.1 Enterprises active in the credit rating business must assess whether the rated enterprises comply with their obligations under these Principles.

47.2 If a rated enterprise does not comply, the inherent liability risk has to be assessed.

47.3 The outcome of the assessment under Principles 47.1 and 47.2 must be reflected in the rating, along with a transparent explanation on the way the assessment was executed.

XV Attorneys

48. Attorneys have to investigate the material climate change consequences of any activity in which they are engaged and inform their clients about these consequences.

XVI Exception for Hard Cases

49. In unforeseen and unexpected scenarios and cases the Principles do not need to be applied to the extent strict application would be manifestly unreasonable.

General Commentary

1 Members of the group

The members of the group, responsible for this update are:

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See for additional information about the members our group's website www.climateprinciplesforenterprises.org. See also Jaap Spier's preface.

2 Our website

The website www.climateprinciplesforenterprises.org contains the text of the Oslo Principles, the commentary thereto, the text of and the commentary to the Principles on Climate Obligations of Enterprises. The text of this update will be available on the website two months after publication of the book. The members of our group, their affiliations and concise bios are also provided next to the many distinguished endorsers.

The site will be regularly updated on events and relevant resources related to the update.

Since its launch ultimo 2018 the website was visited by interested parties from around the globe, including almost all European and Asian countries, most Latin American countries, Australia, New Zealand, the United States, Canada, and various African countries. Top hit countries are the Netherlands, the United States, the United Kingdom, Australia, Germany and Canada; many hits came from inter alia South Africa, Japan, India and the European Union. The website was also visited by several "small" countries including Barbados, Trinidad and Tobago, Vanuatu, Guam and the Seychelles.

3 Concerned, and unprepared: the known knowns

> "We are in the midst of a crisis that is now, I hope, well understood."[1]

> "Climate change will affect all agents in the economy (households, businesses, governments), across all sectors and geographies. The risks will likely be correlated with and potentially aggravated by tipping points, in a non-linear fashion. This means the impacts could be much larger, and more widespread and diverse than those of other structural changes."[2]

In the first half of 2019 "nearly 35,500 European in-house lawyers were sent a survey asking a simple question: Do you expect your organisation to face legal risks because of climate change?" "Almost 50 per cent of those who answered said they did, which was unfortunate, considering that only about 15 per cent said their legal departments were well prepared to deal with such threats."[3] Both percentages are striking, albeit for a different reason. It is telling that only 50% believes that their enterprises face legal risks. Are the others saying that their enterprises meet their legal obligations, or do they refute the idea that they have obligations at all? Do they believe that non-compliance will not be challenged and/or that investors do not care? Such a stance is probably a costly mistake.

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1 Prince Charles, We need revolutionary action to save the planet: full transcript of Prince Charles' Davos Speech, The Sydney Morning Herald January 23, 2020, https://www.smh.com.au/environment/climate-change/we-need-revolutionary-action-to-save-the-planet-full-transcript-of-prince-charles-davos-speech-20200123-p53tyl.html.

2 Network for Greening the Financial Sector, A call for action, Climate change as a source of financial risk, https://www.dnb.nl/binaries/NGFS%20Call%20for%20action%20report_tcm46-383435.pdf p. 4.

3 Pikita Clark, Should company lawyers do more on climate risk?, Financial Times 19 June 2019, www.ft.com/content/5d1dae3e-765f-11e9-b0ec-7dff87b9a4a2?shareType=nongift. According to UN global Compact "only 39 per cent of companies surveyed believe they have targets that are sufficiently ambitious to meet the Sustainable Development Goals by 2030", UN Global Compact, Companies need to set more ambitious targets to achieve Sustainable Development Goals by 2030, https://www.unglobalcompact.org/news/4577-06-15-2020.

In a sense the 15% is the most worrying. First: 85% apparently consider themselves unprepared. One wonders how the remaining 15% have prepared themselves. Did they make an inventory about the legal obligations of their enterprises and the inherent liability risk in case of non-compliance? If so, how? Did they consider our principles? Any answer would be mere speculation.

A 2018-study by the Australian Securities and Investment Commission found that 17% of ASX listed companies identified climate risk as material in their operating and financial reviews.[4]

> "… many organizations incorrectly perceive the implications of climate change to be long term and, therefore, not necessarily relevant to decisions made today."[5]

A staff notice of the Canadian Securities Administrators reveals:

> "During the Project, many users expressed doubts that guidance alone would be sufficient to produce improvements in the quality of climate change-related disclosure. Some users are of the view that issuers must be compelled by specific and clear disclosure requirements to provide decision-useful information to their investors."[6]

In light of these frank answers it is not overly surprising that, once again, crucial years were wasted. The penny did not yet drop that time for idle, abstract talk has elapsed. That is unfortunate given comes at a high price for present and future generations.

The ups and downs of emissions from nitrous oxide,[7] a very powerful Greenhouse Gas (GHG), are also telling. Decades ago major enterprises took action to solve the problem.

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4 Brian J. Preston, Implementing a climate conscious approach in daily legal practice referring, http://www.lec.justice.nsw.gov.au/Documents/Speeches%20and%20Papers/PrestonCJ/PrestonCJ%20Implementing%20a%20climate%20conscious%20approach%20in%20daily%20legal%20practice.pdf referring to ASIC's "Climate risk disclosure by Australia's listed companies, to be published as Brian J Preston, Climate Conscious Lawyering, (2020) Australian Law Journal. See also Alliance for Corporate Transparency, 2019 Research Report, An analysis of the sustainability reports of 1000 companies pursuant to the EU Non-Financial Reporting Directive, https://allianceforcorporatetransparency.org/assets/2019_Research_Report%20_Alliance_for_Corporate_Transparency-7d9802a0c18c9f13017d686481bd2d6c6886fea6d9e9c7a5c3cfafea8a48b1c7.pdf p. 42 ff.

5 Task Force on Climate-related Financial Disclosures, Recommendations of the Task Force on Climate-related Financial Disclosures (final report), https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf p. ii.

6 CSA, Staff Notice 51-354, https://www.osc.gov.on.ca/en/SecuritiesLaw_csa_20180405_51-354_disclosure-project.htm#N_1_1_1_53.

7 See EPA, Overview of Greenhouse Gases, https://www.epa.gov/ghgemissions/overview-greenhouse-gases and R.L. Thompson, L. Lassaletta, P.K. Patra et al., Acceleration of global N2O emissions seen from two

Not all enterprises did, although they are aware of the problem and the adverse consequences for climate change.[8] Even more surprisingly, the relevant governments seemingly do not care either, although it would be easy to solve the problem by a proper licence system.

4 Concerned and allegedly prepared

Distinguished and admirable thought leaders, among them Patricia Espinosa, Executive Secretary of the UNFCCC, Andrew Steer, President and CEO of the World Resources Institute (WRI), Nicholas Stern, Chair of the Grantham Institute on Climate Change and the Environment (LSE), Paul Polman, previous CEO of Unilever, Klaus Schwab, CEO of the World Economic Forum, Fiona Reynolds, CEO of the Principles for Responsible Investment (PRI), and Achim Steiner, Administrator of the UN Development Programme, advocate to keep global warming below 1.5°C emphasising that "[c]limate change is undoubtedly the defining issue of our time – and that we are at a pivotal moment." They openly admit that "our ambition and actions need to be bolder if we are to stand any chance of winning this race." They seemingly advocate "science-based targets"[9] and "a just transition to a net-zero future by 2050." They invite "visionary leaders" to "commit their companies to a 1.5°C target".[10]

Their initiative can only be applauded. Our update, which opts for keeping global warming below 1.75°C, seems to pale against their vision and ambition because we have

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decades of atmospheric inversion, Nature Climate Change, Vol. 9, Dec. 2019 993-998, https://www.nature.com/articles/s41558-019-0613-7.epdf?referrer_access_token=NQpar0Y4PI-84hvnhjLrPNRgN0jAjWel9jnR3ZoTv0MfGj5igu6Sliw5oFKnarr3cX4V0UO6m1YRU3Pdo6WwF8rFkRWTYFIvQMBAbatLeN9L7xctSbP0c4DkeGpNnTEnRTWqbCt-snCfQYqb3Yo0XJaeB__hZt2Muy0m-_N6Pl549iuFWq9DPLvxVQ4zoppVzWMGATqnOWM2U0aJF-MYoaC_44OXlyNdN6TDbUwyYm59cZ0QOzlYILfB2RhLWjgQ_iam_HjsA7a0iSRr1eWAGI341WTQJgvLa5CUEtzc DDo%3D&tracking_referrer=www.abc.net.au.

8 See Phil McKenna, A Plant in Florida Emits Vast Quantities of a Greenhouse Gas Nearly 300 Times More Potent Than Carbon Dioxide, https://insideclimatenews.org/news/23032020/plant-florida-emits-vast-quantities-greenhouse-gas-nearly-300-times-more-potent-carbon. We prefer not to mention the names of specific enterprises.

9 This initiative formulates its goal as follows: "What is the definition of a science based target? Targets adopted by companies to reduce greenhouse gas (GHG) emissions are considered "science-based" if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement—to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C"; see https://sciencebasedtargets.org/.

10 UN Global Compact, Business Ambition for 1.5°C, https://www.unglobalcompact.org/take-action/events/climate-action-summit-2019/business-ambition. In both the Urgenda judgment, Dutch Supreme Court 20 December 2019, ECLI:NL:HR:2019:2007 under 4.3 and 7.2.8 and Friends of the Irish Environment v the Government of Ireland, [2019] IEHC 747 under 139 under 76; the courts seem to be in favour of a 1.5°C limit.

grumblingly adopted 1.75°C instead of 1.5°C; see Principle 2.2.1 (a). In reality our update is probably more ambitious. We are unconvinced that we still have 30 years to reduce GHG emissions to zero,[11] as will be explained in section 7. We strongly believe that it is impossible to tell the fortunes. However, it would be against all odds if global GHG emissions will sharply decline in the near future. Hence, it is betting on fairy tales to assume that the remaining carbon budget allows us to reckon with a period of 30 years.[12] Our planet increasingly experiences all kinds of natural catastrophes at a stage where the global temperature has risen by approximately "only" 1.1°C. It is fraught with serious risks to allow global temperature to pass fatal thresholds and hope it will be reduced below these thresholds by others which future actions we cannot control; see section 7.

A ground-breaking report "Nature Risk Rising", aimed "to improve the state of the world", drafted for the 2020 World Economic Forum provides valuable and worrying statistics about the adverse consequences of loss of biodiversity:

> "Human societies and economic activities rely on biodiversity in fundamental ways. Our research shows that $44 trillion of economic value generation – more than half of the world's GDP – is moderately or highly dependent on nature and its services and is therefore exposed to nature loss."[13]

That matters because climate change is one of the drivers of biodiversity loss;[14] nature's contribution to the global economy "is estimated to be worth more than $125 trillion annually –greater than the world's annual GDP, estimated at $85,91 trillion in 2018."[15] The report's conclusion reveals a lot:

11 See also Glenn A. Jones and Kevin J. Warner, The 21st century population-energy-climate nexus, Energy Policy 93 (2016) p. 206 ff; since 2016 the picture has deteriorated.

12 See about the phenomenon carbon budget Joeri Rogelj, Piers M. Forster, Elmar Kriegl, Christopher J. Smith and Roland Séférian, Estimating and tracking the remaining carbon budget for stringent targets, https://www.nature.com/articles/s41586-019-1368-z and Carbon Tracker, Carbon budgets explainer, https://www.carbontracker.org/wp-content/uploads/2018/02/Carbon-Budgets_Eplained_02022018.pdf pointing to different meanings used by f.i. the IPCC and the IEA. See also Potsdam Institute for Climate Impact Research (PIK), What Counts for Our Climate: Carbon Budgets Untangled, https://www.pik-potsdam.de/news/press-releases/what-counts-for-our-climate-carbon-budgets-untangled.

13 Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy, http://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf, executive summary p. 8 with further elaboration.

14 That point is also emphasised in the report mentioned in the previous footnote (p. 9).

15 Prince Charles, o.c.

> "Given that efforts to mitigate the risks of climate change are significantly more mature than those of nature-related risks, this report draws lessons from climate action agenda."[16]

It is certainly possible that the discussion on biodiversity can learn lessons from "climate action agenda", in particular if "agenda" includes all kinds of laudable, though rarely fulfilled, pledges. The message is also telling at a time when global emissions are still rising, ever more countries and people experience staggering consequences of climate change at a stage global temperature has risen by no more than approximately 1°C and the IPCC paints an ever gloomier picture of what is going to happen if we are unable to reduce global emissions significantly at great pace. The message is also striking because another report for the same Forum rightly observes that "[p]rogress on climate action to date has been limited."[17]

Hence, though certainly laudable and ambitious, it is up to debate whether a "reduction of approximately 3-6% per annum between now and 2030" will suffice to "limit global warming to 1.5-2° C", as the appealing and impressive The Net-Zero Challenge-report suggests.[18]

5 Ignorance

The Institutional Shareholder Services (ISS) contends that "[w]ith notable exceptions, business leaders have described the rise and fall of global temperatures as naturally occurring phenomena and depicted corporate impact on climate change as minimal."[19] It can only be hoped that this statement, without any reference or source, is mistaken. The many sources quoted in this update seem to suggest that most business leaders are aware of the gravity of the situation.

6 From global warming to climate crisis

> "Climate Change is a defining challenge of our time and has led to dramatic alterations in our planet's climate system. …. On a legal and constitutional plane this is clarion call for the protection of fundamental rights of the citizens

16 Nature, Risk Rising, o.c. p. 8.
17 The Net-Zero Challenge: Fast-Forward to Decisive Climate Action, http://www3.weforum.org/docs/WEF_The_Net_Zero_Challenge.pdf p. 5.
18 World Economic Forum, The Net-Zero Challenge, o.c. p. 5.
19 Unites States Climate Proxy Voting Guidelines, 2020 Policy Recommendations, https://www.issgovernance.com/file/policy/active/specialty/Climate-US-Voting-Guidelines.pdf p. 59.

> of Pakistan, in particular, the vulnerable and weak segments of the society who are unable to approach this Court."[20]

On May 17, 2019 the Guardian updated "its style to introduce terms that more accurately describe the environmental crises facing the world". Instead of "climate change" the preferred terms became "climate emergency, crisis or breakdown", although "the original terms are not banned". This stance was explained as follows: "We want to ensure that we are being scientifically precise, while also communicating clearly with readers on this very important issue". The editor-in-chief Katharina Viner said: "The phrase "climate change"... sounds rather passive and gentle when what scientists are talking about is a catastrophe for humanity."[21] Philip Alston, Special rapporteur on extreme poverty and human rights, referred to Pope Francis who also referred to "climate emergency"; he labelled failure to take urgent action "a brutal act of injustice toward the poor and future generations". Alston adds that "as full-blown crisis bears down on the world, "business as usual" is a response that invites disaster."[22]

The UN Secretary-General Guterres put it as follows: "Climate change is the defining issue of our time – and we are at a defining moment:

> "We face a direct existential threat.
>
> Climate change is moving faster than we are – and its speed has provoked a sonic boom SOS across our world."[23]

We share their concern, although we have chosen not to change our language. Opinions diverge as to the impact of alarmist language, even if it is fully justified. Many experts seem to believe that positive messages stand a better chance to gain acceptance. Without acceptance by the corporate world, investors, and the judiciary, legal strategies are doomed to founder. In addition: most business leaders, politicians, investors and judges are well aware of the urgent need to change course radically. Hence, alarmist messages about the

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20 Ashgar Leghari v. Federation of Pakistan, Lahore High Court Green Bench, https://elaw.org/system/files/attachments/publicresource/pk.leghari.090415_1.pdf under 6.

21 Damian Carrington, Why the Guardian is changing the language it uses about the environment, https://www.theguardian.com/environment/2019/may/17/why-the-guardian-is-changing-the-language-it-uses-about-the-environment. See also William J. Ripple et al., World Scientists' Warning of a Climate Emergency, signed by more than 11.000 scientists, https://academic.oup.com/bioscience/advance-article/doi/10.1093/biosci/biz088/5610806.

22 Climate change and poverty, A/HRC/41/39, https://digitallibrary.un.org/record/3810720 p. 2.

23 https://www.un.org/sg/en/content/sg/statement/2018-09-10/secretary-generals-remarks-climate-change-delivered.

catastrophes that unabated climate change is going to cause are unnecessary to convey the message that urgent action is needed.

Though almost universally accepted in the scientific community, some people still consider climate change a hoax or, as the former Archbishop of Canterbury Rowan Williams put it, "some kind of conspiracy", "the idea that there are people who genuinely believe that climate change is a huge confidence trick".[24] Some of these people held responsible positions. The least to say is that if they are unwilling to act to stem the tide, the challenge for those willing to take up the gauntlet will be even more daunting and challenging.

7 Why an update?

> "The steps taken by most United Nations human rights bodies have been patently inadequate and premised on forms of incremental managerialism and proceduralism that are entirely disproportionate to the urgency and magnitude of the threat. Ticking boxes will not save humanity or the planet from impending disaster."[25]

7.1 A myriad of reasons

In spite of the fact that the Principles on Climate Obligations of Enterprises (EP) were launched quite recently, albeit that the text of the Principles was drafted earlier, there are sound reasons for an update. First and foremost recent insights from climate change science and the increasing number of natural catastrophes experienced by ever more countries. Secondly, global GHG emissions are still rising, although the corona virus may imply lower emissions for an undetermined period to come. Thirdly, political developments in vital countries which make it increasingly challenging to keep global warming below fatal thresholds. These developments, taken together, create a need for reconsideration of the EP.

Fourthly, we received criticism, valuable suggestions and feedback on the EP. After the launch of the EP we have had discussions with key players from all parts of society; relevant questions were raised and comments were made. We are very grateful for the criticism

24 Gabriella Swerling, Former Archbishop of Canterbury warns climate change is the 'largest challenge' ever faced by humanity, The Telegraph 26 December 2019, https://www.telegraph.co.uk/news/2019/12/26/former-archbishop-canterbury-warns-climate-change-largest-challenge/.

25 Report of the Special Rapporteur on extreme poverty and human rights (Philip Alston), Climate change and poverty, A/HRC/41/39, https://digitallibrary.un.org/record/3810720 p. 18 and 19. Throughout the report he offers a powerful, sobering and critical analysis of the lack of meaningful action.

and the constructive feedback which has been incorporated as much as possible. Michael Gerrard deserves a special tribute for his important suggestions.

As will be explained in more detail in sections 12 and 13 it has been shown necessary to broaden the scope of our venture and to fill gaps in the EP.

7.2 Global emissions still rising

Contrary to what many had hoped for and optimists had expected, global GHG emissions are still rising: "GHG emissions have risen at a rate of 1.5 per cent per year in the last decade, stabilizing only briefly between 2014 and 2016."[26] There are no signs of peaking in the next few years; "every year of postponed peaking means that deeper and faster cuts will be required. US carbon emissions are allegedly expected to fall only 4 % by 2050.[27] The corona virus may temporarily lower GHG emissions. At the time of writing it is impossible to reliably estimate how long this is going to last.

Global CO2 emissions flattened in 2019, partly thanks to milder weather in "many large economies compared with 2018".[28] However welcome this not overly impressive development may be (the world desperately needs a sharp decline), CO2 is only one, albeit the most important GHG. On 18 April 2020 it had risen again by 3.13 ppm.[29]

7.3 Bleak forecasts

> "We have reached the point where the best-case outcome is widespread death and suffering by the end of this century and the worst case puts humanity on the brink of extinction."[30]

"By 2030 emissions would need to be between 25 per cent and 55 per cent lower than in 2018 to put the world on the least-cost pathway to limiting global warming to below 2° C and 1.5° C respectively".[31] The emissions gap is large: "in 2030 annual emissions need to

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26 UN Environment programme: Emissions Gap Report 2019, Executive Summary p. IV.

27 Rebecca Beitsch, Carbon emissions will fall just 4 percent by 2050 according to government projections, https://thehill.com/policy/energy-environment/480548-carbon-emissions-will-fall-just-4-percent-by-2050-according-to?utm_source=InsideClimate+News&utm_campaign=74e7206849-&utm_medium=email&utm_term=0_29c928ffb5-74e7206849-327952769.

28 IEA, Global CO2 emissions in 2019, https://www.iea.org/articles/global-co2-emissions-in-2019.

29 Paul Brown, What happens after coronavirus will determine our climate's future, https://www.theguardian.com/environment/2020/apr/27/weatherwatch-after-coronavirus-climate-future.

30 Special Rapporteur on extreme poverty and human rights, Climate change and poverty, A/HRC/41/39, https://digitallibrary.un.org/record/3810720 p. 14.

31 Emissions Gap Report 2019 p. V. See for more details also The World Economic Forum, Fast-Forward to Decisive Climate Action, Insight Report January 2020, o.c. p. 6-8.

be 15 GtCO2 lower than current NDCs imply for a 2° C goal and 32 GtCO2 lower for a 1.5° C goal";[32] "if current unconditional NDCs are fully implemented, there is a 66 per cent chance that warming will be limited to 3.2°C by the end of the century".[33] The progress achieved by the corporate world falls significantly short to meet the – insufficiently ambitious[34] – targets of the Paris Agreement.[35] It is "even less rigorous in tracking and addressing the indirect emissions produced by their value chains and products. … Fewer than one in 10 companies reporting to CDP has a target on these emissions."[36] Strikingly, "in one-on-one interviews CEOs say the pressure to deliver short-term returns by far exceeds any demands for long-term decarbonization."[37]

Decision 1/CP.25 "re-emphasizes" the "significant gap" between "the aggregate effect of the Parties' mitigation efforts" and "aggregate emission pathways consistent with holding the increase of global average temperature to well below 2° C".[38] Not only concentrations of CO2, but also of methane (CH4) and nitrous oxide (NO2) are rising. According to the World Meteorological Organization (WMO) Secretary-General Tallas "there is no sign of a slowdown, let alone a decline".[39] The IPCC Chair Hoesung Lee reminded the participants of the COP 25 that there is "no sign of peaking [of global GHG emissions] soon".[40] The UNEP Executive director Andersen noted that "We face a stark choice: set in motion the radical transformations we need now, or face the consequences of a planet radically altered by climate change".[41]

China and India allegedly do not comply with their recent pledges to reduce the very potent HFC-23; the emissions are the equivalent of 22 million automobiles.[42]

According to Carbon Tracker

> "with current policies, China's greenhouse gas emissions are projected to rise until at least 2030. Under optimistic renewables growth assumptions, energy-related CO2 emissions could level off over the next few years, but the

32 Emissions Gap, o.c. p. VIII.
33 Emissions Gap, o.c. P. IX. See also https://climateactiontracker.org/climate-target-update-tracker/.
34 See section 22.5.
35 The Net-Zero Challenge, o.c. p. 9.
36 The Net-Zero Challenge, o.c. p. 9.
37 The Net-Zero Challenge, o.c. p. 10.
38 Under 8.
39 World Meteorological Organization, Greenhouse gas concentrations in atmosphere reach yet another high, https://public.wmo.int/en/media/press-release/greenhouse-gas-concentrations-atmosphere-reach-yet-another-high.
40 https://unfccc.int/process-and-meetings/conferences/un-climate-change-conference-december-2019/speeches-and-statements-at-cop-25.
41 See https://unfccc.int/process-and-meetings/conferences/un-climate-change-conference-december-2019/speeches-and-statements-at-cop-25.
42 Phil McKenna, China, India Emissions Pledges May Not Be Reducing Potent Pollutants, Study Shows, https://insideclimatenews.org/news/21012020/china-india-hydrofluorocarbon-hfc-23-greenhouse-gas.

> emissions continue to grow in our upper-bound scenario.". In addition, "China's actions abroad will also have an important impact on future global emissions … Of all coal plants under development outside China, one quarter, or 102 GW of capacity, have committed or proposed funding from Chinese financial institutions and companies."[43]

Deforestation of tropical forests takes place at alarming rates. That has a significant impact on global warming by removing carbon sinks. "[T]he net carbon impact resulting from intact tropical forest loss between 2000 and 2013 increased by a factor of 6 (626%)."[44]

7.4 New scientific insights by the IPCC and others

Two recent Special IPCC reports sound the alarm. First the Special report on the impacts of global warming of above 1.5°C above pre-industrial levels and related global greenhouse pathways, SR1.5. According to the Summary for Policymakers "Human activities are estimated to have caused approximately 1.0°C of global warming, above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate."[45] "Warming from anthropogenic emissions from the pre-industrial period to the present will persist for centuries to millennia and will continue to cause further long-term changes in the climate system, such as sea level rise, with associated impacts … but these emissions alone are unlikely to cause global warming of 1.5°C". "In model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO2 emissions decline by about 45% from 2010 levels by 2030 … reaching net zero around 2050."[46] As explained in the commentary to Principle 1 under Global Carbon Budget, from 2 to 1.75 degrees C it seems to follow from the 2018 IPCC Special report that the remaining carbon budget is very small if we want to keep global warming below 1.5°C.

The IPCC report The Ocean and Cryosphere in a Changing Climate (Special report 2019)[47] contains a series of examples showing the urgent need to reduce GHG emissions

43 Climate Action Tracker, China, https://climateactiontracker.org/countries/china.

44 Sean L. Maxwell et al., Degradation and forgone removals increase the carbon impact of intact forest loss by 626%, https://advances.sciencemag.org/content/advances/5/10/eaax2546.full.pdf.

45 https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf under A.1. We wonder how that is reconcilable with the findings in chapter 2.2, discussed below under Principle 1 Global Carbon Budget.

46 A.2. See about sea level rise also Bob Berwyn, Antarctic Ocean Reveals New Signs of Rapid Melt of Ancient Ice, Clues About Future Sea Level Rise, https://insideclimatenews.org/news/28052020/antarctic-ocean-ice-melt-climate-change.

47 https://www.ipcc.ch/site/assets/uploads/sites/3/2019/11/03_SROCC_SPM_FINAL.pdf.

in the shortest term feasible. It maps a series of adverse consequences, many worse than earlier reports expected.

Recent research shows that we are close to irreversible tipping points; passing these points may have cataclysmic consequences as a Nature study illustrates:

> "The world's remaining emissions budget for a 50:50 chance of staying within 1.5 °C of warming is only about 500 gigatonnes (Gt) of CO_2. Permafrost emissions could take an estimated 20% (100 Gt CO_2) off this budget, and that's without including methane from deep permafrost or undersea hydrates. If forests are close to tipping points, Amazon dieback could release another 90 Gt CO_2 and boreal forests a further 110 Gt CO_2. With global total CO_2 emissions still at more than 40 Gt per year, the remaining budget could be all but erased already."

The authors conclude:

> "We argue that the intervention time left to prevent tipping could already have shrunk towards zero, whereas the reaction time to achieve net zero emissions is 30 years at best. Hence we might already have lost control of whether tipping happens. A saving grace is that the rate at which damage accumulates from tipping — and hence the risk posed — could still be under our control to some extent."[48]

Research by Steffen and others shows that:

> "The Earth System may be approaching a planetary threshold that could lock in a continuing rapid pathway toward much hotter conditions—Hothouse Earth. This pathway would be propelled by strong, intrinsic, bio-geophysical feedbacks difficult to influence by human actions, a pathway that could not be reversed, steered, or substantially slowed. Where such a threshold might be is uncertain, but it could be only decades ahead at a temperature rise of ~2.0 °C

48 Timothy M. Lenton et al., Climate tipping points – too risky to bet against, https://www.nature.com/articles/d41586-019-03595-0. Others contend that we have already passed tipping points: Marianne Lavelle, Trump Moves to Limit Environmental Reviews, Erase Climate Change from NEPA Considerations, https://insideclimatenews.org/news/09012020/trump-nepa-environmental-review-changes-climate-change-infrastructure-pipelines?utm_source=InsideClimate+News&utm_campaign=0d98f490ed-&utm_medium=email&utm_term=0_29c928ffb5-0d98f490ed-327952769. The World Economic Forum's Global Risks Report contends "that each additional degree of warming will be proportionally more destructive, the damage will accelerate and be exponential", http://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf p. 30.

> above preindustrial, and thus, it could be within the range of the Paris Accord temperature targets. The impacts of a Hothouse Earth pathway on human societies would likely be massive, sometimes abrupt, and undoubtedly disruptive. Avoiding this threshold by creating a Stabilized Earth pathway can only be achieved and maintained by a coordinated, deliberate effort by human societies to manage our relationship with the rest of the Earth System, recognizing that humanity is an integral, interacting component of the system. Humanity is now facing the need for critical decisions and actions that could influence our future for centuries, if not millennia ... How credible is this analysis? There is significant evidence from a number of sources that the risk of a planetary threshold and thus, the need to create a divergent pathway should be taken seriously."[49]

The climate system is said to be "ever closer to tipping points that could lead to a breakdown of ecological systems … and potentially trigger runaway warming."[50] Passing tipping points could also cause a severe ecological disruption.[51] Hence, not surprisingly, some experts contend that there is not such a thing as a safe carbon budget. To the contrary, "climate change is already dangerous at just 1°C warming." With the "carbon fuels we have already burned, even if we stopped right now, we'd have less than a 90 percent chance of staying below 2°C."[52]

The IEA's World Energy Outlook 2019 casts doubts about the chance to effectuate the reductions required. Under current policies "energy demand rises by 1.3% each year until 2040."[53] The IEA estimates "that almost one-fifth of the growth in global energy use in 2018 was due to hotter summers pushing up demand for cooling and cold snaps leading to higher heating needs,[54] a worrying prospect in a warming world. It expects that "the rise in Africa's oil consumption to 2040 is larger than that of China, while the continent

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49 Will Steffen et al., Trajectories of the Earth System in the Anthropocene, PNAS, August 14, 2018/ vol. 115 no 33 p. 8257, https://www.pnas.org/content/pnas/115/33/8252.full.pdf?fbclid=IwAR3nGFgy_sfscB-BZJ48HTWemsPQs-gY89IGSGYx7BvsZDp69SsLRjdoDoR0.

50 Berwyn, Earth's Hottest Decade on Record Marked by Extreme Storms and Deadly Wildfires, https://insideclimatenews.org/news/18122019/decade-climate-heat-drought-extreme-storms-arctic-sea-ice-antarctica-greenland.

51 Climate change could cause sudden biodiversity losses, https://www.sciencedaily.com/releases/2020/04/200408110333.htm. See also Rikki Gumbs, Claudia Gray et al., Global priorities for conservation of reptilian phylogenetic diversity in the face of human impacts, Nature Communications volume 11, Article number 2616 (2020), https://www.nature.com/articles/s41467-020-16410-6.

52 Climate emergency coalition, No remaining carbon budget, https://www.cecoalition.org/carbon_budget.

53 International Energy Agency, World Energy Outlook 2019, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjiyrmznLbqAhUOjqQKHaS2CjsQFjAAegQIARAB&url=https%3A%2F%2Fwww.iea.org%2Freports%2Fworld-energy-outlook-2019&usg=AOvVaw1mjt2OSo3SHBW_ownv57mc, p. 3.

54 P. 6.

also sees a major expansion in natural gas use, prompted in part by a series of large discoveries made in recent years."[55] "The expected growth in population in Africa's hottest regions also means that up to half a billion additional people would need air conditioners or other cooling services by 2040."[56] It notes that "over the past 20 years, Asia has accounted for 90% of all coal-fired capacity built worldwide, and these plants have potentially long operational lifetimes ahead of them. In developing economies in Asia, existing coal-fired plan are just 12 years old on average."[57]

In 2019 the world oceans, which store "more than 90% of the excess heat" "were the warmest in recorded human history".[58] The absorption capacity of oceans is decreasing.[59]

> "[A]ll coastal cities of any size and small island developing States are increasingly vulnerable to rising sea-levels, floods and storm surges caused by climate change and extreme weather events".[60]

A recent study concerning the "south Greenland Ice Sheet" contends that "one of the most economically impactful long-term consequences of warming could be passed well below the 2°C threshold and may already be unavoidable if even modestly warmer conditions

55 P. 9.

56 P. 10.

57 P. 21. See also Michael Jakob, Jan Christoph Steckel, Frank Jotzo et al., The future of coal in a carbon constrained climate, https://www.nature.com/articles/s41558-020-0866-1.

58 Lijing Cheng, John Abraham et al., Record-Setting Ocean Warmth Continued in 2019, https://link.springer.com/content/pdf/10.1007/s00376-020-9283-7.pdf.

59 Cheryl Katz, How Long Can Oceans Continue To Absorb Earth's Excess Heat, https://e360.yale.edu/features/how_long_can_oceans_continue_to_absorb_earths_excess_heat. Research by Steffen et al. reveals that "the Earth System may be approaching a planetary threshold that could lock in a continuing rapid pathway toward much hotter conditions—Hothouse Earth. This pathway would be propelled by strong, intrinsic, bio geophysical feedbacks difficult to influence by human actions, a pathway that could not be reversed, steered, or substantially slowed. Where such a threshold might be is uncertain, but it could be only decades ahead at a temperature rise of ~2.0 °C above preindustrial levels … The impacts of a Hothouse Earth pathway on human societies would likely be massive, sometimes abrupt, and undoubtedly disruptive. … Humanity is now facing the need for critical decisions and actions that could influence our future for centuries, if not millennia ... How credible is this analysis? There is significant evidence from a number of sources that the risk of a planetary threshold and thus, the need to create a divergent pathway should be taken seriously" (Will Steffen et al., Trajectories of the Earth System in the Anthropocene, PNAS, August 14, 2018/ vol. 115 no 33 p. 8257, https://www.pnas.org/content/pnas/115/33/8252.full.pdf?fbclid=IwAR3nGFgy_sfscBBZJ48HTWemsPQs-gY89IGSGYx7BvsZDp69SsLRjdoDoR0).

60 UN Environment, Global Environment Outlook 6 (2019), Summary for Policymakers, https://wedocs.unep.org/bitstream/handle/20.500.11822/27652/GEO6SPM_EN.pdf?sequence=1&isAllowed=y p. 6. See also Special Rapporteur on Human Rights and the Environment, Safe Climate, https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/SafeClimate.aspx.

were to persist long enough".[61] The impressive Global Risks Report 2020 also signals a series of threats and challenges.[62]

A recent study

> "concludes that more than 800 hazardous Superfund sites near the Atlantic and Gulf coasts are at risk of flooding in the next 20 years, even with low rates of sea level rise … Superfund sites … are the worst of the worst hazardous waste sites that expose millions of people … to hundreds of deadly chemicals. Flooding can increase the chances that these toxins can contaminate nearby land and water …".[63]

7.5 Devastating natural catastrophes: the new "normal"

> "In June [2019] alone", "intense and long-lived wildfires in the Arctic Circle … emitted 50 megatonnes of carbon dioxide into the atmosphere …. More than was released by Arctic fires in the same month between 2010 and 2018 put together".[64]

An increasing number of often unprecedented natural catastrophes scourge ever more countries; artic ice is melting faster, wildfires burned around the globe, also – "normally rare"- "in the frozen realms of the Arctic"; ever more countries experience extreme rainfall and flooding.[65]

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61 Nil Irvalt et al., A low climate threshold for south Greenland Ice Sheet demise during the Late Pleistocene, https://www.pnas.org/content/pnas/early/2019/12/17/1911902116.full.pdf; see about ice loss in Greenland, Ingo Sasgen, Bert Wouters, Alex S. Gardner et al., Return to rapid ice loss in Greenland and record loss in 2019 detected by the GRACE-FO satellites, Communications Earth & Environment 1, Article number 8 (2020), https://www.nature.com/articles/s43247-020-0010-1.

62 World Economic Forum, The Global Risks Report 2020 p. 6 ff, 31 ff and about biodiversity (interlinked with climate change) p. 46 ff; the report contends that only five of the Fortune 500 companies "set specific, measurable and timebound targets" (p. 48). See for a series of other developments and statistics Special rapporteur on poverty and human rights, o.c. p. 2-5 with further references.

63 David Hasemyer, Hundreds of Toxic Superfund Sites Imperiled by Sea-Level Rise, Study Warns, https://insideclimatenews.org/news/27072020/toxic-superfund-epa-sea-level-rise-climate-change.

64 European Commission, Copernicus and EC MWF, CAMS monitors unprecedented wildfires in the Arctic, https://atmosphere.copernicus.eu/cams-monitors-unprecedented-wildfires-arctic And Andrew Freedman, Wildfires, record warmth and rapidly melting ice: Arctic climate goes further off the rails this summer, https://www.msn.com/en-us/weather/topstories/wildfires-record-warmth-and-rapidly-melting-ice-arctic-climate-goes-further-off-the-rails-this-summer/ar-BB17kWmd.

65 See Bob Berwyn, Earth's Hottest Decade o.c., also for other examples and Bob Berwyn, New Study Shows Global Warming Increasing Frequency of the Most-Destructive Tropical Storms, https://insideclimatenews.org/news/04052020/hot-climate-niches-50-years-human-populationhttps://insideclimatenews.org/news/04052020/hot-climate-niches-50-years-human-population and Bob Berwyn,

Extreme wildfires in Australia, at least worsened by climate change, caused the death of over a billion animals and have brought many species close to extinction.[66] They also contribute to global warming through GHG emissions from the fires.

> "The 16 nations in the Southern African Development Community, a region identified as a climate "hotspot" by the Intergovernmental Panel on Climate Change, have experienced only one normal growing season in the past five years. Seasonal rains have been late in many countries and UN experts predict, with 60% certainty, that another bad harvest is due in the coming months. Central and western areas have been hit by the worst drought in 35 years during the growing season. "The hunger crisis is on a scale we've never seen before and the evidence shows it's going to get worse," said Lola Castro, WFP's regional director for southern Africa. "The annual cyclone season has begun and we simply cannot afford a repeat of the devastation caused by last year's unprecedented storms.""[67]

7.6 Developments in the political arena

The election of President Bolsonaro in Brazil fuels fears that deforestation of the Amazon rainforest will reach new peaks.[68] Indeed, 2019 has shown a significant increase.[69]

President Trump goes to great pains to remove all kinds of rules to protect the environment. He opposes measures geared at GHG reductions with a devastating impact

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Pools of Water Atop Sea Ice in the Arctic May Lead it to Melt Sooner Than Expected, https://insideclimatenews.org/news/10082020/arctic-sea-ice-melt-pools-warming-climate.

66 See about the relation between global warming and bushfires Bob Berwyn, A Warming Climate is Implicated in Australian Wildfires, https://insideclimatenews.org/news/04032020/warming-climate-implicated-australian-wildfires-new-study-finds?utm_source=InsideClimate+News&utm_campaign=658c3d5e1c-&utm_medium=email&utm_term=0_29c928ffb5-658c3d5e1c-327952769 and more generally World weather attribution, Attribution of the Australian bushfire risk to anthropogenic climate change, https://www.worldweatherattribution.org/bushfires-in-australia-2019-2020/. The International Labour Organization calculated the accumulated financial loss due to heat stress at US$ 2.4 trillion by 2040, Christiaan Gevers Deynoot, The time to build supply chain resilience is now, https://www.southpole.com/blog/the-time-to-build-supply-chain-resilience-is-now.

67 Karen McVeigh, UN sounds alarm over unprecedented levels f hunger in southern Africa, The Guardian 16 January 2020, https://www.theguardian.com/global-development/2020/jan/16/un-sounds-alarm-over-unprecedented-levels-of-hunger-in-southern-africa.

68 Jonathan Watts, Brazilian Amazon deforestation surges to break August records, The Guardian 27 August 2019, https://www.theguardian.com/environment/2019/aug/27/brazilian-amazon-deforestation-surges-to-break-august-records?CMP=share_btn_link.

69 Unearthed, Brazilian Amazon deforestation surges the highest level in a decade, https://unearthed.greenpeace.org/2019/11/19/amazon-deforestation-surgest-to-highest-level-in-a-decade/.

on inter alia the reduction of GHG emissions;[70] most recently the EPA announced rollback of methane emissions regulation.[71] Daily satellite observations of oil and (shale)gas production regions in the US show worrying methane emissions; worrying because methane is a potent GHG. "The atmospheric lifetime of methane is relatively short at 9.1 years, a reduction in methane emissions would lower the combined radiative forcing from greenhouse gases on a timescale of years and is therefore a relatively efficient option to mitigate climate change."[72]

7.7 The sobering conclusions of a ground-breaking report

A report, published in October 2017, commissioned by Friends of the Earth Europe[73] eloquently summarises the above and the concern, aired in various parts of this commentary, that the carbon budget will probably be depleted well before 2050. The authors' main findings are worth quoting:

> "By 2035 the substantial use of fossil fuels, including natural gas, within the EU's energy system will be incompatible with the temperature commitments enshrined in the Paris Agreement. …
>
> 1) **The Paris commitment will be exceeded in under 18 years of current greenhouse gas emissions** with a rapid decline in deforestation and prompt reductions in process emissions from cement production, the post-2017 energy-only global carbon budget necessary to deliver on the Paris temperature commitments ranges from around 490 to 640 billion tonnes (GtCO2); this includes all forms of energy consumption, from transport to electricity. At current rates of emissions from energy this relates to between 14 years, for an "unlikely" chance of 1.5°C, and 18 years, for a "likely" chance of 2°C.
> 2) **Non-OECD nations will "fairly" use up to 98% of the 2°C global carbon budget**
>
> Assuming a peak in energy carbon emissions from the non-OECD region occurs between 2020 and 2025 (far earlier than anything countenanced

70 Carbon Action Tracker, USA, https://climateactiontracker.org/countries/usa/. The World Economic Forum's Global Risks Report 2020 hits the mark noting "geopolitical turbulence", o.c. p. 10.

71 Phil McKenna, In a Move That Could be Catastrophic for the Climate, Trump's EPA Rolls Back Methane Regulations, https://insideclimatenews.org/news/13082020/trump-epa-methane-emission-rollbacks.

72 Joost A. de Gouw, et al. Daily Satellite Observations of Methane from Oil and Gas Production Regions in the United States, https://www.nature.com/articles/s41598-020-57678-4.

73 Kevin Anderson and John Broderick, Natural gas and climate change, https://www.research.manchester.ac.uk/portal/files/60994617/Natural_Gas_and_Climate_Change_Anderson_Broderick_FOR_DISTRIBUTION.pdf.

in Paris), and that this is followed by escalating rates of mitigation towards 10% p.a. twenty two years after the peak emissions year, then the non-OECD energy-only emissions post-2017 extend from 502 GtCO2 to 620 GtCO2.

3) **It is highly unlikely that the Paris 1.5°C commitment is a viable mitigation objective**...

3a) …Only if "real" mitigation guided by the carbon budgets for a "likely" chance of 2°C are pursued and highly speculative negative emissions technologies prove to be successful at an early and unprecedented planetary scale, could 1.5°C be considered theoretically achievable.

4) **Current levels of emissions will use up the EU's 2°C carbon budget in under nine years**

Combining the Paris equity criteria with the small and fast dwindling global carbon budget for 2°C … leaves the EU facing a profound mitigation challenge. For the EU to make its minimum "fair" contribution to the Paris "well below 2°C" commitment, its post-2017 energy-only carbon budgets should be between 23 and 32GtCO2, or approximately six to nine years of current EU energy-only emissions. This conclusion depends on a successful and highly ambitious mitigation agenda for non-OECD nations, far beyond their respective Nationally Determined Contributions; (i.e. an aggregate peak in non-OECD emissions between 2022 and 2023 with 10% mitigation each year by 2045 and over 95% cut in emissions (c.f. 2015) by the early 2060s. Anything less than this would impose still greater mitigation rates on the OECD and EU).

5) **To meet its Paris 2°C commitment the EU needs over 12% p.a. mitigation, starting immediately**

Assuming a highly optimistic mitigation agenda is actioned by the global community, then for the EU to deliver on its 2°C commitment it needs to begin an immediate programme of profound mitigation at a minimum rate of 12% p.a. in absolute emissions. Any delay in starting, or in pursuing a rate below 12% p.a., will either put a "likely" chance of 2°C beyond reach or require still more fundamental mitigation over the following years …. This level of mitigation is far beyond the EU's headline Nationally Determined Contribution target of a 40% reduction in emissions by 2030.[74] The EU's current position essentially ignores any reasonable interpretation of equity and is informed by scenarios that assume the huge uptake of so-called 'negative emission technologies' (NETs) and the direct removal

74 In the meantime the EU formulated a more ambitious target.

of many 100s of billions of tonnes of carbon dioxide directly from the atmosphere. In addition, emissions arising from the EU's international aviation and shipping sectors are also excluded from the inventory used to estimate its mitigation commitments.

6) **To deliver on the Paris commitments, policy makers need a balanced portfolio of CO2 mitigation scenarios with 'negative emissions technologies' only included in the exotic minority**

The ubiquitous and global-scale inclusion of highly speculative 'negative emission technologies' (NETs) in global and national mitigation scenarios is dangerously weighting the policy-terrain in favour of technocratic only responses. This endemic bias unreasonably lends support for the continued and long-term use of gas and oil whilst effectively closing down more challenging but essential debates over lifestyles, profound social economic change and deeper penetration of genuinely decarbonised energy supply.

7) **Methane emissions and atmospheric concentrations are observed at the top end of IPCC scenarios. Recent empirical studies of fossil fuel producing areas have found official inventories reported by governments to be under estimates for the areas surveyed**

Large uncertainties remain on the sources of methane in the atmosphere. Measurement campaigns focussing on US oil and gas production have identified discrepancies between "top-down" atmospheric methods of quantifying emissions and official inventories of emissions based on "bottom–up" methods. It appears that methane emissions from the natural gas supply chain are dominated by low numbers of high intensity assets or events, making representative sampling difficult. There are therefore justifiably large ranges in the estimates for general supply chain types.

8) …

9) **Carbon dioxide from combustion is the dominant contributor to the long-term climate change impact of natural gas. Methane has a much greater warming effect than carbon dioxide per unit of emissions released but its atmospheric lifetime is short, only about a decade. However, persistently high emissions of methane would replenish this loss and maintain this initial warming effect**

Although short lived, if total anthropogenic methane emissions were to persist at current rates they would cause a significant temperature change of approximately 0.6°C. The production and distribution of natural gas releases methane both deliberately and inadvertently. The exact amount varies widely across locations and production technologies, and through time at a given location. Close monitoring shows that in most supply

chains a small number of sites, or pieces of equipment, are responsible for a large proportion of methane emissions, however, they are difficult to identify a priori. Leakage rates affect the relative contribution of methane to the climate change impact of natural gas supply chains. They do not, however, dominate the long-term temperature change caused by a given quantity of natural gas production, as it is the CO2 emissions that persist in the atmosphere over the long term. …

…

10) **For stabilising at 2°C, reductions in methane emissions must be accompanied by CO2 reductions**

Whilst mitigating short lived climate pollutants (SLCPs) such as methane is important, it must not detract from eliminating long-lived greenhouse gases, principally carbon dioxide.

11) **Fossil fuels (including natural gas) have no substantial role in an EU 2°C energy system beyond 2035**

The Paris 2°C and equity commitments, buttressed with the IPCC's carbon budgets, demand a minimum reduction in EU energy-only carbon emissions of around 95% by 2035 (c.f. 2015). Consequently, within two decades fossil fuel use, including gas, must have all but ceased, with complete decarbonisation following soon after. Prior work has shown that such a programme of mitigation requires significantly more than two thirds of existing reserves to remain in the ground. In this context and assuming an immediate 12% p.a. mitigation path, (or rising mitigation to around 18% by 2023…), there is categorically no role for bringing additional fossil fuel reserves, including gas, into production. This conclusion is not significantly affected by the prospect of carbon capture and storage, where the limitations on deployment rates and likely upstream methane emissions substantially restrict its potential, even with a conservative reading of the Paris 2°C commitment, a rejection of 1.5°C and a weak interpretation of equity. An urgent programme to phase out existing natural gas and other fossil fuel use across the EU is an imperative of any scientifically informed and equity-based policies designed to deliver on the Paris Agreement."[75]

75 P. 3-5.

7.8 Worse than expected

The swiftly increasing, often unprecedented, natural catastrophes or phenomena – torrential rain, extreme drought, melting of the polar ice, record temperatures – come as a surprise to many. Sir David King, a former Chief scientific advisor to the UK government, is scared "by the number of extreme events": "We predicted temperatures would rise, but didn't foresee these sorts of extreme events we're getting so soon". His view is shared by Jo Haigh, Imperial College.[76]

7.9 Conclusion

The lack of progress paired with the other inconvenient findings discussed above come at a price. If we are serious that global warming must be kept well below 2 °C, or any lower figure, far-reaching measures are unavoidable. These developments unavoidably mean that ever more steps must be taken to achieve the reductions required. That, in turn, means that the obligations of the corporate world (and States) are doomed to becoming increasingly stringent. That is a familiar situation. For example, if the maximum acceptable pollution of a river is x, the amount of permissible discharges of pollutant substances diminishes depending on the quantities discharged in the recent past. Another example: if shortage of (drinking) water requires rationing per caput, the ration has to be lowered if more water was consumed than allowed; see in more detail section 27.

We cannot but agree with the High Court of New Zealand that new IPCC reports require reviewing earlier stances (to generalise its message).[77] We realise that this message is unwelcome, but we trust that those concerned will appreciate that it is the inevitable consequence, and a fair legal translation of the unfortunate state of affairs our globe is

76 "Faster pace of climate change is 'scary', former chief scientist says", www.bbc.com/news/science-environment-49689018. Further down, this view is challenged. This state of affairs is acknowledged by the American Bar Association stating "… the scientific community has even stronger evidence that climate change is occurring, is mostly caused by human activities, and is already having adverse consequences, the American Bar Association, House of Delegates, Resolution and Report 111 of August 12-13, 2019, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjz_-_l_LPqAhWOC-wKHXQxBuAQFjAAegQIAhAB&url=https%3A%2F%2Fwww.americanbar.org%2Fnews%2Freporter_resources%2Fannual-meeting-2019%2Fhouse-of-delegates-resolutions%2F&usg=AOvVaw1woUEnsRCIeR78KyuaaGNbn, p. 1. See also: World Meteorological Organization, Global Annual to Decadal Climate Update Target years 2020 and 2020-2024, https://public.wmo.int/en/media/press-release/new-climate-predictions-assess-global-temperatures-coming-five-years.

77 Thomson [2018] 2 NLZR 160 (http://climatecasechart.com/non-us-case/thomson-v-minister-for-climate-change-issues/) at 91, borrowed from Brian J. Preston, The Impact of the Paris Agreement on Climate Change Litigation and Law, http://www.lec.justice.nsw.gov.au/Documents/Speeches%20and%20Papers/PrestonCJ/Preston%20CJ%20-%20The%20Impact%20of%20the%20Paris%20Agreement%20on%20Climate%20Change%20Litigation%20and%20Law.pdf p. 14.

facing. Decision 1/CP.25 (Chile Madrid Time for Action) also "recognizes that action taken to address climate change is most effective if it is … continuously re-evaluated in light of new findings."[78] That is precisely what this update aims to achieve.

8 The purpose of the Principles

The Principles aim to serve multiple purposes. They enable enterprises to comply with their obligations and others, such as NGOs and investors, to assess whether they do comply. Put differently: they "suggest a path forward … to challenge action or inaction on climate change."[79] They may assist potential plaintiffs to assess the chances of litigation and courts to assess the claims submitted to them.[80]

9 Promising initiatives

Happily, it is by no means only trouble and affliction. It rains valuable initiatives often based on self-imposed obligations. Others leave ample room for concretisation. Be that as it may, they spur progress and by the same token they contribute to keeping global warming below fatal thresholds.

By way of examples: the Climate Wise Principles,[81] the updated Equator Principles,[82] the Green, Social and Sustainability Bond Principles[83] and others. These have inspired us and we have borrowed from them throughout this commentary.

The Science Based Targets are another important initiative. It includes criteria and recommendations on a timeframe, ambitions concerning scope 1-3 emissions, offsets and disclosure.[84]

The Green, Social and Sustainability Bond Principles promote "bond financing that contributes to the mitigation or adaptation to climate change" in light of the "tremendous

78 Under 4. Under 6 the 2019 Special Reports are labelled a reflection of "the best available science".

79 IBA, Model Statute for Proceedings Challenging Government Failure to Act on Climate Change, https://www.ibanet.org/Climate-Change-Model-Statute.aspx p. 2. As the title already suggests, the Model Statute does not focus on enterprises (Principle 2.1).

80 IBA, Model Statute p. 28. Principle 2.1 is more explicit in that the Model Statute is "intended to facilitate access to justice .."

81 https://www.cisl.cam.ac.uk/business-action/sustainable-finance/climatewise/principles.

82 https://equator-principles.com/wp-content/uploads/2020/01/The-Equator-Principles-July-2020.pdf.

83 https://www.icmagroup.org/green-social-and-sustainability-bonds/.

84 Science Based Targets, SBTi Criteria and Recommendations, April 2020, https://sciencebasedtargets.org/wp-content/uploads/2019/03/SBTi-criteria.pdf.

amount of financing ... required to realise the Sustainable Development Goals".[85] The Green Bond Principles will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green Projects. They are "voluntary process guidelines" "which contribute to environmental objectives such as : climate change mitigation, climate change adaptation". They do not take "a position on which green technologies, standards, claims and declarations are optimal for sustainable benefits". They basically concern self-determined goals for which they "may issue a Second Party Opinion", and "can obtain independent verification".

10 Why an emphasis on the corporate sector?

States still are in the best position to achieve far-reaching cuts in GHG emissions. Some countries, the United Kingdom (UK), Norway, some of the low-lying Small Island States and one region, the European Union, are taking the lead by tangible action and issuing pledges to cut GHG emissions significantly by 2030 and to reduce them to (close to) nil by 2050. If the ultimate goal is to keep global warming below (or at) 1.5°C zero emissions should be effectuated well before 2050; see section 7.

It is unrealistic to bet on adequate solutions garnished in the political arena or to expect that States are going to reduce their GHG emissions to the extent necessary. Nobody less that a former British Foreign Secretary, Lord Hurd, put it as follows, albeit in a different context:

> "[N]ation states are … incompetent. Not one of them … can adequately provide for the needs its citizens now articulate. The extent of that incompetence has become sharply clearer during this century."[86]

It can be hoped that at some stage – almost certainly when passing fatal tipping points has become unavoidable with current technology[87] – binding and perhaps even enforceable legal instruments will become available. It is irresponsible to wait for "solutions" that will come too late to stem the tide. We cannot afford to waste any more years just hoping for

85 ICMA, Green, Social & Sustainability Bonds: A high-level mapping to the sustainable development goals, June 2019, https://www.icmagroup.org/green-social-and-sustainability-bonds/social-bond-principles-sbp/.

86 Quoted by Lord Bingham of Cornhill, The Widening Horizons of Litigation in Britain, in Muller and Richards (eds), Highest Courts and Globalisation p. 55. He adds that "the law cannot, and should not, and in practice does not, divorce itself from political reality".

87 In the future geoengineering may offer a solution, but for now this technique is not operable and the adverse consequences are unknown. See, also for further references, Harvard's Solar Geoengineering Research Program, Geoengineering, https://geoengineering.environment.harvard.edu/geoengineering.

the better. The University of Cambridge Institute for Sustainability Leadership (CISL) puts it nicely as follows:

> "The slow pace and reactive nature of regulation means that society cannot rely solely on governments and policymakers to effectively navigate these challenges. There is growing public expectation that businesses must step up and take responsibility for delivering positive outcomes for society and the environment. The commercial case for business responsibility and action is increasingly clear – and acknowledged by many leading enterprises"[88]

and

> "The pace of change is outstripping governments' ability to create new policies and regulations and to reshape public institutions. As a result, society is increasingly looking to businesses to embrace a wider responsibility beyond their own current operations, moving towards effective solutions that proactively deliver the future we need."[89]

To be fair, the challenges of politicians are significant. They cannot operate without at least basic support from the public. Ever more people do realise that far-reaching steps are unavoidable to cope with climate change. In the abstract they understand and increasingly support measures geared at a significant reduction of GHG emissions, albeit not to the same extent around the globe, either or not "thanks" to a few but influential media outlets, a few powerful politicians and some "scientific" entities casting doubts about climate change, its impact and emphasising the utmost importance of "the economy", jobs or the alleged advantages of global warming for the country in point. Once measures become concrete and people realise that their personal (short term) interests are at stake, the picture often changes. Measures are fine, if taken by others. Germany's windmills are allegedly "wildly unpopular" which means that their construction in Germany "has all but ground

88 Rewiring leadership, The future we want, the leadership we need, https://www.cisl.cam.ac.uk/resources/publication-pdfs/rewiring-leadership.pdf p. 1.

89 P. 5. Further down the report notes that leadership must "move beyond adaptive leadership" (p. 8) and "'unlearning' historic or legacy practices or approaches that are no longer fit for purpose in the context of new evidence and insight" (p. 12), adding that "in a significant number of businesses, Board members and management teams were most out of touch with the new context" (p. 16). "Overall, one of the greatest challenges that businesses face .. is the struggle to reconcile short-term business needs with long-term planning and performance" (p. 17). This bleak picture reinforces the idea that a focus on enterprises is important.

to a halt."[90] The French yellow vest-movement and the farmers protests in the Netherlands may serve as partes pro toto examples.

In the meantime, action groups such as the Extinction Rebellion movement appear on the scene. They are after a kind of a revolution. We do not want to enter into discussions about their contentions. For our purpose it suffices to note that their far-reaching demands contribute to put pressure on governments and the corporate world, but they also invoke counter-reactions.

Hence, in light of the stalemate in the international negotiations, zero emissions by 2050 would already be a marvel. This unfortunate state of affairs means that a sole focus on the obligations of States – the main purpose of the Oslo Principles[91] – can only *contribute* to keeping global warming well below 2°C and even less so below (or at) 1.5°C.

As illustrated in section 7 the challenges posed by climate change are daunting. Enterprises can meaningfully contribute to the – on paper – universally adopted[92] "goal" (sic) to keep global warming well below 2°C. They can reduce their own emissions, use their leverage to pressurise suppliers to do so and they can put less emitting or more efficient products on the market. Investors can put mounting pressure on enterprises to take a much more active stance to counter climate change. As bond holders and influential entities they could – and should – do States the same favour. While their combined efforts may not be enough, they could be very significant.

It will be much easier to sue enterprises if they neglect their obligations. That kind of litigation is less political (politicised). Enforcement will be easier. Many enterprises have assets or group companies in other countries. That could create a forum for litigation, if need be.

It would be a mistake to bet on litigation against states to curb their emissions to a greater extent. First and foremost: global emissions must be reduced at great pace and to a significant extent. Even if *all* courts would be willing to issue injunctive relief to that effect – a phantom – it will take too much time before these judgments will be rendered. So far this kind of litigation is pending in a few countries only, which reinforces our view. Secondly, it is extremely unlikely that courts around the globe will be courageous enough to take up the gauntlet; see section 29. Thirdly, one should not overestimate the importance of the widely applauded Dutch Supreme Court's Urgenda judgment,[93] which upheld

90 Germany's windmills are wildly unpopular, the japan times, 4 November 2019, https://www.japantimes.co.jp/opinion/2019/11/04/commentary/world-commentary/germanys-windmills-wildly-unpopular/#.Xg80N0dKhaQ.

91 See about these Principles Michael Kirby, Environmental and Planning Law in the Age of Human Rights and Climate Change, (2019) 36 Environmental Planning Law Journal 181 p. 188.

92 With the exception of the very few countries who are not a party to the PA; at the time of writing the US still is.

93 Hoge Raad 20 December 2019, ECLI:NL:HR:2019:2007; see for other case law section 29.

injunctive relief to the effect that the Netherlands has to reduce its emissions by at least 25% by the end of 2020 compared to 1990. The court's reasoning is based on – inter alia – the concept of *minimum* obligations (see in more detail section 22.4) and on a series of solemn pledges by the Netherlands to curb its emissions to a higher extent, while the State could not explain why less than earlier deemed necessary would also be acceptable.[94] Last but not least: judgments are important, but their impact is doomed to be limited if they are not enforceable.[95] Enforceability of injunctive relief against States is not self-explanatory. For the avoidance of doubt: we are *not* saying that such litigation is not important. It clearly is. All we are saying is: more is necessary.

11 Key features: general observations

> "In essence, what Paris was all about was finding the sweet spot between what was possible and was necessary. It is easy to demand what seems necessary without regard to whether it is politically impossible, and also easy to do the politically expedient without much regard for what is necessary. Finding that sweet spot is hard."[96]

The update aims to pair ambition and realism. The balance is doomed to change along with the pace of time. Mapping unachievable obligations is pointless, if not counter-productive. Lack of ambition may contribute to wide-spread acceptance, but would be nothing else than a surrender. One of the few hopeful developments is the increasing ambition, both from politicians and the corporate world.[97] They "only" face the problem that it is unclear what needs to be done by whom. For now, they prefer self-imposed obligations. The latter are certainly welcome, but rarely enough. Most actors have to scale up their efforts on the basis of their legal obligations. The update aims to fill the gap of insufficient knowledge of climate obligations.

The Oslo Principles, the EP and this update have in common that they prioritise prevention.[98] Avoiding global catastrophe is of utmost importance, even more than

94 See Jaap Spier, The "Strongest" Climate Ruling Yet: The Dutch Supreme Court's Urgenda judgment, NILR 2020 vol. 67, issue 2 (p. 319 ff).

95 Even in that scenario they have a merit. They can – and often will – stimulate other courts to take similar stances.

96 Todd Stern, The Future of the Paris Climate Regime, https://www.brookings.edu/on-the-record/the-future-of-the-paris-climate-regime/.

97 See Marrakech Partnership, Yearbook of Global Climate Action 2018, https://unfccc.int/sites/default/files/resource/GCA_Yearbook2018.pdf p. x and 22.

98 See the commentary to the EP p. 41 ff. See also Jaap Spier in Jaap Spier and Ulrich Magnus (eds), Climate Change Remedies, p. 4 and 5 and Human Rights Council, Report on transnational corporations and other business enterprises, o.c. p. 3 under 1, p. 4 under 8. See about the Oslo Principles Philip Sutherland, Obli-

compensating victims. We are not at all suggesting that victims do not matter. Precisely because they do matter, it would be a serious mistake to throw in the towel by giving up the fight against climate change. The toll of unabated climate change will be so unbearably high in human, environmental and economic terms that compensation of all or even most losses is a phantom. Hence, even if one would be willing to prioritise damages – an extremely unattractive view – it simply will not work.

These Principles do not take a stance in the discussion which losses have to be compensated, by whom and on which legal basis. That is an important and terribly difficult topic in its own right.[99]

12 Key features: more emphasis on activities, products and services

> "… litigation has moved from being exclusively targeted at first line 'emitters' to increasingly being used as a means of holding companies of all stripes accountable for how they respond, not just to the physical, but also to the financial risks of climate change. Companies across the spectrum and their directors and officers face mounting obligations to understand, deal with and disclose how they are dealing with, the risks of a changing climate, increasing regulation and the transition to a low-carbon economy, from divesting high-carbon assets to revising their operations."[100]

In light of the urgency to reduce global emissions our group started working on obligations of enterprises and investors.[101] The increasing urgency, the stalemate in the political arena and the evergreen of a level playing field as a stumbling block for real progress, allegedly excessive costs and short-sightedness in the realm of the corporate community required reconsideration of the Principles as they stand.

Although enterprises are an important factor to come to grips with climate change, their contribution should not be overestimated. Depending on the calculation, CO2

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gations to Reduce Emissions: From the Oslo Principles to Enterprises, JETL 2017 p. 179 ff and Jaap Spier, The Oslo Principles and the Enterprises Principles: Legal Strategies to Come to Grips with Climate Change, JETL 2017 p. 220 ff.

99 See Jaap Spier, Shaping the law for global crises, p. 181 ff, Jaap Spier, Private law as a crowbar to come to grips with climate change?, report for the Royal Dutch Association for International Law (KNVIR), in Climate Change: Options and Duties under International Law, p. 47 ff, Jaap Spier and Daniël Witte, The Hopeless Case of Climate Change: Can We Still Keep the Floodgates Shut?, in Ars docendi et scribendi, Essays in Honour of Johan Scott, p. 159-169, Jaap Spier, Liability for climate change losses: a blessing or a curse?, in Frits-Joost Beekhoven van den Boezem, Corjo Jansen and Ben Schuijling (eds), Sustinability and financial markets, p. 59-83 with further references.

100 Nigel Brook and Neil Beresford, Climate Change: Liability Risks (Report, Clyde & Co, 2019) p. 38.

101 See in more detail the commentary to the EP p. 28 ff.

emissions caused by manufacturing industries and constructions amount to approximately 15-20% of global emissions.[102] Part of the global emissions is caused by activities such as transport, amounting to approximately 20-30%.[103] No doubt part of the latter percentage can be added to the emissions caused by enterprises which means that the percentage gets higher. In addition, one should include fossil fuel companies, responsible for approximately 40-50% of global emissions if we include the emissions caused by their products.[104]

These figures illustrate that a significant percentage of global GHG emissions is covered by the EP principles.[105] However, a relevant part is not, f.i. private transport, residential buildings,[106] the use of gas and oil by private persons and the consumption of agriculture products[107] and products based on deforestation.[108] Although the EP attribute emissions caused by the generation of electricity to the relevant enterprise,[109] the fact remains that part of electricity is *used* by private persons.

This state of affairs fuels the desirability to intensify a focus on products and services. We still believe that the *direct* obligations of consumers, such as installing solar energy equipment, isolation of houses, and the reduction of meat and/or dairy-consumption,

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102 See World Bank, World development indicators: carbon dioxide emissions by sector, http://wdi.worldbank.org/table/3.10?tableNo=3.10; the statistics are about 2014 and also provide information about most countries. They show significant differences among countries and regions concerning the different sectors. See also https://www.theguardian.com/environment/2011/apr/28/industries-sectors-carbon-emissions; they include all GHG emissions.

103 The figures referred to in the previous footnote provided by the World Bank (based on 2014) are significantly lower than those offered by the Guardian, based on WRI statistics. For our purpose the difference, though not insignificant, is of limited avail. See about transport in Geert van Calster, Wim Vandenberghe and Leonie Reins (eds), Research Handbook on Climate Change Mitigation Law, Ian Skinner, The mitigation of transport's CO2 emissions in the EU: policy successes and challenges, p. 103 ff, Laurel Berzanskis, Climate change mitigation in the transportation sector in the United States, p. 126 ff and Masahiko Iguchi and Hiroki Nakamura, Climate transport policy in the East Pacific Region p. 149 ff.

104 World Bank, o.c.; the percentage includes "the sum of emissions from main activity producer electricity generation, combined heat and power generation and heat plants"; the figure also includes "emissions from fossil fuel combusted in petroleum refineries for the manufacture of solid fuels, coal mining, oil and gas extraction and other energy-producing industries." As explained in section 18 we take a different stance concerning the attribution of emissions.

105 The World Bank statistics over 2014 show that 8.6% can be attributed to "residential buildings and commercial construction".

106 See Sophie Wattiaux, How do the European Union and the private sector pave the way to more sustainable buildings?, in Van Calster et al., p. 169 ff, Albert Monroe, Energy efficiency of buildings in the United States, in idem p. 190 ff and Abhisek Rohatg, Tian Sheng Allan Loi and Nahim Bin Zahur, Climate change and buildings – an Asia-Pacific primer, in idem p. 212 ff.

107 Agriculture contributes to approximately 13% of global emissions: Agri-environmental indicator – greenhouse gas emissions, https://ec.europa.eu/eurostat/statistics-explained/pdfscache/16817.pdf (the EU: 9.5%); World Resources Institute, Everything You Need To Know About Agricultural Emissions, https://www.wri.org/blog/2014/05/everything-you-need-know-about-agricultural-emissions (world). These are mostly non CO2-emissions.

108 See World Resources Institute, The Value of Tropical Forests in Climate Change Equation, https://www.wri.org/blog/2018/10/numbers-value-tropical-forests-climate-change-equation.

109 Commentary p. 34 ff.

should be defined by (domestic) legislators, but this leaves untouched that a lot can be achieved by means of less energy consuming products and services.[110] In a ground-breaking report commissioned by Global Compact, Freshfields Bruckhaus Deringer recommends "companies to prevent or mitigate any adverse impact that is directly linked to their operations, products or services through their business relationships."[111] The update elaborates on this point.

For the same reasons we have inserted Principles 19 and 22 on advertising products and enticing consumers, supermarket chains, major internet sellers and other major retailers.

13 Key features: obligations of players in a position to bring about tangible change

This update pays specific attention to major players in a position to stem the tide. Principles 45 to 48 add new obligations to the already existing ones which focus on the scope 1-3 emissions of these enterprises.

(Re)insurers can have a major impact on the behaviour of the insured. That goes in particular for liability insurance. The current view seemingly, though surprisingly, is that when an enterprise and its board of directors are insured against liability, they do not run a financial risk. We believe this is a misconception. If and when liability for climate change losses becomes reality, the insured amounts will often not suffice. However, what counts is the seemingly prevailing view that insurance shields against liability. The (re)insurance industry can meaningfully contribute to addressing climate change if it would be reluctant to cover liability for climate change losses. In addition, it is the only way to protect themselves against potentially unbearable liability which will bring them into significant financial difficulties, if not worse. Principle 45 aims to tackle this issue.

It is impossible for accountants to map the liability risks of enterprises they have to audit without fully, or at least to the extent possible, understanding what the obligations of these enterprises regarding climate change are. For now, there is little reason to believe they care to figure out these obligations. Thus, they expose themselves to liability for non-compliance with their key obligation. More importantly, they too can meaningfully contribute to addressing climate change by complying with Principle 46.

Credit agencies have to assess the financial risks of the "rated" enterprises, among other issues in light of their liabilities in the face of climate change. This is impossible without

110 In line with the view of the Global Compact, SDG ambition o.c. p. 10.

111 Freshfields Bruckhaus Deringer, Business and Human Rights, Navigating the legal landscape, https://www.freshfields.com/en-us/our-thinking/campaigns/biz-human-rights/, p. 6.

a clear understanding of the relevant obligations. Failure to adequately assess these obligations comes at the price of potential liability. Furthermore, they mislead investors by not fully and adequately disclosing the climate-related liability risks which will harm investees, often (prospective) pensioners. Principle 47 aims to clarify their obligations in this field.

Last but not least attorneys. In hard times they are the last hope for desperate people and enterprises. Increasingly enterprises allegedly seek advice about their legal obligations right now (an example of good governance), although they may not use the word "obligation", wary as many of them are to admit that they have, or even may have, legal obligations in the face of climate change. Attorneys are under an obligation to deliver proper advice; see Principle 48. That may be a challenge – for which they get paid well – but they do not have a choice. If they do not have a clue or prefer to stay ignorant, they would be best advised to refer their clients to better equipped law firms.

14 Unwilling to take action: the costs are too high?

An argument that keeps coming up against far-reaching measures to fight climate change is that the costs are too high. As a rule the "exceptio non habet pecuniam" defence is doomed to founder.[112]

In many instances – also in the context of these Principles – the costs to be incurred for taking measures is a factor to be taken into account when determining which specific obligations an enterprise has.

Principles 13.1 and 14.1 offer some room for leniency if the conditions of these Principles are met. See for elaboration the commentary to these Principles.

Although we are cognisant of the costs of compliance with some of the Principles for some enterprises, seen from a more global perspective the costs are quite bearable, at least for the time being; see for elaboration section 27 and a reality check under Principle 2.1.1. Exceptions apply, but as a rule enterprises that cannot achieve the required reductions or take countervailing measures within the boundaries of Principle 2.1.3 or Principle 13.1 should close their doors.

According to the IPCC Special Report of 2018

> "the annual average investment needs in the energy system [is projected] of around 2.4 trillion USD2010 between 2016 and 2030 representing about 2.5% of the world GDP" to keep global warming to 1.5° C.[113]

112 See Oslo Principle 23. Our Principles take a somewhat more nuanced stance: Principles 13 and 14.
113 SPM-29 section D5.3 (medium confidence); see also section C2.6 (SPM-22).

The Global Compact emphasises that

> "higher environmental, social, governance (ESG) performance has been correlated with higher financial performance pre-pandemic, a link that has only grown stronger in recent months as top ESG performers experienced a cumulative relative return 6.3 per cent higher than the bottom performers."[114]

This illustrates that taking measures often pays off.

Even if the costs are high and even if they would jeopardise the economy, taking no or insufficient measures is not a legally and morally acceptable option. Recent research reveals the a "cost-benefit analysis" does not

> "provide a clear answer to the question whether the benefits of the 1.5° C target exceeds the costs."[115]

In their conclusions the authors contend

> "that the uncertainties about the economic benefits and costs of limiting warming to 1.5°C are so large, particularly on the benefits side, that 1.5°C is *within the range* of peak temperature increases that could be optimal from an economic standpoint"[116] (emphasis added).
>
> Uncertainties about economic benefits aside the authors summarise "the benefits of limiting warming to 1.5° C, are particularly significant for natural ecosystems and they are also significant for water resources, agriculture, and human health, especially in poorer regions of the world. There is evidence to suggest that limiting warming to 1.5° C reduces the risk of crossing climate tipping points …"[117]

This update is based on 1.75° C instead of 1.5° C; see Principle 2.2.1 (a). In sections 7 and 20 and in the commentary to Principle 1 under Global Carbon Budget, from 2 degrees to

114 UN Global Compact, SDG Ambition, Introducing Business Benchmarks for the Decade of Action, consultation draft, https://www.unglobalcompact.org/library/5746.

115 Simon Dietz, Alex Bowen, Baran Doda et al., The Economics of 1.5° C Climate Change, https://www.annualreviews.org/doi/abs/10.1146/annurev-environ-102017-025817 p. 456. See also Kenneth Gillingham, Carbon Calculus, https://www.imf.org/external/pubs/ft/fandd/2019/12/pdf/the-true-cost-of-reducing-greenhouse-gas-emissions-gillingham.pdf.

116 O.c. p. 469.

117 O.c. p. 471.

1.75 degrees, we explain why we have adopted a threshold of 1.75°C. The economic costs-argument carries all the more weight seeing a recent "Policy insight" emphasising inter alia that

> "Economic assessments of the potential future risks of climate change have been omitting or grossly underestimating many of the most serious consequences for lives and livelihoods because these risks are difficult to quantify precisely and lie outside of human experience. ….
>
> Economic assessments fail to take account of the potential for large concurrent impacts across the world that could cause mass migration, displacement and conflict with huge loss of life."[118]

If we compare the climate change problem to the coronavirus pandemic[119] it shows that when a crisis is clearly visible governments around the world are far more easily prepared to take far-reaching, often unprecedented, measures including restrictions on the freedom of citizens and preparedness to "rescue" the economy at staggering cost. To take the Netherlands as an example: the Dutch government is prepared to spend € 90 billion to support the Dutch business community and to a lesser extent unemployed people. If we compare this number to the alleged costs of making the Netherlands emission-neutral (between € 500 and 700 billion),[120] which can be spread over 15-30 years, and part of which will pay itself back, it is astounding that society is unwilling to spend a high amount on the – in the somewhat longer term – far more important issue of climate change. There is also a parallel between both: there is reason to believe that the costs are so high because governments started too late with taking action on the virus.[121]

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118 Ruth DeFries, Ottmar Edenhofer, Alex Halliday et al., The missing economic risks in assessments of climate change impacts, Policy insight, September 2019, https://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2019/09/The-missing-economic-risks-in-assessments-of-climate-change-impacts-1.pdf, p. 3.

119 In an interview with Neela Banerjee Aaron Bernstein (Harvard) contends: "Climate change is a destabilizing force when it comes to the spread of infection through potential pathways", inside climate news, Q&A: A Harvard Expert on Environment and Health Discusses Possible Ties Between COVID and Climate, https://insideclimatenews.org/news/11032020/coronavirus-harvard-doctor-climate-change-public-health?utm_source=InsideClimate+News&utm_campaign=159fea7571-&utm_medium=email&utm_term=0_29c928ffb5-159fea7571-327952769.

120 See (in Dutch) Robert Vergeer et al., Rechtvaardigheid en inkomenseffecten van het klimaatbeleid, https://www.ce.nl/publicaties/1930/rechtvaardigheid-en-inkomenseffecten-van-het-klimaatbeleid.

121 https://www.irishtimes.com/news/world/europe/how-dutch-false-sense-of-security-helped-coronavirus-spread-1.4199027.

15 Vague Principles, laudable Declarations, but concretisation important

The Commentary to the EP mentions a series of Principles, Declarations, e tutti quanti with very open pledges, promises or aspirations. ClimateWise brilliantly formulates 7 concise principles[122] pointing at the very heart of what needs to be done. For our purpose Principles 1 (Be accountable) and 3 (Lead in the identification, understanding and management of climate risk) are the most important. Principle 1 is all-encompassing; Principle 3 illustrates the importance of further elaboration. After all, being accountable and the identification and understanding of the climate risk (and any other risk) are quite a challenge without further guidance on what needs to be done.[123]

The Irish High Court emphasised the importance of concretisation of duties and obligations.[124] The Court put it as follows:

> "261. For centuries, humanity has exploited the abundant resources of the natural environment. Until relatively recent decades, this process of exploitation was greatly untrammelled by legal restrictions, prompted perhaps by (a) a notion that nature's bounty is endless and (b) an unawareness of the toll that humanity's industrial and technological progress has taken, and is taking, on the quality of the environment that humanity requires for survival. The historically exploitative approach adopted by our ancestors towards the environment has, in Ireland, been tempered in recent years, not least by a generally beneficial and largely European Union-inspired environmental law regime which is informed in part by the experience of member states that have had to cope with industrialisation and its ill-effects to a greater extent and for a longer time than Ireland. (That environmental law regime is sometimes criticised for its complexity, but complex issues such as environmental

122 ClimateWise principles, https://www.cisl.cam.ac.uk/business-action/sustainable-finance/climatewise/images/climatewise-principles.png/view.

123 "Survey respondents indicated that the current legal landscape … does not provide companies with legal certainty about their human rights and environmental due diligence obligations, and is not perceived as efficient, coherent and effective", Lise Smit, Claire Bright, Robert McCorquodale et al., Study on due diligence requirements through the supply chain, final report, https://op.europa.eu/nl/search-results?p_p_id=eu_europa_publications_portlet_search_executor_SearchExecutorPortlet_INSTANCE_q8EzsBteHybf&p_p_lifecycle=1&p_p_state=normal&facet.author=agent.British+Institute+of+International+and+Comparative+Law&facet.collection=EUPub&language=en&startRow=1&resultsPerPage=10&SEARCH_TYPE=ADVANCED, p. 16.

124 Friends of the Irish Environment CLG v Fingal County Council, http://www.courts.ie/Judgments.nsf/768d83be24938e1180256ef30048ca51/b93cb87c3a537960802581e5004438d6?OpenDocument. See also PRI, Implementing the Taskforce on Climate-related Financial Disclosures (TCFD) Recommendations, https://www.unpri.org/download?ac=4652 p. 9.

protection are rarely, if ever, susceptible to simple solutions). Along with legislative change, and well within the lifetime of this Court, there has also surfaced (i) a rising public concern about increasing environmental degradation and (ii) a greater public awareness that the quality of our life as a nation, and as members of the wider human community, is threatened by the processes which have yielded the very quality of life which we presently enjoy. It is in this, not un-pressing, context that the Case 2 Applicant contends that there resides within the Constitution an unenumerated and previously not expressly recognised personal right to an environment that is consistent with the human dignity and well-being of citizens at large.

262. As touched upon above, a constitutional right to an environment that is consistent with the human dignity and well-being of citizens at large may be perceived to raise so many issues as to make it a right that is more aspirational than practicable. The court has given examples of some of the questions that can present in this regard. But, again, the court does not accept that all these questions require to be addressed and to be answered before the right contended for can be recognised to exist. Other rights, such as freedom of speech, and even previously recognised, unenumerated constitutional rights such as the right to bodily integrity, face similar complications, being subject to limits can that only be defined, demarcated and understood over time, and yet they are recognised to exist.

263. What existing constitutional rights come into play when it comes to measures hostile to the environment? It seems to the court that, at the least, the following rights are of relevance: the right to life, as recognised in Article 40.3.2° of the Constitution, those injurious impacts to persons' health that come within Art. 40.3, the right to work, whether that is construed as deriving from Art. 40 or 45 of the Constitution (though it is difficult to see that this right could be affected other than indirectly by measures that would be hostile to the environment, *e.g.*, where a gardener became entirely unable to work in an area of heavy pollution) and the right to private property contemplated by Art. 43 of the Constitution (as well as Arts. 40.3.2° and 44.2.6°). These rights are capable of supporting individual claims in particular environmental situations. However, this is a rudimentary form of environmental protection. Is there an underpinning, unenumerated personal constitutional right to an environment that is consistent with the human dignity and well-being of citizens at large? Or, to put matters otherwise, are the individual protections touched upon above, and recognised at law, but particular manifestations of a right to an environment that is consistent with the human dignity and well-being of citizens at large, with this last right continuously informing or underpinning those

> individual protections, albeit that it has hitherto been to some extent obscured by them?
> 264. A right to an environment that is consistent with the human dignity and well-being of citizens at large is an essential condition for the fulfilment of all human rights. It is an indispensable existential right that is enjoyed universally, yet which is vested personally as a right that presents and can be seen always to have presented, and to enjoy protection, under Art. 40.3.1° of the Constitution. It is not so utopian a right that it can never be enforced. Once concretised into specific duties and obligations, its enforcement is entirely practicable. Even so, every dimension of the right to an environment that is consistent with the human dignity and well-being of citizens at large does not, for the reasons identified previously above, require to be apprehended and to be described in detail before that right can be recognised to exist. Concrete duties and responsibilities will fall in time to be defined and demarcated. But to start down that path of definition and demarcation, one first has to recognise that there is a personal constitutional right to an environment that is consistent with the human dignity and well-being of citizens at large and upon which those d uties and responsibilities will be constructed.

The Irish Supreme Court, per Justice Clarke (the Chief Justice), labelled significant parts of the Irish climate plan "excessively vague or aspirational."[125] In the context of "how and when particular types of technology are currently hoped to be brought on board" the Chief Justice observes that

> "the public are entitled to know what the current thinking is and, indeed, from a judgment both on whether the Plan is realistic and whether the types of technology considered in the Plan are appropriate and likely to be effective."[126]

Our update aims to offer such concretisation for key obligations, not only by means of a series of rather detailed Principles, but also by this commentary that provides a legal basis and further elaboration on the meaning of the respective Principles.

125 Friends of the Irish Environment CLG and The Government of Ireland (Supreme Court), http://climatecasechart.com/non-us-case/friends-of-the-irish-environment-v-ireland/ (unapproved version) at 6.43 with elaboration.

126 At 6.47; see also 6.46.

16 Principles as concrete as possible

> "… Karl Popper identified that 'ignorance is not a simple lack of knowledge, but an active aversion to knowledge, the refusal to know, issuing from cowardice, pride, or laziness of mind'. Whatever the reason, ignorance is on the rise."[127]

Sarah Breeden, executive director of the Bank of England, hit the mark:

> "What we are missing is a map. Getting us to our destination requires an understanding of what risks lurk in these deep waters and what the future winds may buffet us".[128]

In unequivocal language the Special Rapporteur on extreme poverty and human rights made the same point: "With regard to emissions, human rights actors have set broad standards, such as a requirement to 'reduce emissions as rapidly as possible, applying the maximum available resources'." That is an important initial step, "but greater clarity is required as to what it means in practice. It does not give States and other actors clear guidance, allowing them to get away with vague commitments and tepid action."[129]

The Global Compact promotes

> "translating the ambition level of the SDGs into concrete aspirations for business, these benchmarks challenge organizations to set more ambitious goals and targets in the areas in which business is positioned to have a substantial impact."[130]

The Global Compact adds that a "first step in setting ambitious business goals and targets is to define the most important priorities for the goals to cover."[131] That is precisely what these Principles aim to achieve.

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127 Quoted by Brian J. Preston, Comment: Environmental Law and Populism, o.c. The End of Enlighted Environmental Law, Journal of Environmental Law (2019) 399-411 p. 399.

128 Avoiding the storm: Climate change and the financial system, https://www.bankofengland.co.uk/speech/2019/sarah-breeden-omfif, p. 2.

129 O.c. p. 16 with further elaboration, also on p. 17. He further contends that the "Human Rights Council can no longer afford to rely only on the time-honoured techniques of organizing experts panels, calling for reports that lead nowhere, urging others to do more but doing little itself and adopting wide-ranging but inconclusive and highly aspirational resolutions" (p. 18).

130 UN Global Compact, SDG Ambition, Introducing Business Benchmarks for the Decade of Action, consultation draft, https://www.unglobalcompact.org/library/5746, p. 5.

131 O.c. p. 6.

Our update is not law but an interpretation of the law as it stands or will likely develop; see section 25. But society would be ill-advised to wait until politicians have calibrated international instruments that, if those addressed comply with the emanating obligations from such instruments, keep climate change below fatal thresholds. It would be a miracle if consensus on such instruments would be within reach. No doubt courts will play an important role. There is a fair chance that they will interpret "the law" to the extent needed to avert global catastrophe; see sections 28 and 29. However, that will take time, all the more so as courts can "only" interpret their domestic law or at best regional international instruments. Their interpretation may be applied by other courts, but that cannot be taken for granted, which means, in turn, that it will take a lot of time before the global picture has become clear. Hence, it is important to map the obligations as concretely as possible, because only concrete obligations can serve as a blueprint to the addressees,[132] instead of waiting for guidance by courts. This is also an answer to critics: politicians can do a better job; they can tailor solutions to the problem in point.[133] In an ideal world that would be true, but we do not live in such a world.

Based on our conviction that clear "rules"[134] are preferable over very open principles that do not provide any certainty or meaningful guidance, we have tried to square the circle by offering the clearest possible principles and at the same time providing enough flexibility to tailor the principle to the case in point.[135] Michael Gerrard nicely put it as follows:

> "[j]ust as "send a person to the moon" or "build an aircraft carrier" are directions that the President or Congress can issue, with innumerable details still to be figured out, a requirement to reduce GHG emissions by x percentage points

132 See also the quotation of Michael Kirby under Principles 24-26 and Jorge Vinuales, Joanna Depledge, David M. Reiner and Emma Lees, Climate policy after the Paris 2015 climate conference,https://www.tandfonline.com/doi/full/10.1080/14693062.2016.1242060 p. 7 and Jorge E. Vinuales, Balancing Effectiveness and Fairness in the Redesign of the Climate Change Regime, https://doi.org/10.1017/S0922156510000701, Executive Director of the UNEP, UNEP/GC/25/INF/15 p. 6.

133 Susan Biniaz, 10 Questions to Ask About the Proposed "Global Pact for the Environment", http://columbiaclimatelaw.com/files/2017/08/Biniaz-2017-08-Global-Pact-for-the-Environment.pdf. She airs more criticism. Similar criticism could be ventilated about our venture. The answer would be the same.

134 Our update puts emphasis on substantive obligations, although we second the view that procedural obligations are also useful. Our stance is in line with the view of stakeholders who, according to a recent study "indicated that the legal mechanism should be based on a standard of care rather than a procedural (frequently described as "tick box" requirement)", Lise Smit et al., study on due diligence o.c. p. 17.

135 That, we think, is also Prince Charles' message: "It is time for businesses, industries and countries alike to design and implement how they will decarbonise and transition to net zero. Moving together, with clear roadmaps, will create efficiencies and accelerate our transition", o.c. See also Spier, Private law as a crowbar, o.c. p. 31 ff.

> by y date is a clear order that does not immediately yield the methodology for getting there."[136]

This approach is also promoted by the Guidance Document on the Principles for Responsible Banking:

> "Targets should be SMART:
> - Specific: It should be clear what activity is the subject of the targets, how the objectives and targets relate to individuals' needs and society's goals, what improvements in performance and in impact are being sought.
> - Measurable: It should be clear how performance and impact are being measured or assessed.
> - Achievable: The targets should be attainable.
> - Relevant: The targets should focus on areas where the bank has the greatest impact. They should clearly link to one or more of the Sustainable Development Goals, the Paris Climate Agreement and other relevant national, regional or international frameworks.
> - Time-bound: It should be clear when the targets are to be met, and the timeframes should be at least as ambitious as those expressed in the Sustainable Development Goals, the Paris Climate Agreement and other relevant national, regional or international frameworks".[137]

As to achievability: we do not hide that complying with our Principles comes at a price. It is possible that some – probably not many – enterprises cannot comply. If Principles 13, 14 and 49 do not offer enough solace the ultimate consequence is that they have to close their doors which has happened all the time if enterprises cannot meet present day's requirements.

As to relevant: as explained in section 7 the Paris Agreement falls short of meeting its own goal to keep global warming well below 2 degrees. Hence, it contains minimum obligations;[138] see in more detail section 22.4 on minimum obligations.

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136 Michael Gerrard, The Role of Lawyers in Decarbonizing Society, https://www.stanfordlawreview.org/online/the-role-of-lawyers-in-decarbonizing-society/.

137 https://www.unepfi.org/wordpress/wp-content/uploads/2019/09/PRB-Guidance-Document-Final-19092019.pdf p. 6 and 7.

138 For a similar view the advisory opinion of the deputy Procurator-General Langemeijer and Advocate-General Wissink, in the Urgenda case, https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:PHR:2019:1026 under 2.77.

17 A special regime for fossil fuel enterprises?

We are aware of the swiftly emerging view that fossil fuel companies are the main cause of climate change. The contenders of this view tend to harp on research by Richard Heede[139] which allegedly illustrates this point. Ever more major investors promote or realise disinvesting in such companies. Leading NGOs and academics also promote doing so. Distinguished experts take the view that investment in this branch of industry is ill-considered because the value of the shares is doomed to be adversely affected, if the enterprises have a future at all; see under Principles 33, 37.1 and 39. They claim that the goals of the Paris Agreement cannot be realised if the amount of fossil fuels is not reduced significantly.

The EP acknowledge the discussion.[140] We agree that it would be a blessing for the world if fossil fuels (or at least energy derived from fossil fuels) would be phased out in the very near future. We second the view that unabated use of fossil fuels means that catastrophe will set in.[141] In spite of these truisms, the EP are reluctant to put all the blame on "big oil", as explained at quite some length in this commentary.[142]

For the purpose of this update we had to reconsider our stance. We still believe that it would be mistaken to *require* fossil fuel companies to phase out the production of fossil fuels (for energy purposes), or to put an *obligation* on their shoulders to put renewable energy on the market instead of fossil fuels.[143] Nor do we believe that it is justified to allocate emissions generated by the combustion or the use of fossil fuels to the enterprise which put them on the market. The latter stance would make it too easy for others to argue: climate change is not our problem, it is "theirs". In addition, enforcement of such obligations would be fraught with difficulties in relation to quite a few major fossil fuel companies such as Gazprom, Aramco, and Petrobas; see in more detail sections 18.1 and 18.3 to 18.7.

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139 Richard Heede, Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854-2010, Climatic Change (2014) 122:229-241. The Special rapporteur on extreme poverty and human rights belongs to the contenders of the view mentioned in the text (o.c. p. 9). The Oslo Principles (Principle 7) and the members of the Expert Group on Climate Obligations of Enterprises second the Special Rapporteur's view that subsidies to the fossil fuel industry (6.3% of the global GDP as he writes) is an anomaly (p. 9).

140 Commentary p. 32 ff and 235 ff. See also Paul Mougeolle, Current Developments in Carbon & Climate Law, Practitioner's Perspective, Climate Change Law Review 2/2020, p. 128 and Lisa Benjamin, The Responsibilities of Carbon Major Companies: Are They (and Is the Law) Doing Enough? Transnational Environmental Law (2016) 5(2) 355-378, Available at SSRN: https://ssrn.com/abstract=3408765.

141 See for the view of some leaders of the energy industry, The energy industry, in the words of its leaders, The New York Times International Edition, 10 October 2018, p. S6.

142 The issue whether "big oil" was aware of "the problem" and did hide or even misrepresent "the facts" goes beyond the scope of the EP and this update. See f.i. CIEL, Smoke and Fumes, https://www.ciel.org/reports/smoke-and-fumes/.

143 This view is not in conflict with Principle 10. Enterprises unwilling or unable to refrain from putting excessively emitting products on the market may f.i. prefer to close their doors and repay shareholders.

Aligning with the emerging view that "big oil is the problem" would give rise to very serious difficulties. Who would have to decide who are allowed to buy the shrinking quantities to be put on the market? Would that be the infamous "market-mechanism" (the market price)? Depending on the price of fossil fuels that could mean that fossil fuels will only be available to wealthy countries and enterprises. That, in turn, would be at odds with one of the pillars of the sustainability agenda: the eradication (end) of poverty.[144] It would also create serious difficulties if and to the extent countries are unable or unwilling to provide a grid capable of accommodating increasing quantities of electricity based on renewable energy.

All this being said, we do realise that the status quo has to be overcome. The better strategy to achieve that imperative is to focus on buyers of fossil fuels (Principle 21) and to scrutinise the obligations concerning products (fossil fuels are products) and by elaborating on the meaning of "excessive emissions" (Principles 11 and 12). For the remainder we have to leave solutions to politicians, investors and NGOs.

For the avoidance of doubt: we hope that fossil fuels will have no future and that the energy transition will make them redundant. The sooner the better. However, we cannot tell the fortunes and do not dare to take a stance in the debate *when* that is going to happen.

18 Attribution of GHG emissions

18.1 Introduction

The attribution of GHG emissions is a key issue that needs to be addressed. In our view, the fairest and most workable solution is to attribute emissions to their direct source. For example, that means that emissions from oil exploration, extraction and refining are attributed to the responsible oil company, whereas emissions from combustion in an airplane are attributed to the airline.[145]

There are several reasons for our view. First and foremost, it spreads the reduction burden in most instances (an exception, which is discussed in section 18.5, is electricity) and makes it easier to comply with the reduction obligations *and* to enforce them if not fulfilled, need would be by seeking injunctive relief.[146] Secondly, any other choice would

144 See Transforming our World: the 2030 Agenda for Sustainable Development, https://sustainabledevelopment.un.org/post2015/transformingourworld.

145 Emissions that are caused at earlier or later stages in the chain can be taken into account for the purpose of impact assessments and the selection of suppliers; see Principles 18 and 35.

146 See about injunctive (and declaratory) relief UN Environment, Environmental Rule of Law p. 214 ff, Jaap Spier, in Jaap Spier and Ulrich Magnus (eds), Climate Change Remedies respectively p. 21 and p. 121 ff.

create possibilities to circumvent or avoid the reduction obligation. The just mentioned examples may explain why we have opted for attribution to users.

18.2 General discussion

It follows from the formulation of Principle 2.1.1 that we attribute GHG emissions to the enterprise (be it a producer, supplier, service provider, or otherwise) which causes them. That follows from the formulation "An enterprise must reduce *its* GHG emissions" (emphasis added). Insofar as emissions are attributed to consumers or governmental agencies, they are covered under the Oslo Principles. This is justified because entities only have direct power over *their* activities: a car producer chooses to produce cars, but a driver chooses how much and how efficiently to drive and whether to drive a car in the first place.

If one would choose to attribute emissions differently, it would be very difficult to calculate how the emissions from an end-product would have to be attributed to, say, the supplier of a small part. Take an aircraft manufacturer: it manufactures aircrafts by assembling thousands of parts acquired from suppliers. It would be impossible, or extremely arbitrary, to come up with a formula to attribute the emissions of the use of the aircraft to the supplier of, say, the millions of screws that hold it together. In our view, there is no legally or morally sound answer to this question. In other words: we cannot attribute the emissions from the use of a product to a previous link in the chain.

Others advocate different approaches to the attribution of CO2 emissions.[147] An example is 'Science Based Targets', a highly interesting approach laid out in a report issued by the Carbon Disclosure Project (CDP), WRI and the WWF.[148] They prefer a focus on the respective sectors; they "take into account" "inherent differences among sectors, such as mitigation potential and how fast each sector can grow relative to economic and population growth". Within each sector "companies can derive their science-based emission reduction targets based on their relative contribution to the total sector activity and their carbon intensity relative to the sector's intensity in the base year".[149]

On paper enforcement against a relatively small number of fossil fuel giants would be easier. Reality, however, is different seeing the likely stance courts in part of the relevant countries will take.

147 The report discussed below (Science Based Targets) explains this choice as follows: non CO_2 emissions "are negligible for a majority of corporations": p. 16; see also p. 47.

148 CDP, WRI and WWF, Sectoral Decarbonization Approach (SDA): A method for setting corporate emission reduction targets in line with climate science, Science Based Targets Initiative, May 2015, https://sciencebasedtargets.org/wp-content/uploads/2015/05/Sectoral-Decarbonization-Approach-Report.pdf. See also Science Based Targets, SBTi Criteria and Recommendations, version 4.1, https://sciencebasedtargets.org/wp-content/uploads/2019/03/SBTi-criteria.pdf p. 9 and 10.

149 Sectoral Approach, o.c. p. 8. The 4.1 version, o.c. put it as follows: "Companies must follow requirements for target setting and minimum ambition levels as indicated in relevant sector-specific methods and guidance

This approach clearly has merits, but it makes things rather complicated. More importantly, the key features are rather vague,[150] whilst the report does not explain *why* it advocates this way of counting emissions.[151] Furthermore, it is based on the idea that a relatively small group of enterprises (500) is responsible for the lion's part of global emissions.[152] We are not convinced that this strategy is the most effective or fairest to achieve the global reductions.[153]

We admit that the fact that different enterprises or sectors have greater or lesser reduction *potential* may carry weight. But we do not think that generally applicable rules to cope with this and other factors will work. To some extent the potential plays a role under Principles 3.1(b), 7 and 8.

If at some stage our Principles would rule the waves, some – in the short-term probably few – sectors may and likely will have to choose between closing their doors or adapting, or in case of hugely emitting products or services,[154] substituting them. That is by no means novel. Over the centuries, industry has had to cope with the changing demands of society. In our view, countries are in the best position to tailor the allocation of reduction obligations between the respective enterprises within their jurisdiction, as is provided for in Principles 3 and 4.

In the context of fossil fuel enterprises, Carbon Tracker points to projects "owned by a partnership of multiple companies". It proposes to allocate the relevant emissions "on an equity basis".[155] That may be a fair approach. For the purpose of our Principles it predominantly matters that the emissions are *effectively* curbed to the extent necessary and that this is not compromised by the partners, f.i. by allocating emissions to entities that have reduction obligations which, as they know or ought to know, will not be achieved.

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at the latest, 6 months after the sector guidance publication. A list of the sector-specific guidance and requirements is available in the Target Validation Protocol" (p. 13).

150 That also goes for the "normalized targets" (emissions per unit of production, number of employees or value added), version 2015 p. 18. The report does not provide guidance on how to weigh these normalised targets individually or how to combine them into a standardised model. On p. 34 (version 2015) value added is defined as "gross profit, which equals revenue minus cost of purchased goods and services". It is not self-explanatory why gross profit should be relevant in determining these targets.

151 On p. 38 the report (version 2015) observes that the advocated method "does not take into account considerations of equity or fairness across different countries." Our principles explicitly do, as follows from inter alia Principle 2.2.1.

152 Version 2015 p. 10; also see p. 12 and 18 and for further elaboration p. 23 ff.

153 Julie Raynaud, Carbon Compass: Investor guide to carbon printing, Kepler Chevreux, 23 November 2015, https://yoursri.com/media-new/download/carbon_compass_final.pdf, rightly observes that "[c]arbon footprint is arguably the most widely-used, simple and high-level metric in this field", p. 17; see also p. 24 and p. 72.

154 Such as the coal, oil and gas sector.

155 Carbon Tracker, Balancing the Budget, https://carbontracker.org/reports/balancing-the-budget/ p. 24 with further elaboration on the subsequent pages.

18.3 Attribution of emissions from oil

The essence of attributing emissions remains, as discussed in section 18.2, at the direct source. In oil production, there are three stages (simplified): excavation, refining and sale. If the three stages of oil production are conducted by different legal vehicles, we attribute emissions to the legal vehicle by which they are caused. As with the screws of an aircraft, attributing emissions of the combustion of the end-product to one of the stages of production would be highly arbitrary.

Another practical argument against attributing emissions from the *use of oil* to a previous link in the production chain would be that enterprises engaged in oil production would have to reduce their emissions; in order to achieve those reductions, they will surely have to invest. That would mean that, at least in the long-term, such an enterprise would have to reduce its sales of oil. That would, if oil demand is assumed to remain constant and not adjust to supply or price, create a gap in supply that would likely be filled by other enterprises active in countries where these principles are unlikely to be enforceable.[156]

Hence, emissions from the combustion of oil by consumers are attributed to those that use the product (for example drivers). Insofar as those consumers are governmental agencies or private persons, those emissions are covered under the Oslo Principles; insofar as those consumers are enterprises (in our example company cars used for company travel), those emissions are covered under these principles as well as the Oslo Principles.[157]

18.4 Attribution of emissions from gas exploration, coal mines and fracking

The case of gas exploration, coal mines and fracking has a lot in common with oil, but also entails a major difference. The difference lies in the carbon footprint of these sources of

156 This assumption of market substitution begs questions, see Gloucester Resources Ltd v Minister for Planning (2019) 234 LGERA 257; [2019] NSWLEC 7 at [534]-[541]; Justine Bell-James and Briana Collins, If We Don't Mine Coal, Someone Else Will: Debunking the Market Substitution Assumption in Queensland, Climate Change Litigation (2020) 37 Environmental and Planning Law Journal 167 and Brian J Preston, Contemporary Issues in Environmental Impact Assessment (2020) Environmental and Planning Law Journal 423-442.

157 See for a different stance Heede, o.c.; that view is without much ado also promoted by Helen Winkelmann, Susan Glazebrook and Ellen France, Climate Change and the Law, https://www.courtsofnz.govt.nz/assets/speechpapers/ccw.pdf nr. 34. Strikingly, Shell also seems to be willing to assume some responsibility for scope 2 and 3 emissions, although it is not entirely clear how: https://www.shell.com/media/news-and-media-releases/2020/responsible-investment-annual-briefing-updates.html. See for a similar stance of BP, Reimagining energy, https://www.bp.com/en/global/corporate/who-we-are/reimagining-energy.html?gclid=CjwKCAjwq832BRA5EiwACvCWsc5hEwVa-_sm5V87XHSWgZ3A4_nYvvXAuK9zHoen-_bve5PCsulxXRoCUTAQAvD_BwE. For the avoidance of doubt, neither Shell nor BP are saying that the emissions from the use of their fossil fuels should be attributed to them which would mean that these emissions count as emissions caused by Shell or BP. That matters. If emissions would legally be attributed to an enterprise it would have to reduce them on the basis of Principle 2.1.1 or 5.1.

energy. "CO2 emissions per unit of energy from gas are around 40% lower than coal and around 20% lower than oil."[158] Shale gas seems problematic in light of its methane emissions.[159] This difference does not affect the issue of attribution.

18.5 Attribution of emissions from electricity production

Attributing emissions from electricity production is definitely a hard case. Applying the logic explained and justified above would mean that virtually all emissions from electricity production are attributed to the utility company – except, of course, the emissions from excavating coal or gas where those fossil fuels are used as the basis for electricity generation.

The consequences of this approach are far-reaching: no emissions are attributed for the use of electricity.[160] In turn, electricity producers – usually utility companies – face carrying a relatively larger burden of the total emissions of their end product than oil production companies. Therefore, enterprises of which the production processes are powered by electricity do not emit GHGs for the generation of power, as those are attributed to their utility companies, whereas enterprises that combust oil to power their production processes do emit GHGs.[161]

Although this may seem a large problem, in our view it is not. Enterprises that generate electricity can now switch from polluting production methods based on fossil fuels to clean production based on renewables – or switch to cleaner fossil fuel sources such as gas. That of course requires substantial investment, but such investment, where necessary, is usually externalised by raising the prices. In general, electricity markets are not as globalised as oil markets; because of that, the danger of a market gap in electricity being filled by non-complying foreign enterprises is much smaller than in the case of oil production.

In addition, attributing the GHG emissions from electricity generation to the user creates a serious problem if the user does not have a choice between f.i. electricity from renewable or coal-fired sources.[162] In the latter case the user would have to pay the price of the electricity *and* to reduce or offset the emissions caused at an earlier stage over which it does not have any control. That would not only be unfair, but it would also disturb the

158 Iea, Methane Tracker 2020, https://www.iea.org/reports/methane-tracker-2020.

159 Stephen Leahy, Fracking boom tied to methane spike in Earth's atmosphere, National Geographic, August 15, 2019, https://www.nationalgeographic.com/environment/2019/08/fracking-boom-tied-to-methane-spike-in-earths-atmosphere/.

160 That means, inter alia, that "only" electricity suppliers can be sued if they do not reduce their GHG emissions at the pace needed, which may be problematic if the relevant court is unwilling to issue, for example, injunctive relief. That in itself, however, is insufficient reason for a different approach than advocated in the text.

161 For a similar view The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard, Revised Edition, https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf p. 25.

162 This is by no means a hypothetical.

level playing field if competitors would have a choice between renewable and not renewable electricity.

A careful reader may wonder how our different approach in attributing emissions from electricity and oil pans out. Take motor vehicles, machines that can be powered by oil-based fuels or electricity. The emissions of driving a petrol- or gas-powered motor vehicle are attributed to its driver, and ultimately to the State, as the State is responsible for the sum of emissions within its jurisdiction or control.[163] A State aiming to comply with its obligations under the Oslo Principles would (have to) introduce policy and fiscal measures, such as taxation, to decrease emissions from motor vehicles. Such taxation would make it more expensive to drive, thereby discouraging driving. Hence, the costs of this emission reduction will ultimately be borne by the driver. The emissions of driving an electric vehicle are not attributed to the driver, but to the utilities company that provides the electricity, as follows from this section. That utilities company has to reduce its emissions under these principles. If it aims to comply with these principles, it will most likely add the costs of compliance to the price of its product. Hence, the driver of an electric vehicle also bears the costs of the necessary emission reductions.[164]

We realise that our approach, although in our eyes justified, may be challenged; other approaches might be conceivable. Where our approach is deemed unworkable or unfair in specific cases, States can apply Principle 3 or 4. In addition, where an enterprise, in light of the above specifically a utility company, cannot immediately fulfil its obligation, for example due to the sheer amount of investment necessary for compliance, it can call on Principle 13.

A counter-argument to our approach may be that it removes all incentives for the consumers of electricity to switch to a provider that generates electricity from renewable, low-emission sources. That is not entirely true. Principle 18.1 requires enterprises to ascertain and take into account[165] the GHG emissions of the suppliers of goods and services to the enterprise when it is selecting its suppliers. This includes, importantly, the selection of a utility company.[166] In the case that an enterprise is located in an area where it does

163 Oslo Principle 13.

164 When the price of electricity from renewable sources drops below that of electricity from fossil fuel sources, the driver of the electric automobile will most likely switch to renewable electricity and hence not bear additional costs from that point. At this stage, driving electric vehicles powered by renewable electricity may become cheaper than driving oil-powered vehicles without taking into account any subsidies or taxes. It would be a logical and desirable consequence that many people would then switch from oil-powered to electric vehicles.

165 See for an explanation of the wording 'ascertain' and 'take into account' the commentary to Principles 36-44 obligations of investors and financiers under 'must ascertain and take into account'. It means much more than a mere acknowledgement of the GHG emissions; the amount of GHG emissions must be given genuine weight in the decision-making process.

166 See for elaboration Principle 18.2 and the commentary thereto.

not have access to electricity from renewable sources,[167] a reasonable interpretation of Principle 8 would require an enterprise to invest in its own low-emission electricity generation if such investment would, beyond reasonable doubt and within a reasonable time period, be offset by future financial savings or financial gains.[168]

18.6 Attribution of emissions from leakages

In most instances it will be clear to whom emissions have to be attributed. That is however not always the case. Leakages during the "transport" of gas serve as an example. This is not a minor issue, if for no other reasons because of considerable methane emissions.[169] These emissions have to be attributed to the operator of the pipeline.

Repairing the leakages is low hanging fruit, it contributes to keeping global warming below fatal thresholds because less fossil fuels disappear into the air. The lower emissions from repairing the leakages do not count as reductions under Principle 2.1.1. The operator has to provide proper, i.e. not leaking, pipelines. That is its primary obligation towards its counterpart and society, an obligation that is unrelated to climate change. In addition, and importantly: otherwise it would be too easy to reduce emissions.

18.7 Exploration of new oil and gas fields

Although not explicitly mentioned in these Principles we do believe the exploration of new oil and gas fields is an issue. There should be no room for such exploration.[170] Burning the existing reserves would exceed the carbon budget several times over. Exceptions may apply in extreme cases such as Venezuela and Angola where GDP per capita is very low; in these instances, new exploration may be justified to eradicate appalling domestic poverty.

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167 For example, in a State where electricity production is State-controlled and the national utility company produces electricity from non-renewable sources.

168 See the commentary to the respective Principles for further elaboration.

169 See William H. Schlesinger, Natural Gas or Coal: It's All About the Leak Rate, Cool Green Science, 24 June 2016, http://blog.nature.org/science/2016/06/24/natural-gas-coal-leak-rate-energy-climate/. For a further discussion on GHGs other than CO_2, see the commentary to Principle 1 under CO2 Equivalents; Kate Larsen, Michael Delgado and Peter Marsters, Untapped Potential: Reducing Global Methane Emissions from Oil and Natural Gas Systems, Rhodium Group, April 2015, http://rhg.com/wp-content/uploads/2015/04/RHG_UntappedPotential_April2015.pdf. See also Benjamin Hmiel, V.V. Petrenko et al., Preindustrial CH4 indicates greater anthropogenic fossil CH4 emissions, Nature 578, 409-412 (2020), and The Conversation, The US natural gas industry is leaking way more methane than previously thought: here's why that matters, https://theconversation.com/the-us-natural-gas-industry-is-leaking-way-more-methane-than-previously-thought-heres-why-that-matters-98918.

170 For the same stance Safe Climate, o.c. p. 36.

We hate to admit that our position may widen the already huge gap between affluent countries such as the US, Norway and Saudi Arabia on the one hand and countries such as Malaysia which has a GDP per capita of over US$ 11.000[171] on the other hand, but at the end of the day keeping global warming below fatal thresholds is in the very best interest of the world at large, in particular also of the most vulnerable countries which will be hit most by climate change. Our Principles cannot shape global politics (unfortunately so).

18.8 Deforestation

See for the peculiarities of deforestation (logging) under Principle 1, the definition of Emissions, deforestation. Deforestation majorly contributes to climate change; see sections 7.3, 7.6 and 7.7.

A distinction should be made between legal and illegal logging. In case of "legal logging" – f.i. because a permit was issued without bribery or similar incentives – the "emissions" as "defined" in the commentary on the definition of Emissions (Principle 1) have to be attributed to the enterprise that executed the logging, irrespective whether it is a small, medium-size of major enterprise. That is fully in line with the approach adopted in section 18.2. See for the consequences of "legal logging" under Principle 9.1.

In case of illegal logging the perpetrator is often unknown. On paper the relevant emissions are covered under the Oslo Principles, but in this respect they are a paper tiger. It is at least up to debate whether these countries will account for the emissions, in particular if they occurred in border areas between two or more countries and the precise figures are unavailable. More importantly, most of the relevant countries are BPQ countries which means that the emissions in point will not have any impact on their primary reduction obligation emanating from Principle 2.2.1 (c). For practical purposes this means that, at best, these emissions will be accounted for in the calculation of the global carbon budget for future base periods (Principle 2.2.1 (g)).

That state of affairs justifies exploring avenues to attribute the relevant "emissions" to an enterprise that is de facto responsible for the logging and in a position to take countervailing measures. The target that springs to mind is the buyer who knew or should have been aware of the illegal logging. That may be incentive to refrain from buying illegally logged wood.

171 https://www.worldometers.info/gdp/malaysia-gdp/.

19 A circular economy?

Experts contend that a circular economy will contribute and could even be unavoidable to keep global warming below fatal thresholds. In their view a transition to renewable energy and greater energy efficiency does not suffice for many products such as steel, cement and plastics.

The concept of a circular economy is important and it seems quite plausible that it has merit in the fight against climate change. A recent study contends that the production of steel, ammonia, plastics and cement emits 14% of the EU total. It would be possible to reduce these emissions to net zero by 2050;[172] a "more circular economy is a large part of the answer"[173] although "all pathways require new production processes that are considerably costlier to industry, as well as significant near-term capital investment equivalent to a 25-60% increase of today's rates."[174]

A circular economy is clearly important, not only seen from the angle of climate change. It is a topic in its own right. To quite some extent the update offers solutions, in particular Principles 8, 9 and 10 in conjunction with Principle 11 and Principle 18.

The Net Zero 2050-report also mentions that "many construction projects use 30-50% more cement and steel than would be necessary with an end-to-end optimisation."[175] That brings Principle 7 into the picture.

Our Principles on governance also provide a basis for the need to effectuate the relevant measures. For now, we stick to these observations.[176]

20 The 2050 paradigm: aligning with the Paris Agreement: hoping for a bright future

Art. 4 para 1 of the Paris Agreement[177] calls for net zero emissions in the second half of this century. Brian Preston contends that this "norm may influence existing legal obligations

172 In our view probably too late; see section 7.

173 Net Zero 2050, Industrial Transformation 2050, Pathways to Net-Zero Emissions from EU Heavy Industry, https://materialeconomics.com/latest-updates/industrial-transformation-2050 p. 7.

174 As previous footnote p. 6 and 10 ff.

175 Idem p. 7.

176 See in more detail Ellen Macarthur foundation, Completing the picture, How the circular economy tackles climate change, https://www.ellenmacarthurfoundation.org/assets/downloads/Completing_The_Picture_How_The_Circular_Economy-_Tackles_Climate_Change_V3_26_September.pdf. See also a series of CGRI reports, https://www.circularity-gap.world/about and a circular of November 4, 2015 of the Securities and Exchange Board of India, https://ca2013.com/clarifications/sebi-circular-circfdcmd102015-dated-04112015/, Annexure II Principle 2 (1).

177 https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement. See also Adelle Thomas and Lisa Benjamin, 1.5° C to stay alive? AOSIS and the long-term temperature goal in the Paris Agreement,

and in doing so, climate change litigation."[178] We second that view with a caveat. As already mentioned in section 7 it is quite likely that the carbon budget will be depleted well before 2050; that is also the view of the Global Compact.[179] Hence, it is fraught with significant risks to adopt such a time frame. That being said, and in spite of probably catastrophic and irreversible consequences of a "2050 or later-stance", we do realise that in light of present day's political realities and the lack of support from society to effectuate far-reaching reductions and other unavoidable measures to keep global warming below 1.75° C (the figure we have adopted in Principle 2.2.1 (a)) in a quest for pragmatism) more ambitious trajectories may be a phantom.

If our assessment turns out to be right it is a fairly safe bet that the international community will incrementally increase the upper limit of global temperature from well below 2° C to, for instance, 2.5° C, 3° C and perhaps even more if the goals set earlier are passed or have become out of reach by all scientific standards. By then other inconvenient alternative choices could be made, but the toll will be very high anyway; see in more detail reality check under Principle 2.1.1.

21 Let us focus on what needs to be done in the ten years to come

In our view the better strategy is to forget about being very explicit about what needs to be done in 20 or 30 years from now onwards. We cannot answer that question with any precision because the picture will change over time, thus far consistently for the worse. Our focus ought to be on what needs to be done in the foreseeable future. If that would mean that the reductions to be achieved in the coming 5 to 10 years are to be based on the presumption that we can spread reductions over 30 years, the very least we ought to do is to assume responsibility for 1/30 annually of that burden. That is not in line with the Paris Agreement which opts for "a progression over time".[180] It would, however, be a serious mistake to align with that political compromise precisely because we know very well that the chances that the picture will get rosier are negligible for the reasons enumerated in section 7.

There is a second reason why it is important to focus on the *near* future. Casting obligations in stone for the coming 20 to 30 years will create false certainty and fuel future defences along the lines: we had to make investments, business decisions and the like based on the "promise" that we would have until 2050 (if not "the second half of the century")

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https://www.researchgate.net/publication/317972517_15C_To_Stay_Alive_AOSIS_and_the_Long_Term_Temperature_Goal_in_the_Paris_Agreement.

178 The Impact, o.c. p. 28.

179 Global Compact, SDG Ambition, o.c. p. 10.

180 Art. 3.

to reduce emissions to zero; that was our reasonable expectation, based on the loud, clear and repeated messages from political bodies and authoritative institutions. The gist of our argument is, with due respect for the many others who air a different view, that such an expectation was *not* reasonable at all, but merely based on fiction, or ignorance. Ignorance, and playing stupid are no defences, legally nor morally.

Taking a different stance would mean that enterprises which have incurred costs for investments in f.i. more efficient machinery, would not have to care about a further depletion of the carbon budget arguing: the relevant investments did not yet pay back.

22 Legal basis

> "If there is a climate change problem, it is in large part a justice problem".[181]

22.1 Introduction

The commentary to the EP explains that we have borrowed from as many legal sources as possible when discerning the legal basis for our principles.[182] After all, there is not such a thing as a universal, clear and easily applicable "climate change law", although there are many laws dealing with climate change.[183] It is like the "Law of the Horse": it is a foolish endeavour to recognise climate change as a distinct field of the law.[184]

There is, however, a trend that the law converges when universal values are at stake as the former First President of the French Supreme Court Canivet put it:

> "As soon as they concern universal values, judicial rulings in principle tend to converge."[185]

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181 Mary Robinson, Climate Justice, p. 8.

182 P. 66; the commentary also explains what is meant by the respective Principles. The UN Environment, Environmental Rule of Law rightly emphasises the importance of such an exercise, o.c. p. 26. It also points to the great many legal sources: p. 180.

183 See The Commonwealth Secretariat, Law and Climate Change Toolkit, https://lcc.eaudeweb.ro/.

184 Daniel A. Farber, The Unifying Force of Climate Change Scholarship, Three Essays on Climate Change, https://ssrn.com/abstract=3142396 p. 23, also referring to Judge Easterbrook's "Cyberspace and the Law of the Horse".

185 Guy Canivet, Trans-judicial dialogue in a global world, in Sam Muller and Sidney Richards (eds), Highest Courts and Globalisation p. 25. The former Canadian Supreme Court Justice Michel Bastrache notes that "More and more courts, particularly in the common law world, are looking to the judgments of other jurisdictions", The Globalisation of the Law and the Work of the Supreme Court of Canada, in Muller and Richards, o.c. p. 46. A similar point is made by the Indian Justice Ajit Prakash Shah, Judicial Globalisation: Supreme Court of India, Muller and Richards, p. 84; see for a similar view, Louis J. Kotzé and Anél du Plessis, Putting Africa on the Stand: A Bird's Eye View of Climate Change Litigation on the Continent, https://core.ac.uk/download/pdf/227471221.pdf; they contend that in the African context "unique hybrid

In quite a few instances hard law (specific regulation, either international instruments, national legislation or case law[186]) or soft law[187] offer a basis for the obligations emanating from our Principles. These specific sources will be discussed in the commentary to the relevant Principles. French law offers a kind of an overarching legal basis, the "loi no 2017-399 relative au devoir de vigilance des sociétés mères" (law on due diligence obligations of parent companies), albeit that this law is not specifically tailored at climate change.[188]

In his preface Lord Carnwath writes that "not all [Principles have] yet been given specific recognition by courts as giving rise to legally enforceable duties." In some instances and countries there is a sound legal basis for part of the Principles, such as domestic law and/or listing requirements. Lord Carnwath continues: "the principles, as now updated, can be taken as a fair indication as to how the law stands or is likely to develop".

A few Principles are aspirational, a very few arguably highly aspirational, as explicitly mentioned in the commentary to the relevant Principles.

As to the development of the law: all we can offer is our best estimate based on the role the law can and has to play to come to grips with the most serious challenge humanity, the environment and other living species ever faced. To get down to the kernel of the matter: it is unlikely that the (development of) the law will turn a blind eye to the inevitable global devastation by betting on the materialisation of an almost unlimited number of pledges, declarations, and laudable intentions. However welcome they are, also because they illustrate the universally adopted urgent need to avert global catastrophe, which can and should colour the interpretation of the law, corresponding action fell short. The law is the perfect instrument to get the very best intentions of major players achieved. See for elaboration sections 28 and 29.

A few major corporations are *more* ambitious compared to our update. Microsoft is a shining example. Its goal is "to be carbon negative by 2030".[189] Apple commits to be 100

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and pluralistic legal systems which are often based on long-standing indigenous laws play a role", see also Freshfields Bruckhaus Deringer, Business and Human Rights, Navigating the legal landscape, https://www.freshfields.com/en-us/our-thinking/campaigns/biz-human-rights/ p. 6.

186 See for recent developments: Joanna Setzer and Rebecca Byrnes, Global trends in climate change litigation, 2020 snapshot, Policy report July 2020, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjng4ClruvqAhXBqaQKHfFwCgEQFjAAegQIARAB&url=http%3A%2F%2Fwww.lse.ac.uk%2Fgranthaminstitute%2Fpublication%2Fglobal-trends-in-climate-change-litigation-2020-snapshot%2F&usg=AOvVaw1wNlArEUhL8Ub6FIvIyqxE.

187 See for a host of sources: ECCJ (European Coalition for Corporate Justice), Evidence for mandatory HRDD legislation, https://corporatejustice.org/eccj-publications/16809-evidence-for-mandatory-human-rights-due-diligence-legislation-may-2020.

188 See in more detail Notre affaire à tous, Benchmark, De la vigilance climatique des multinationales, rapport general, https://notreaffaireatous.org/wp-content/uploads/2020/03/Rapport-General-Multinationales-NAAT-2020.02.01.pdf.

189 See Brad Smith's blog of January 16, 2020, blog https://blogs.microsoft.com/blog/2020/01/16/microsoft-will-be-carbon-negative-by-2030/ (Brad Smith is Microsoft's President).

percent carbon neutral for its supply chain and products by 2030.[190] That may not be (easily) achievable for most enterprises, but it shows that our update is by no means out of touch with reality. In some instances compliance may require major efforts, but complying is doable. As explained at length in sections 7 and 14 insufficient measures are no serious alternative.

22.2 Polluter pays principle

The widely acknowledged and endorsed polluter pays principle, already embedded in the Rio Declaration,[191] and since in a series of legal instruments and judgments, is a strong argument for the legal imperative to keep global warming below fatal thresholds. Admittedly: the principle is about compensation of losses, but the requirement to compensate presupposes an obligation to avoid the losses.[192]

22.3 Human Rights law

> "The ultimate yardstick of success of any human rights instrument and system does not depend upon the sonorous content and detailed elaboration of the human rights guaranteed by it. Its success is to be measured by the extent to which human rights are meaningfully implemented."[193]

190 https://www.apple.com/newsroom/2020/07/apple-commits-to-be-100-percent-carbon-neutral-for-its-supply-chain-and-products-by-2030/.

191 Principle 15; see https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf.

192 See in more detail Philippe Sands, Jacqueline Peel with Adriana Fabra and Ruth MacKenzie, Principles of International Environmental Law, p. 228 ff.; Suzanne Kingston, Veerle Heyvaert and Aleksandra Čavoški, European Environmental Law, p. 100 ff.; Armelle Gouritin, EU Environmental Law, International Environmental Law and Human Rights Law, p. 95 ff.; Luc Lavrysen, European Environmental Law Principles in Belgian Jurisprudence, in Richard Macrory (ed.), Principles of European Environmental Law, p. 77 ff.; Priscilla Schwartz, The Polluter-Pays Principle, in Malgosia Fitzmaurice, David M. Ong and Panos Merkouris (eds.), Research Handbook on International Environmental Law, p. 243 ff.; OECD, The Polluter-Pays Principle, OECD Analyses and Recommendations', Environment Directorate of the OECD http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(92)81&docLanguage=En; Principle 8 of the Club des Juristes, Global Pact for the Environment, https://www.iucn.org/sites/dev/files/content/documents/draft-project-of-the-global-pact-for-the-environment.pdf; the IUCN World Declaration on the Environmental Rule of Law, https://www.iucn.org/sites/dev/files/content/documents/world_declaration_on_the_environmental_rule_of_law_final_2017-3-17.pdf under I sub c. See also Supreme Court of India in Vellore Citizen's Welfare Forum v Union of India, https://indiankanoon.org/doc/1934103/.

193 Soli J. Sorabjee, Attorney General of India, Human Rights in the International Environment, not published.

The commentary to the EP devotes quite some attention to human rights as a legal basis for our Principles. We refer to that exposé.[194] We are more optimistic about the role of human rights than the Special rapporteur on extreme poverty and human rights who contends that they remain of marginal concern. "Despite a flurry of reports and statements, [they are] .. generally one on a long laundry list of issues",[195] although we second his view that they have not yet incited meaningful, let alone adequate action by most key players.

In September 2019 five UN human rights treaty bodies issued a powerful joint statement on human rights and climate change.[196] The statement emphasises, inter alia, the importance of keeping climate change below 1.5°C, adding that "adverse impacts on human rights are already occurring at 1°C of warming and every additional increase in temperatures will further undermine the realization of rights."[197] It is not entirely clear what this statement means. Is it suggesting that as from now onwards *all* emissions constitute a violation of human rights? If so, it takes a stance differing from the Oslo Principles, the EP and this update; see in more detail section 22.2. What follows seems to suggest that this is not what the joint statement wants to say. After all it – realistically – calls for states to "adopt and implement policies aimed at reducing emissions, which reflect the highest possible ambition".[198] The highest possible ambition is probably borrowed from the PA, which introduces this feature in the context of subsequent NDCs. Although we sympathise with this approach, it lacks precision and creates a defence for hugely emitting enterprises (not explicitly covered in the statement) if they do not have enough funds to realise reductions.

According to the Special Rapporteur on the issue of human rights related to the enjoyment of a safe, clean, healthy and sustainable environment "the historic inclusion of human rights in the Paris Agreement indicated that human rights should be at the heart of all climate action including legislation, mitigation, adaptation…"[199]The Special Rapporteur on Human Rights and the Environment issued a report containing inter alia the following statement:

194 P. 68 ff. See for a wealth of sources also John H. Knox, Bringing Human Rights to Bear on Climate Change, Climate Law 9 (2019) p. 166 ff.

195 O.c. p. 5.

196 https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998&LangID=E. and for elaboration on the human rights in point introduction under 3.

197 Introduction under 5.

198 Under States' Human Rights Obligations 2.

199 UN Human Rights Council, Right to a healthy environment: good practices, A/HRC/43/53, https://www.ohchr.org/en/issues/environment/srenvironment/pages/annualreports.aspx, also for elaboration on specific laws in a series of countries p. 9.

> "Businesses must adopt human rights policies, conduct human rights due diligence, … work to influence other actors to respect human rights where relationships of leverage exist."[200]

In the context of business responsibilities, the report refers to the EP.[201] The report elaborates on a series of human rights at stake in relation to climate change.

The UN Human Rights Committee adopted General Comment No. 36 which sheds light on the human rights implications of climate change, also for the corporate sector which is explicitly mentioned:[202]

> "62. Environmental degradation, climate change and unsustainable development constitute some of the most pressing and serious threats to the ability of present and future generations to enjoy the right to life.[203] Obligations of States parties under international environmental law should thus inform the contents of article 6 of the Covenant, and the CCPR/C/GC/36 15 obligation of States parties to respect and ensure the right to life should thus inform their relevant obligations under international environmental law. Implementation of the obligation to respect and ensure the right to life, and in particular life with dignity, depends, inter alia, on measures taken by States parties to preserve the environment and protect it against harm, pollution and climate change caused by public and private actors. States parties should therefore ensure sustainable use of natural resources, develop and implement substantive environmental standards, conduct environmental impact assessments and consult with relevant States about activities likely to have a significant impact on the environment, provide notification to other States concerned about natural disasters and emergencies and cooperate with them, provide appropriate access to information on environmental hazards and pay due regard to the precautionary approach."

In Portillo Cáceres v Paraguay[204] the Commission reiterates the point made in just quoted General Comment adding:

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200 Special Rapporteur on Human Rights and the Environment, Safe Climate, https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/SafeClimate.aspx p. 32.

201 Also p. 32.

202 https://tbinternet.ohchr.org/Treaties/CCPR/Shared%20Documents/1_Global/CCPR_C_GC_36_8785_E.pdf.

203 See for a very extensive interpretation of the right to life the Supreme Court of India, in Francis Coarlie Mullin v Administrator, Union Territory of Delhi, AIR [1981] SC 746: [1981] 1 SCC 608, borrowed from Justice Ajit Prakash Shah, o.c. p. 70.

204 https://www.escr-net.org/sites/default/files/caselaw/portillo_caceres_v_paraguay_-_english_g1927913.pdf.

> "7.4 The Committee also takes note of developments in other international tribunals that have recognized the existence of an undeniable link between the protection of the environment and the realization of human rights and that have established that environmental degradation can adversely affect the effective enjoyment of the right to life. Thus, severe environmental degradation has given rise to findings of a violation of the right to life."

Article 11 of the Protocol of San Salvador[205] reads:

> "1. Everyone shall have the right to live in a healthy environment and to have access to basic public services.
> 2. The States Parties shall promote the protection, preservation, and improvement of the environment."

In an advisory opinion the Inter-American Court of Human Rights (IACtHR) interpreted this article as follows:[206]

> "… the Court found that, to respect and ensure the rights to life and personal integrity:
> a. States are obligated to prevent significant environmental damages within and outside their territory.
> b. To comply with this obligation of prevention, States must regulate, supervise and monitor the activities under their jurisdiction that could cause significant damage to the environment; carry out environmental impact assessments when there is a risk of significant damage to the environment; prepare contingency plans in order to establish safety measures and procedures to minimize the possibility of major environmental disasters, and mitigate any significant environmental damage that could have occurred, even when this happened despite preventive actions by the State.
> c. States must act in keeping with the precautionary principle to protect the rights to life and to personal integrity in the event of possible serious and irreversible damage to the environment, even in the absence of scientific certainty. …"

205 https://www.oas.org/juridico/english/treaties/a-52.html.

206 Borrowed from a speech by Lord Carnwath, Human Rights and the Environment 2018, https://www.supremecourt.uk/docs/speech-181010.pdf p. 1.

A recent decision of the UN Human Rights Committee in the context of a climate change refugee deported by New Zealand to Kiribati illustrates that the view that climate change and human rights are inter-linked is no longer a novelty.[207]

The Urgenda judgment of the Netherlands' Supreme Court relies on articles 2, 8 and 13 ECHR.[208] It is about injunctive relief sought by an NGO to the effect that the State[209] reduces its GHG emissions by 2020 by at least 25% compared to 1990. In first instance the District Court based its decision on tort law (in brief: a legally relevant threat to irreversible

207 CCPR/C/127/D/2728/2016, https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=25482&LangID=E. The claim was dismissed. See also John Knox, Climate Change and Human Rights Law: Where We Are Now, (2009) 50 Virginia Journal of International Law 1, abstract available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1480120, Brian J. Preston, The Evolving Role of Environmental Rights in Climate Change Litigation, (2018)2 Chinese Journal of Environmental Law 131 available at: https://brill.com/view/journals/cjel/2/2/article p131_2.xml, Heinrich Böll Stiftung, Climate change and human rights – Can the courts fix it, https://ps.boell.org/en/2019/03/18/climate-change-and-human-rights-can-courts-fix-it, Report of the Independent Expert John Knox on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, UN General Assembly A/HRC/25/53, https://undocs.org/A/HRC/25/53, Annalisa Savaresi and Juan Auz, Climate Change Litigation and Human Rights: Pushing the Boundaries, Climate Law 9 (2019) 244-262 and the UN Human Rights Council, A/HRC/40/48. Annalisa Savaresi and Juan Auz, o.c. elaborate inter alia on the rights of future generations (p. 251 ff) and the extraterritorial application of human rights obligations (p. 253 ff); they equally refer to an advisory opinion of the IACtHR (p. 254 and 255) and an arbitral award in Urbaser v Argentina which concludes that human rights for "everyone's dignity and its right for adequate housing and living conditions are complemented by an obligation on all parts, public and private parties, not to engage in activity aimed at destroying such rights" (p. 259); Francois Guy Trébulle, Responsabilité et changement climatique: quelle responsabilité pour le secteur privé, Dossier Energie, environnement, infrastructures, no 8-9, august-september 2018 p. 26; Ellen Heij and Frederica Violi, The Hard Work of Regime Interaction: Climate Change and Human Rights, KNVIR 2018 p. 5 ff also for many further references; Human Rights Council, Report on the fourth session of the open-ended intergovernmental working group on transnational corporations and business enterprises with respect to human rights, UN General Assembly A/HRC/40/48, https://undocs.org/A/HRC/40/48. See for an Asean perspective Matthew Mullen et al., Human Rights disclosure in Asean, https://article30.org/wp-content/uploads/2019/05/Human-Rights-Disclosure-in-ASEAN-Full-Report.pdf. See also Global Network for the Study of Human Rights and the Environment, Declaration on Human Rights and Climate Change, in particular under 1-3, 5, 9, 10, 15-17; business enterprises "have a duty to protect the climate and to respect the rights set out in this Declaration", which does not provide guidance of what is expected from single enterprises. See about this Declaration: Kirsten Davies, Sam Adelman, Anna Grear et al., The Declaration on Human Rights and Climate Change, a new legal tool for global policy, https://researchers.mq.edu.au/en/publications/the-declaration-on-human-rights-and-climate-change-a-new-legal-to. The Irish High Court ruled that "it is not for the domestic court to declare rights under the Convention (the ECHR), but that is a matter for the European Court", Friends of the Irish Environment v The Government of Ireland, [2019] IEHC 747 under 139. See also Freshfields Bruckhaus Deringer, Business and Human Rights, Navigating the legal landscape, https://www.freshfields.com/en-us/our-thinking/campaigns/biz-human-rights/.

208 Hoge Raad 20 December 2019, ECLI:NL:HR:2019:2007. See about that judgment Jaap Spier, The "Strongest" Climate Ruling Yet: The Dutch Supreme Court's Urgenda judgment, NILR 2020 vol. 67, issue 2 (p. 319 ff) under 3 and 15.21.

209 Not the Kingdom of the Netherlands as various commentators contend; the Kingdom includes the overseas parts.

damage).[210] That legal basis was challenged by Urgenda on appeal. The Court of Appeal turned to human rights law as the legal basis for its judgment. It does not answer the question whether tort law could *also* be a viable legal basis. The State's appeal to the Supreme Court was unsuccessful. The Supreme Court explains why:

> "*(b) Interpretation standards for the ECHR; 'common ground'*
> 5.4.1 According to established ECtHR case law, the provisions of the ECHR must be interpreted and applied so as to make its safeguards practical and effective. According to the ECtHR, this 'effectiveness principle' ensues from "the object and purpose of the Convention as an instrument for the protection of individual human beings". This also regards the application of Article 31(1) of the Vienna Convention on the Law of Treaties, which stipulates that a treaty must be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in the light of its object and purpose.
> 5.4.2 According to ECtHR case law, an interpretation of the ECHR must also take into account the relevant rules of international law referred to in Article 31(3)(c) of the Vienna Convention on the Law of Treaties. For example, in its judgment in *Nada/Switzerland*, the ECtHR held as follows:
> "169. Moreover, the Court reiterates that the Convention cannot be interpreted in a vacuum but must be interpreted in harmony with the general principles of international law. Account should be taken, as indicated in Article 31 § 3 (c) of the 1969 Vienna Convention on the Law of Treaties, of "any relevant rules of international law applicable in the relations between the parties", and in particular the rules concerning the international protection of human rights (…)."
> Furthermore, in accordance with Article 31(3), opening words and paragraph (b), of the Vienna Convention on the Law of Treaties, an interpretation of treaty provisions must take the Member States' application practice into account. The ECtHR's holding in the *Demir and Baykara/Turkey* judgment was consistent with the foregoing:
> "85. The Court, in defining the meaning of terms and notions in the text of the Convention, can and must take into account elements of international law other than the Convention, the interpretation of such elements by competent organs, and the practice of European States reflecting their common values.

210 As a rule, under Dutch law a threat of damage suffices for injunctive relief. Whether this rule of thumb can be invoked depends on a kind of cost benefit analysis. See in a European context art. 4:102 Principles of European Tort Law. See about the tort law perspective the advisory opinion of the deputy Procurator-General Langemeijer and Advocate-General Wissink, https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:PHR:2019:1026 (hereinafter the advisory opinion) under 2.14-2.25.

The consensus emerging from specialised international instruments and from the practice of contracting States may constitute a relevant consideration for the Court when it interprets the provisions of the Convention in specific cases.
86. In this context, it is not necessary for the respondent State to have ratified the entire collection of instruments that are applicable in respect of the precise subject matter of the case concerned. It will be sufficient for the Court that the relevant international instruments denote a continuous evolution in the norms and principles applied in international law or in the domestic law of the majority of member States of the Council of Europe and show, in a precise area, that there is common ground in modern societies (…)."
In this context, is spoken of the common-ground method of interpreting the ECHR, in accordance with the last section of the findings cited above.
5.4.3 According to ECtHR case law, an interpretation and application of the ECHR must also take scientific insights and generally accepted standards into account.
(c) Article 13 ECHR
5.5.1 Article 13 ECHR is also relevant to the interpretation of Articles 2 and 8 ECHR; Article 13 provides that if the rights and freedoms under the ECHR are violated, there exists the right to an effective remedy before a national authority. According to ECtHR case law, this provision guarantees the existence of a remedy at national level to compel the observance of these rights and freedoms. In cases involving an arguable complaint regarding the violation of those rights and freedoms, national law must therefore offer a remedy that leads to obtaining appropriate relief. The scope of this obligation depends on the nature of the violation. The remedy must be both practically and legally effective.
5.5.2 A remedy is considered effective as meant in Article 13 ECHR if it will prevent or end the violation or if the remedy offers adequate redress for a violation that has already occurred. In the case of more serious violations, the available remedies must provide for both: the prevention or end of the violation as well as redress. National states are thus required to provide remedies that can effectively prevent more serious violations.
5.5.3 The remedy must ensure that a national court determines whether the rights and freedoms ensuing from the ECHR have been violated and that this court does so in accordance with the rules of the ECHR and the interpretation of those rules by the ECtHR. In short: the remedy must offer effective legal protection from possible violations of the rights and freedoms ensuing from the ECHR.
(d) Do Articles 2 and 8 ECHR apply to the global problem of the danger of climate change?

5.6.1 Pursuant to Articles 93 and 94 of the Dutch Constitution, Dutch courts must apply every provision of the ECHR that is binding on all persons. Because the ECHR also subjects the Netherlands to the jurisdiction of the ECtHR (Article 32 ECHR), Dutch courts must interpret those provisions as the ECtHR has, or interpret them premised on the same interpretation standards used by the ECtHR. …

5.6.2 Pursuant to the findings above in paras. 5.2.1-5.3.4, no other conclusion can be drawn but that the State is required pursuant to Articles 2 and 8 ECHR to take measures to counter the genuine threat of dangerous climate change if this were merely a national problem. Given the findings above in paras. 4.2-4.7, after all, this constitutes a 'real and immediate risk' as referred to above in para. 5.2.2 and it entails the risk that the lives and welfare of Dutch residents could be seriously jeopardised. The same applies to, *inter alia*, the possible sharp rise in the sea level, which could render part of the Netherlands uninhabitable. The fact that this risk will only be able to materialise a few decades from now and that it will not impact specific persons or a specific group of persons but large parts of the population does not mean – contrary to the State's assertions – that Articles 2 and 8 ECHR offer no protection from this threat … This is consistent with the precautionary principle…. The mere existence of a sufficiently genuine possibility that this risk will materialise means that suitable measures must be taken.

5.6.3 As the State has asserted, the ECtHR has not yet issued any judgments regarding climate change or decided any cases that bear the hallmarks that are particular to issues of climate change. Those hallmarks are, briefly put, the dangers presented by a globally occurring activity – the emission of greenhouse gases all over the world, and not just from Dutch territory – whose consequences will have a worldwide impact, including in the Netherlands. The question is whether the global nature of the emissions and the consequences thereof entail that no protection can be derived from Articles 2 and 8 ECHR, such that those provisions impose no obligation on the State in this case.

5.6.4 The Supreme Court considers the answer to this question to be sufficiently clear. It will therefore give the answer to this question itself and will not submit it to the ECtHR for an advisory opinion, as is possible but not compulsory under Protocol no. 16 to the ECHR…."

This is only one out of many – although probably the most spectacular – judgments, which illustrates that courts do not shy away to render courageous judgments to cope with present day challenges;[211] see in more detail sections 28 and 29.

Courts in the "Global South" turn to human rights as

> "the legal and moral basis for litigants' and courts' arguments to hold governments (and to a lesser extent, corporations) accountable for climate harms. Put differently, the climate emergency is framed, in most cases, as the source of human rights violations that courts are called upon to redress."[212]

The Framework Principles, calibrated by the Special Rapporteur John Knox, entail an obligation of States to ensure "the effective enforcement of their environmental standards against … private actors."[213] The commentary emphasises

> "the responsibility of business enterprises to respect human rights [which] includes the responsibility to avoid causing or contributing to adverse human rights impacts through environmental harm, to address such impacts when they occur and to seek and prevent or mitigate adverse human rights impacts that are directly linked to their operations, products or services by their business relationships".[214]

The Supreme Court of Canada is explicit about the obligation of enterprises to comply with human rights:

> "Modern international human rights law is the phoenix that rose from the ashes of World War II and declared global war on human rights abuses. Its

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211 See, also for a wealth of other sources, Brian J. Preston, Recent Climate Litigation Concerning Environmental Rights, presentation Lahore 26 February 2018, https://events.development.asia/system/files/materials/2018/02/201802-recent-climate-litigation-concerning-environmental-rights.pdf with further references; Joanna Setzer and Rebecca Byrnes, Global trends in climate change litigation, 2019 snapshot, http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2019/07/GRI_Global-trends-in-climate-change-litigation-2019-snapshot-2.pdf for an extensive overview http://climatecasechart.com/ and Annalisa Savaresi and Juan Auz, Climate Change Litigation and Human Rights: Pushing the Boundaries, Climate Law 9 (2019) 244-262, in particular p. 258 ff, also for further references.

212 César Rodríguez-Garavito, Human Rights: The Global South's Route to Climate Litigation, doi:10.1017/aju.2020.4 p. 40, https://www.cambridge.org/core/journals/american-journal-of-international-law/article/human-rights-the-global-souths-route-to-climate-litigation/02EBDC8B18F9F888532C7345B44290FF. We assume that this approach can also be adopted for preventive purposes.

213 Principle 12, https://undocs.org/A/HRC/37/59. Principle 17 of the Declaration on Human Rights and Climate Change, https://gnhre.org/declaration-human-rights-climate-change/ speaks of a duty of States and business enterprises "to protect the climate".

214 O.c. p. 15.

> mandate was to prevent breaches of internationally accepted norms. Those norms were not meant to be theoretical aspirations or legal luxuries, but moral imperatives and legal necessities. Conduct that undermined the norms was to be identified and addressed.
>
> While states were historically the main subjects of international law, it has long-since evolved from this state-centric template. The past 70 years have seen a proliferation of human rights law that transformed international law and made the individual an integral part of this legal domain, reflected in the creation of a complex network of conventions and normative instruments intended to protect human rights and ensure compliance with those rights. The rapid emergence of human rights signified a revolutionary shift in international law to a human-centric conception of global order. The result of these developments is that international law now works not only to maintain peace between states, but to protect the lives of individuals, their liberty, their health, and their education. The context in which international human rights norms must be interpreted and applied today is one in which such norms are routinely applied to private actors. It is therefore not plain and obvious that corporations today enjoy a blanket exclusion under customary international law from direct liability for violations of obligatory, definable, and universal norms of international law."[215]

The Canadian Justice Abella elaborates on this point:

> "In fact, international law has so fully expanded beyond its Grotian origins that there is no longer any tenable basis for restricting the application of customary international law to relations between states. The past 70 years have seen a proliferation of human rights law that transformed international law and made the individual an integral part of this legal domain, reflected in the creation of a complex network of conventions and normative instruments intended to protect human rights and ensure compliance with those rights.
>
> Professor Payam Akhavan notes that "[t]he rapid emergence of human rights signified a revolutionary shift in international law, from a state-centric to a human-centric conception of global order" The result of these developments is that international law now works "not only to maintain peace between States, but to protect the lives of individuals, their liberty, their health, [and] their education."

215 Nevsun Resources v Gise Yebeyo Araya, https://decisions.scc-csc.ca/scc-csc/scc-csc/en/item/18169/index.do per Wagner CJ, Abella, Karakatmis, Gascon and Martinn JJ.

A central feature of the individual's position in modern international human rights law is that the rights do not exist simply as a contract with the state. While the rights are certainly enforceable against the state, they are not defined by that relationship They are discrete legal entitlements, held by individuals, and are "to be respected by everyone" (Clapham, *Human Rights Obligations*, at p. 58).

Moreover, as Professor Beth Stephens has observed, these rights may be violated by private actors:

The context in which international human rights norms must be interpreted and applied today is one in which such norms are routinely applied to private actors. Human rights law in the past several decades has moved decisively to prohibit violations by private actors in fields as diverse as discrimination, children's rights, crimes against peace and security, and privacy. . . . It is clear that individuals today have both rights and responsibilities under international law. Although expressed in neutral language, many human rights provisions must be understood today as applying to individuals as well as to states. (Beth Stephens, "The Amorality of Profit: Transnational Corporations and Human Rights" (2002), 20 *B.J.I.L.* 45, at p. 73)

There is no reason, in principle, why "private actors" excludes corporations. Canvassing the jurisprudence and academic commentaries, Professor Koh observes that non-state actors like corporations can be held responsible for violations of international criminal law and concludes that it would not "make sense to argue that international law may impose criminal liability on corporations, but not civil liability" (Koh, "Separating Myth from Reality", at p. 266). He describes the idea that domestic courts cannot hold corporations civilly liable for violations of international law as a "myth" (Koh, "Separating Myth from Reality", at pp. 264-68; see also Simon Baughen, *Human Rights and Corporate Wrongs: Closing the Governance Gap* (2015), at pp. 130-32). Professor Koh also notes that [t]he common sense fact remains that if states and individuals can be held liable under international law, then so too should corporations, for the simple reason that both states and individuals *act through* corporations. Given that reality, what legal sense would it make to let states and individuals immunize themselves from liability for gross violations through the mere artifice of corporate formation? [Emphasis in original.](Koh, "Separating Myth from Reality", at p. 265).

As a result, in my respectful view, it is not "plain and obvious" that corporations today enjoy a blanket exclusion under customary international law from direct liability for violations of "obligatory, definable, and universal norms of

> international law", or indirect liability for their involvement in what Professor Clapham calls "complicity offenses" …"[216]

According to the UN Guiding Principles,[217] the OECD Guidelines for Multinational enterprises[218] and the UN Global Compact[219] enterprises have to comply with human rights law.[220] These Principles and Guidelines are by themselves non-binding legal instruments. Endorsing, promoting or joining these initiatives does not necessarily create legally enforceable obligations. It is, however, against the odds to expect that they do not have teeth; see in more detail section 22.9. At the very least they offer a sound legal basis for courts willing, or eventually grumblingly feeling obliged, to take up the gauntlet to avert global devastation. Because the law is a living instrument, as explained below in section 28, it is by no means revolutionary to accept that enterprises have to comply with human rights.

The same basically goes for enterprises which did not join or endorse these and similar Guidelines, or Principles. The argument, however, is slightly different. Just mentioned instruments – and many other soft law sources – shed light on the opinio iuris; see section 22.9.

Contrary to what the European Commission, albeit in the context of human rights in general and not in relation to climate change, seems to think, the Guiding Principles do not offer "the recipe for what it takes to respect human rights".[221] Or, to be more precise,

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216 Nevsun Resources v Gise Yebeyo Araya, o.c.; references partly deleted

217 https://www.ohchr.org/documents/publications/guidingprinciplesbusinesshr_en.pdf.

218 https://www.oecd.org/daf/inv/mne/48004323.pdf.

219 https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwittO-izMrqAhWDGuwKHfN_DFcQFjAAegQIAhAC&url=https%3A%2F%2Fwww.unglobalcompact.org%2F&usg=AOvVaw1ll--3n9NEgnx-RatvIJTN.

220 See in more detail the commentary to the EP p. 87 ff. This point is reiterated in John Ruggie's public letter to the Business and Human Rights Resource Centre of 19 September 2019: "companies have a responsibility to respect internationally-recognized human rights independent of whether or not states meet their obligations. This was one of the signature achievements of the UNGPs", https://www.business-humanrights.org/sites/default/files/documents/19092019_Letter_John_Ruggie.pdf. Ruggie is one of the most authoritative experts in this realm. See in much detail Andrew Clapham, Human Rights Obligations of Non-State Actors, in particular p. 195 ff. According to a Background note by the UN Working Group on Business and Human Rights "mounting data suggest that the majority of governments and business enterprises around the world have not yet begun, or seriously engaged in, the journey prescribed by the Guiding Principles almost 10 years after they were endorsed by UN member States", https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiDlK_Or_7pAhUkNOwKHc_8DzMQFjACegQIBxAB&url=https%3A%2F%2Fwww.ohchr.org%2FDocuments%2FIssues%2FBusiness%2FUNGPsBHRnext10%2Fbackground_note.pdf&usg=AOvVaw3qBO7xar4fUBLP2Ej-jR1L. The UN Human Rights Council is working on a strategy to improve accountability: Improving accountability and access to remedy for victims of human rights abuse through non-State-based grievancemechanisms, A/HRC/44/32, https://www.ohchr.org/Documents/Issues/Business/ARP/ARPIII_MainReport_AdvanceEditedVersion.pdf.

221 My business and human rights, o.c. p. 4.

many of the Principles are perfectly clear. In the context of climate change some important Principles need interpretation to ascertain the concrete obligations of States and enterprises. By way of example the very useful Principle on Human Rights[222] to respect human rights. Its meaning is clear in many instances such as child labour and torture, but it is not in the context of climate change. The same goes for human rights law, the Global Compact e tutti quanti. They need to be interpreted. That is what our Principles and the update aim to do.

So much is clear: human rights law and other realms of the law offer a sound legal basis for far-reaching obligations, even if the precise contours would be unclear. If global warming must be kept below fatal thresholds, it is difficult to contest that global efforts must suffice to achieve that imperative. That, in itself, already requires that most enterprises in Above Permissible Quantum (APQ) and to a lesser extent Below Permissible Quantum (BPQ) countries scale up their efforts significantly. One can debate at length what "significantly" means. So much is beyond cavil: it really means a lot. See about the concept of "minimum obligations", the next section.

22.4 Minimum obligations

The Dutch Supreme Court's Urgenda judgment[223] contains an important feature that can be applied by courts reluctant to issue relief *to the extent necessary* to keep climate change below fatal thresholds, minimum obligations. This concept allows courts to balance the manoeuvring room of the political branch and the urgent need to protect society against the threats of unabated GHG emissions:

> "The Netherlands can also decide to reduce greenhouse gas emissions from its territory without binding or non-binding international agreements. The Netherlands is also obliged to do so, as has been considered in 5.9.1 above. Although determining the share to be contributed by the Netherlands in the reduction of greenhouse gas emissions is, in that context too, in principle, a matter for the government and parliament, the courts can assess whether the measures taken by the State are too little in view of what is clearly the lower limit of its share in the measures to be taken worldwide against dangerous climate change. It is clear, for example, in view of what has been considered above in 5.7.2-5.8, that the State cannot at any rate do nothing at all and that

222 Under IV.

223 Hoge Raad 20 December 2019, ECLI:NL:HR:2019:2007 and about the challenges posed by this concept Jaap Spier, The "Strongest" Climate Ruling Yet: The Dutch Supreme Court's Urgenda judgment, NILR 2020 vol. 67, issue 2 (p. 319 ff) under 9 and 15.2.2.

the courts can rule that the State is in breach of its obligation referred to in 5.9.1 above if it does nothing.
Under certain circumstances, there may also be such clear views, agreements and/or consensus in an international context about the distribution of measures among countries that the courts can establish what – in accordance with the widely supported view of states and international organisations, which view is also based on the insights of climate science – can in any case be regarded as the State's minimum fair share. On the basis of the standards referred to above in 5.4.2 and 5.4.3 (including the common ground method), which the Dutch courts are obliged to apply when interpreting the ECHR (see above in 5.6.1), the courts are then obliged to proceed to establishing such and to attach consequences to it in their judgment on the extent of the State's positive obligations. It follows from the ECtHR case law referred to above in 5.4.2 that, under certain circumstances, agreements and rules that are not binding in and of themselves may also be meaningful in relation to such establishment. This may be the case if those rules and agreements are the expression of a very widely supported view or insight and are therefore important for the interpretation and application of the State's positive obligations under Articles 2 and 8 ECHR.
6.4 The right to effective legal protection under Article 13 ECHR mentioned above in 5.5.1-5.5.3 entails, in a case such as this, that the courts must examine whether it is possible to grant effective legal protection by examining whether there are sufficient objective grounds from which a concrete standard can be derived in the case in question.
6.5 In addition, the courts can assess whether the State, with regard to the threat of a dangerous climate change, is complying with its duty mentioned above in 5.5.3 under Articles 2 and 8 ECHR to observe due diligence and pursue good governance. Under certain circumstances, the obligation to take measures of a certain scope or quality may arise from this duty. Furthermore, this duty implies that, under certain circumstances, the State must properly substantiate that the policy it pursues meets the requirements to be imposed, i.e. that it pursues a policy through which it remains above the lower limit of its fair share.
6.6 In determining the State's minimum obligations, the courts must observe restraint, especially if rules or agreements are involved that are not binding in themselves. It is therefore only in clear-cut cases that the courts can rule, on the grounds referred to above in 6.3-6.5, that the State has a legal obligation to take measures."[224]

224 See also legal grounds 7.2.8-7.2.11 and the advisory opinion, o.c. under 4.216 and 4.217.

The Verwaltungsgericht Berlin pronounced a similar view. In our (JS/BK) abridged translation:[225]

> "To comply with its "protection obligation" the state has to adopt sufficient measures of a normative and factual nature that – seeing the legally protected interests in point – offer adequate protection (to ensure that the state complies with its minimum obligation). The measures to be taken by the legislator must be adequate, workable and have to be based on a careful consideration of the relevant facts. The Supreme Court applies both yardsticks at equal footing: a broad margin of appreciation of the government and the requirement to comply with minimum obligations. There is only room for action by the court if the government clearly violates its protection obligation."
> ("Der Staat muss zur Erfüllung seiner Schutzpflicht allerdings ausreichende Maßnahmen normativer und tatsächlicher Art ergreifen, die dazu führen, dass ein – unter Berücksichtigung entgegenstehender Rechtsgüter – angemessener und als solcher wirksamer Schutz erreicht wird (Untermaßverbot). Die Vorkehrungen, die der Gesetzgeber trifft, müssen für einen angemessenen und wirksamen Schutz ausreichend sein und zudem auf sorgfältigen Tatsachenermittlungen und vertretbaren Einschätzungen beruhen ….
> Das Bundesverfassungsgericht wendet beide Maßstäbe – einen weiten Einschät-zungs-, Wertungs- und Gestaltungsspielraum einerseits und das Untermaßverbot andererseits – nebeneinander an. Es greift ein, wenn die Staatsgewalt die Schutzpflicht evident verletzt. Hinsichtlich des Untermaßverbotes prüft das Gericht, ob die Staatsgewalt ihren Einschätzungsspielraum vertretbar gehandhabt hat ..")[226]

According to the German Court the State did not violate protected interests: the measure it has taken is not *completely* insufficient. Hence, the minimum obligation is not *clearly* violated.[227]

This approach is quite promising, in particular in the context of Principle 2.2.1 in conjunction with Principle 2.1.1 if our Principles are contested; if they are not challenged, all that needs to be done is to comply. If other legal sources cannot serve as a sufficiently

225 A claim to the effect that Germany complies with its action plan to reduce its GHG emissions with 40% by 2020 compared to 1990: 31 October 2019, VG 10 K 412.18, https://dejure.org/dienste/vernetzung/rechtsprechung?Gericht=VG%20Berlin&Datum=31.10.2019&Aktenzeichen=10%20K%20412.18.

226 P. 23.

227 P. 24 with further elaboration. The Court explained earlier why the State's action program is not legislation that creates rights. It refers, inter alia, to the format of the "bunte Brochüre … mit vielen Fotos, Abbildungen und Tabellen" (p. 16) (a multi-coloured brochure with many photos, illustrations and tables); see also p. 15.

sound legal basis for other obligations emanating from this update, the concept of minimum obligations can be applied mutatis mutandis.[228]

Climate science points to the urgent need to reduce global emissions significantly at great pace. Many countries (seem to) accept the findings of the IPCC Special reports of 2018 and 2019. This unavoidably means that APQ countries have to curb their emissions to a great extent. That can only be achieved if top end APQ countries take the lead and assume their fair share, which *in any scenario* means steep cuts within a few years, irrespective of whether one counts per capita or any reasonable alternative not leaving the mess they have created to be solved by others. After all, leaving the mess to others is utterly unreasonable. If one is prepared to accept that enterprises have to comply with human rights, an issue that was discussed in the previous section, the concept of minimum obligations can also play an important role in shaping their obligations. The concept is adopted in the Equator Principles in the context of Reporting Requirements.[229]

22.5 The Paris Agreement

> "… the Paris Agreement is far from perfect. But I would reply that from a legal point of view it is the best thing we have."[230]

There is an emerging line of thought that the Paris Agreement (PA) can be used to determine the obligations of States and enterprises and that it "has already impacted and may continue to impact climate change litigation."[231] "Even where the Paris Agreement

228 In developing the concept of minimum obligations a distinction could be made between "risks which are the most "severe", the "significant", or the most "salient"", Lise Smit et al., study on due diligence o.c., p. 20 and for a similar view Paul Mougeolle, Current Developments in Carbon & Climate Law, Climate Change Law Review, 2/2020 p. 131.

229 Version July 2020 (available on July 20, 2020), https://equator-principles.com/wp-content/uploads/2020/01/The-Equator-Principles-July-2020.pdf under Scope, ANNEX b p. 5 (in the latest available version the numbering of the pages is a bit confusing).

230 Lord Carnwath, Human Rights and the Environment, 2019, https://www.supremecourt.uk/docs/speech-190620.pdf p. 15.

231 Brian J. Preston, The Impact of the Paris Agreement on Climate Change Litigation and Law, http://www.lec.justice.nsw.gov.au/Documents/Speeches%20and%20Papers/PrestonCJ/Preston%20CJ%20-%20The%20Impact%20of%20the%20Paris%20Agreement%20on%20Climate%20Change%20Litigation%20and%20Law.pdf p. 3 with many references to doctrine and case law. On p. 9 he notes that in "most cases the lines of monism and dualism are blurred"; see also UN Environment: The Status of Climate Change Litigation, o.c. p. 17 and 18. In a case initiated by a number of Swiss 75+s, to the effect that, inter alia, the State has to take action to reduce GHG emissions in 2030 by at least 50% the Bundesgericht (the highest Swiss Court) rules that the Paris Agreement still allows time ("gewisser Zeitraum", under 5.3) to reduce emissions to achieve its goal. That means adequate action can still be taken, which, in turn, means that the interests of the plaintiffs are not sufficiently impaired (under 5.4; concise summary of the German text by JS), 5 May 2020, Verein KlimaSeniorinnen et al., v Eidgenössisches Departement für Umwelt, https://www.bger.ch/

does not create justiciable duties, it can influence the courts' interpretation of societal values, norms and customs in relevant law and policy". According to UNEP's Global Review of Climate Change Litigation (2017), the Paris Agreement enables litigants to "place the actions of their governments or private entities into an international climate policy context." "This international policy context makes it easier for courts to characterise developments, actions or omissions as lawful or unlawful. The Paris Agreement also makes it clear that policies and projects leading to net increases in emissions are disfavoured."[232] See in more detail section 20.

22.6 The Paris Agreement as bare minimum[233]

The Paris Agreement contains two important elements. First "it aims to strengthen the global response to the threat of global climate change …by (a) Holding the increase in the global average temperature to well below 2ºC above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels" (art. 2 para. 1) and a series of provisions to reach that goal (art. 4). It is left to the Parties to determine their goals, which means that it is unlikely that, together, they will achieve the reductions to achieve the goal of art. 2.[234]

files/live/sites/bger/files/pdf/de/1C_37_2019_2020_05_20_T_d_15_15_22.pdf. See also Jaap Spier, The "Strongest" Climate Ruling Yet: o.c., NILR 2020 vol. 67, issue 2 (p. 319 ff) under 11.

232 Idem (Preston, The Impact) p. 14.

233 Partly borrowed from Jaap Spier, The 'Strongest Climate Ruling Yet, o.c. under 15.2.2.

234 Rajamani and Guérin in Daniel Klein et al., The Paris Agreement on Climate Change, Analysis and Commentary p. 74 ff. The formulation of art. 2 para 1 is, as Bodle and Oberthür put it, "legally non-prescriptive in setting the temperature goal", although, according to Thorgeirsson, "it is very significant both in legal terms and politically that this reality is explicitly stated in a legal instrument" (The Paris Agreement, o.c. p. 98 and p. 128). Christina Voigt contends that, apart from a series of procedural obligations, the Paris Agreement "express[es] that Parties act in a particular manner or according to agreed guidance. These provisions express a certain standard of conduct that corresponds with what a reasonable State ought to do under normal conditions in a situation with its best practical and available means, with a view to fulfilling its international obligation." She also addresses the PA-feature of highest possible ambition and progression; see The Paris Agreement: What is the standard of conduct for parties, http://www.qil-qdi.org/paris-agreement-standard-conduct-parties/. The current NDCs fall short; see among many others the report of the UN Secretary-General, Gaps in international environmental law, https://digitallibrary.un.org/record/1655544 p. 15. See also SWP Research Paper, The Paris Agreement 2015, https://www.swp-berlin.org/fileadmin/contents/products/research_papers/2016RP04_dge.pdf.

There is a strongly emerging view that net zero emissions should be achieved by 2050.[235] Much more likely than not the carbon budget will be depleted long before then.[236] First and foremost: GHG emissions are still not decreasing and there is very little reason to believe that most countries are going to curb their emissions significantly in the near future.[237] See in more detail section 7.

Hence, to keep global warming, as formulated in the Paris Agreement, "well below 2 degrees" almost certainly means much more stringent reduction obligations for States. It is very unlikely that climate change can be kept below 1.5°C.[238] For the avoidance of doubt: we may be mistaken. Miracles happen and the transition towards a carbon-neutral society may gain traction much sooner than we expect. Climate science may be mistaken by painting a grimmer picture than necessary, although thus far, the opposite happened as the 2018 and 2019 Special reports by the IPCC illustrate. It is also possible that affordable

235 See, also for many references, Brian J. Preston, The Impact of the Paris Agreement on Climate Change Litigation and Law, http://www.lec.justice.nsw.gov.au/Documents/Speeches%20and%20Papers/PrestonCJ/Preston%20CJ%20-%20The%20Impact%20of%20the%20Paris%20Agreement%20on%20Climate%20Change%20Litigation%20and%20Law.pdf, and World Economic Forum, The Net-Zero Challenge, http://www3.weforum.org/docs/WEF_The_Net_Zero_Challenge.pdf.

236 UN environment programme, Temperature rise is 'locked-in' in the Arctic, https://www.unenvironment.org/news-and-stories/press-release/temperature-rise-locked-coming-decades-arctic and Carbon Brief, Analysis: How much 'Carbon-budget' is left to limit global warming to 1.5 C?, https://www.carbonbrief.org/analysis-how-much-carbon-budget-is-left-to-limit-global-warming-to-1-5c. A highly interesting article in Nature contends that "The world's remaining emissions budget for a 50:50 chance of staying within 1.5 °C of warming is only about 500 gigatonnes (Gt) of CO_2. Permafrost emissions could take an estimated 20% (100 Gt CO_2) off this budget, and that's without including methane from deep permafrost or undersea hydrates. If forests are close to tipping points, Amazon dieback could release another 90 Gt CO_2 and boreal forests a further 110 Gt CO_2. With global total CO_2 emissions still at more than 40 Gt per year, the remaining budget could be all but erased already" (Timothy M. Lenton et al., Climate tipping points – too risky to bet against, https://www.nature.com/articles/d41586-019-03595-0).

237 The World Energy Outlook 2019 casts doubt whether it is realistic to achieve the reductions required. Based on the current policy "energy demand rises by 1.3% each year until 2040" (International Energy Agency, World Energy Outlook 2019, o.c. p. 3). The IEA expects "that almost one-fifth of the growth in global energy use in 2018 was due to hotter summers pushing up demand for cooling and cold snaps leading to higher heating needs" (p. 6), a worrying perspective in a warming world. It expects that "the rise in Africa's oil consumption to 2040 is larger than that of China, while the continent also sees a major expansion in natural gas use, prompted in part by a series of large discoveries made in recent years" (p. 9). "The expected growth in population in Africa's hottest regions also means that up to half a billion additional people would need air conditioners or other cooling services by 2040" (p. 10) and notes that "over the past 20 years, Asia has accounted for 90% of all coal-fired capacity built worldwide, and these plants have potentially long operational lifetimes ahead of them. In developing economies in Asia, existing coal-fired plants are just 12 years old on average" (p. 21). At the time of writing the corona crisis has a positive impact on global emissions. It is in the clouds how long that will last.

238 In its Urgenda judgment the Dutch Supreme Court emphasises that "the temperature can only safely rise by no more than 1.5°C", legal ground 2.1 under 6 and 4.5. The Dutch text speaks of (veilige temperatuurstijging) "safe rise of temperature", which suggests that keeping global warming below that threshold is safe. The increasing number of natural catastrophes illustrates that this statement is mistaken.

technology, such as carbon capture and storage, will become available at the scale needed.[239] It would, however, be fraught with risk and irreconcilable with the precautionary principle to bet on these uncertainties, if not rather hypothetical developments.

In short, the Paris Agreement falls short of what needs to be done. That, sadly, is how international politics work as acknowledged in a report by the UN Secretary-General:

> "24. The involvement of a large number of States with diverse national circumstances and priorities in treaty negotiations leads to the fact that multilateral environmental agreements often serve multiple objectives which are not always easily reconciled or mutually enhancing, but arise out of political compromises struck between different interests. Without these compromises, and their often deliberate constructive ambiguities and gaps, however, the likelihood of agreement on international environmental treaties would be significantly diminished, undermining the prospect for global cooperation on urgent environmental issues."[240]

Happily, the international community has accepted rules of international law that (may) have a higher status than clearly insufficient instruments that came about due to resistance of a few powerful nations. To the extent these Principles are more demanding than the PA it is precisely because these universal rules were adopted. In addition: if the international consensus, based upon short-sightedness of a few States, falls short of what needs to be achieved to keep our planet liveable – that is what is at stake – many courts will go out of their way to find arguments, if necessary by means of magic words, to explain why they formulate obligations that can achieve what desperately needs to be done; see in more detail sections 28 and 29.

This being said, a lot would already be gained if countries and enterprises would align with the goal of keeping climate change well below 2° C as a minimum. Although the PA does not contain obligations of enterprises, they are fuelled through the obligations vested on States. The Guidance Document on the Principles for Responsible Banking[241] hits the mark emphasising that

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239 See in considerable detail Michael G. Faure and Roy A. Partain, Carbon capture and storage, and European Court of Auditors, Demonstrating carbon capture and storage and innovative renewables at commercial scale in the EU: intended progress not achieved in the past decade, https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=47082. Biofuels could also be an option; see Environmental and Energy Study Institute, Biofuels versus Gasoline: The Emissions Gap Is Widening, https://www.eesi.org/articles/view/biofuels-versus-gasoline-the-emissions-gap-is-widening. See also Net Zero 2050, o.c. p. 8.

240 Gaps in international environmental law, o.c. p. 13.

241 https://www.unepfi.org/wordpress/wp-content/uploads/2019/09/PRB-Guidance-Document-Final-19092019.pdf.

> "while the SDGs and the Paris Climate Agreement are directed at governments, they are underpinned by a series of specific targets and programme areas where banks can make substantial contributions and, by doing so, align themselves clearly with the needs of society, their countries, clients and customers."[242]

The same goes for the entire corporate world.

22.7 Tort law

The OP and the EP explain why tort law can also serve as a legal basis for our Principles.[243] In many instances the "reasonable person" is the yardstick.[244] As a rule of thumb such a person would not violate any of these Principles, or at the very least, scale up reduction efforts significantly and take measures with regard to suppliers products and services.

The High Court of New Zealand largely took a different stance in a case initiated by Michael Smith.[245] The defendants are a dairy factory, an enterprise burning coal to generate energy, a power station combusting coal, dairy farms releasing GHG by "enteric fermentation", a steel mill run on the combustion of coal, an energy-supplier of petroleum related products (burned by others), an oil refinery and pipeline producing the majority of fuel products consumed in the country (burned by others), and an enterprise producing bituminous, coking and thermal coal, mostly exported to China. The plaintiff alleged that the defendants have to achieve net zero emissions by 2030 "and that those who supply

242 P. 3.

243 See the commentary to the OP p. 38 ff and to the EP p. 68 ff, also for further references; see also Jaap Spier, Shaping the law, o.c. p. 86 ff and also, more generally, Dan B. Dobbs, Paul T. Hayden and Ellen M. Bublick, Hornbook on Torts (2nd ed.) p. 203 ff, Cees van Dam, European Tort Law (2nd ed.) nr 805 ff, both with further references and Michael Burger et al, The Law and Science of Climate Change Attribution, https://climate.law.columbia.edu/sites/default/files/content/docs/The%20Law%20and%20Science%20of%20Climate%20Change%20Attribution_Burger%2C%20Wentz%20%26%20Horton.pdf p. 195 ff and 216/7. Significantly more cautious: Martin Spitzer and Bernhard Burtscher, Liability for Climate Change: Cases, Challenges and Concepts, JETL 2017 p. 155 ff. See also most of the national reports on case 8 (contamination of a river by 40 large metal factories; each discharge could not cause damage) in Marta Infantino and Elina Zergvogiani (eds), Causation in European law p. 353 ff; the Australian, Canadian, Indian, Israeli, Japanese, Kenyan, South African, and UK reports in Richard Lord et al. (eds), Climate change liability, respectively p. 86 ff, p. 542 ff, p. 167 ff, p. 286 ff, p. 228 ff, p. 314, p. 337 ff and p. 462 ff and extensively Miriam Haritz, an inconvenient deliberation p. 172 ff and Lise Smit et al., study on due diligence o.c., p. 19.

244 See art. 4:102 PETL and inter alios Cees van Dam, European Tort law (2nd ed.) nr 805-1, Dan B. Dobbs, Paul T. Hayden and Ellen M. Bublick, Hornbook on Torts, (2nd ed.) p. 213 and Neethling-Potgieter-Visser Law of Delict (7th ed.) p. 137 ff; we refer to South African law because it borrows from Roman Dutch and common law. Roman law lies at the basis of the civil law family.

245 Smith v Fonterra Co-Operative Group Limited, [2020] NZHC 419 (6 March 2020), http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/non-us-case-documents/2020/20200306_2020-NZHC-419_opinion-1.pdfhttps://www.courtsofnz.govt.nz/assets/cases/Smith-v-Fonterra-Co-operative-Group.pdf.

products that are burned can account for the emissions of the end products supplied by 2030."[246]

The Court (Judge Wylie) struck out the claims based on public nuisance and negligence. He declined to do so for the claim based on "a duty, cognisable at law" (rephrased as "Inchoate Duty"). Because this is – to the best of our knowledge – the first case of its kind; the elaborate judgment will be discussed at some length.

The Court found that the hurdles for public nuisance cannot be overcome, i.e. the requirement that the damage is "particular, direct and substantial"[247] and that a public right must be interfered with.[248] The fate of the claim based on negligence was not any better.[249] The Court noted that the alleged duty is "novel". Whether "it is appropriate to find a duty of care in novel circumstances depends on:

(a) whether the claimed loss was a reasonably foreseeable consequence of the alleged wrongdoer's acts or omissions;
(b) the degree of proximity or relationship between the alleged wrongdoer and the person said to have suffered loss; and
(c) whether there are factors external to the relationship which would make it not fair, just and reasonable to impose the claimed duty. Policy considerations can support or negative finding a duty."

The damage claimed by Smith –the impact of climate change – cannot be said to be reasonably foreseeable.[250] In addition, that damage cannot be avoided by the defendants.[251]

Proximity proved another obstacle. In addition, the country is the most appropriate entity to address this problem.[252] The Court took the view that in light of climate science New Zealand has to achieve net-zero reductions by 2050. Hence the alleged duty to reduce emissions to zero by 2030 implies that "the defendants could be subject to a disproportionate liability."[253]

The Court emphasised that in spite of the defendants' minute contribution to global emissions they would be unduly exposed to "legal responsibility, way beyond their contribution to damaging global greenhouse gas emissions." This could potentially create

246 Under 6.
247 Under 61-64.
248 Under 67-73.
249 Under 74-100.
250 Under 81. The judge elaborates on this point by restricting the discussion to the alleged damage suffered by the traditional sites of the plaintiff (a Maori).
251 Under 82. Subsequently the judgment discusses whether the but for test can be avoided: under [84]-[89] which question is answered in the negative.
252 Under 89-92.
253 Under 94.

"liability at the suit of anybody able to claim damage from climate change." That mattered in spite of the fact that Smith did not claim damages; after all, others could.[254]

Liability would "generally [be] joint and several". Recourse from overseas emitters "would likely be very constrained".[255] The social utility of the defendant's activities "also falls for consideration."[256]

If we ignore the peculiarities of the case in point, which may validate the Court's reasoning and justify the outcome,[257] the Court's view, though elaborate and considered, is by no means self-explanatory. The main objections are that the political branches of government did not and are unlikely to solve the global problem. If it were true that minimal contributions to the global problem are a defence, the consequence would be that the law does not offer any solution. That position may or may not be convincing from a traditional and very strict doctrinal angle, there is no reason why the law as a living instrument could not overcome this hurdle as it has overcome so many others since Roman times; see also Principle 15 and the commentary thereto and sections 28 and 29.

It may be true, although this is an issue to be determined in the domestic setting, that it is far-fetched to expect the defendants to be aware of the alleged damage to Maori culture and property. However, the adverse consequences of climate change are already real and it is beyond cavil that they will deteriorate if global emissions are not going to be curbed at great pace and to a significant extent. That requires action by most players.

The Court is right that carving legal obligations *may* have far-reaching liability consequences if they are not met. It is also possible that such obligations affect liability for emissions in the past. That in itself is not and should not be a reason for shying away from "imposing" such obligations. The better strategy is to be reluctant to translate shortcomings into fully-fledged liability.[258] Joint and several liability is not the answer.[259] Nor would it be under traditional tort law.[260]

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254 Under 96.

255 Under 97. In the Court's view damages could encompass economic loss [97(c)).

256 Under 97(i).

257 We do not want to express a view on a specific judgment.

258 For a nuanced view Winkelmann, Glazebrook and France, Climate Change and the Law, o.c. p. 109.

259 In the same sense Spitzer and Burtscher, o.c. p. 168-170 and Monika Hinteregger, Civil Liability and the Challenges of Climate Change: A Functional Analysis, JETL 2017 p. 254 ff.

260 That arguably is an overstatement; case law about minimal contributions comparable to those in the setting of climate change is not available. In more "common" scenarios joint and several liability is "the rule", with exceptions. See the national reports in Infantino and Zervogianni, o.c. in relation to case 8 and the comparative report p. 377. Germany requires "a substantial contribution" (p. 360); no joint and several liability would be accepted in the Czech Republic (p. 361/2), the situation is unsettled in Denmark (p. 367), and perhaps also in Austria due to the minimal contribution (p. 370, a view supported by the leading Austrian tort lawyer Helmut Koziol, Haftpflichtrecht I nr 3/83), The Netherlands (p. 371), England (the rule does not apply to trivial contributions, p. 374). The Principles of European Tort Law (PETL) opt for joint and several liability (called solidary liability) "if a distinct part of the damage suffered by the victim is attributable to two or more persons (Art. 9:101 (1)), but the commentary does not deal with issues that come even close

Last but not least the level playing field. That is problematic if it were right that "only" under the law of one of a very few countries enterprises would be under an obligation to reduce their emissions significantly. For the reasons explained in this part of the commentary we do not think that this is the case. There are sound legal arguments, borrowed from a series of legal bases, to substantiate the view that enterprises do have far-reaching reduction obligations. Whether they have to reduce their GHG emissions to zero by 2030, as Mr Smith claimed, is a different story. As explained in section 7.4 he may well be right, but we prefer to refrain from taking a firm position on this point.

All this being said, the New Zealand High Court did not slam the door altogether:

> "[107] The injunctions sought by Mr Smith would require the Court to go beyond enforcing the terms of the Climate Change Response Act, and require the Court to apply an emissions accounting methodology to determine gross emissions from each defendant. The Court would have to consider the extent to which each defendant should be responsible for supply chain emissions for which it is not directly responsible. It would have to guard against double counting between defendants (and entities overseas in the case of BT Mining) and potential future defendants in similar proceedings. The Court would have to select a methodology to apply to carbon dioxide equivalents, so that greenhouse gases could be meaningfully compared when taking into account the different effects of different emissions on global warming. It would have to determine whether an emissions trading type scheme would be required by any Court order (noting that Mr Smith seeks "net" zero emissions) and, if so, whether, how and to what extent units could be acceptable offsets against each defendant's gross emissions. The Court would have to put in place a system to verify each defendant's acquisition and/or surrender or cancellation of units. The Court would have to consider what if any trajectory of net emission reductions each defendant would be required to achieve between 2020 and 2030 (the target date suggested by Mr Smith). The Court would have to determine whether there should be uniform linear progression towards net zero, or whether and how the progression towards net zero should take into account each defendant's circumstances that might suggest that a particular

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to the issue in point. See for a nuanced approach concerning the so-called DES cases – in terms of causal contribution incomparable to climate change – the country reports and the comparative report in Israel Gilead, Michael D. Green and Bernhard Koch (eds), Proportional Liability: Analytical and Comparative Perspectives, in particular p. 26 ff; no liability is accepted in 7 countries including the US and South Africa, joint and several in two countries. See about Japanese law Yukari Takamura, in Richard Lord et al. (eds), Climate change liability p. 230-232.

> trajectory would be inappropriate or patently inequitable for one or more of the defendants.
> [108] These, and probably other, tasks would make it extraordinarily difficult to craft any form of injunction. Any orders would require continued judicial supervision – certainly up to 2030 and perhaps beyond. The Court's supervisory role would become akin to that of a regulator, requiring specialist, and not judicial, expertise."

Indeed, very pertinent and relevant issues. It would be a Herculean task for single courts to explore these issues. Our update answers almost all of these questions. Courts may "buy" them or not, but at the very least they offer concrete solutions that could be taken into consideration.

At the end of the day, it is a matter of judicial appetite or the "wish" to carve judgments that matter to avert global catastrophe. We strongly believe that tort law does offer a sound, though not unchallengeable, legal basis for claims of all kinds, in particular injunctive and declaratory relief.[261] See in more detail the sections 28 and 29.

22.8 Precautionary principle

> "The need to take caution is triggered where two conditions are met: 'a threat of serious and irreversible environmental damage *and* scientific uncertainty as to the environmental damage'…. Where both are satisfied, 'a precautionary measure may be taken to avert the anticipated threat of environmental damage, but this should be proportionate.'"[262]

261 See about legal bases Maria L. Banda, Climate Science in Courts, https://www.eli.org/sites/default/files/eli-pubs/banda-final-4-21-2020.pdf p. 18 ff on nuisance, and for other bases p. 33 ff and 85 ff.

262 Brian Preston, Paul Martin and Amanda Kennedy, Bridging the gap between aspiration and outcomes: the role of the court in ensuring ecologically sustainable development, in Christina Voigt and Zen Makuch, Courts and the Environment p. 43, referring to a judgment by Justice Preston in Telstra Corp Ltd v Hornsby Shire Council (2006) 67 NSWLR 256; [2006] NSWLEC 133, and for elaboration p. 44.

The precautionary principle is firmly embedded in a series of international instruments, case law and academic writings.[263] It is impressively formulated by the Supreme Court of India:[264]

> "The Precautionary Principle and the new Burden of Proof – The Vellore Case: The 'uncertainty' of scientific proof and its changing frontiers from time to time has led to great changes in environmental concepts during the period between the Stockholm Conference of 1972 and the Rio Conference of 1992. In Vellore Citizens' Welfare Forum vs. Union of India and Others [1996 (5) SCC 647], a three Judge Bench of this Court referred to these changes, to the 'precautionary principle' and the new concept of 'burden of proof' in environmental matters. Kuldip Singh, J. … stated that the Precautionary Principle, … and the special concept of Onus of Proof have now emerged and govern the law in our country too …. The learned Judge declared that these principles have now become part of our law. The relevant observations in the Vellore Case in this behalf read as follows:
> "In view of the above-mentioned constitutional and statutory provisions we have no hesitation in holding that the Precautionary Principle …[is] part of the environmental law of the country." …
> The learned Judges also observed that the new concept which places the Burden of Proof on the Developer or Industrialist who is proposing to alter the status quo, has also become part of our environmental law.

263 See in more detail the commentary to the EP p. 59/60; Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, https://repositorio.cepal.org/bitstream/handle/11362/43583/1/S1800428_en.pdf art. 3 (f); see also Friends of the Earth v. Secretary for Transport et al., https://www.judiciary.uk/wp-content/uploads/2020/02/Heathrow-judgment-on-planning-issues-27-February-2020.pdf under 258 and 259, UNFCCC art. 3 para 3. In the Asean context "public and private decisions should be guided by: 1) Careful evaluation to avoid – as a priority and wherever practical – serious or irreversible damage to the environment; and 2) An assessment for the risk-weighted consequences of various options", p. 11 (Matthew Baird and Martin Cosier, An Asean Framework Convention on Principles and Practice for Environmental Impact Assessment as a means of promoting and achieving sustainable development goals for Asean members countries, http://www.ohchr.org/Documents/Issues/Environment/ImplementationReport/Matthew%20Baird%20Martin%20Cosier.doc. The Draft of the International Covenant on the Human Rights to the Environment creates a "right to proportional precautionary measures", https://cidce.org/wp-content/uploads/2016/08/Draft-of-the-International-Covenant-on-the-Human-Right-to-the-Environment_15.II_.2017_EN.pdf. The trick lies in the word "proportional". Applying the precautionary principle lock stock and barrel would imply draconian measures that are unrealistic, if achievable at all; see a reality check under Principle 2.1.1. See also Brian J Preston, The Judicial development of the Precautionary Principle (2018) 35 Environmental and Planning Law Journal 123.

264 A.P. Pollution Control Board v Prof. M.V. Nayudu et al., AIR 1999 SC 812.

… A basic shift in the approach to environmental protection occurred initially between 1972 and 1982. Earlier the Concept was based on the 'assimilative capacity' rule as revealed from Principle 6 of the Stockholm Declaration of the U.N. Conference on Human Environment, 1972. The said principle assumed that science could provide policy-makers- with the information and means necessary to avoid encroaching upon the capacity of the environment to assimilate impacts and it presumed that relevant technical expertise would be available when environmental harm was predicted and there would be sufficient time to act in order to avoid such harm. But in the 11th Principle of the U.N. General Assembly Resolution on World Charter for Nature, 1982, the emphasis shifted to the 'Precautionary Principle', and this was reiterated in the Rio Conference of 1992 in its Principle 15 which reads as follows:

"Principle 15: In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage; lack of full scientific certainty shall not be used as a reason for proposing cost-effective measures to prevent environmental degradation." ….

In other words, inadequacies of science is the real basis that has led to the Precautionary Principle of 1982. It is based on the theory that it is better to err on the side of caution and prevent environmental harm which may indeed become irreversible. The principle of precaution involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on Scientific uncertainty. Environmental protection should not only aim at protecting health, property and economic interest but also protect the environment for its own sake. Precautionary duties must not only be triggered by the suspicion of concrete danger but also by (justified) concern or risk potential. The precautionary principle was recommended by the UNEP Governing Council (1989). The Bomako Convention also lowered the threshold at which scientific evidence might require action by not referring to "serious" or "irreversible" as adjectives qualifying harm. However, summing up the legal status of the precautionary principle, one commentator characterised the principle as still "evolving" for though it is accepted as part of the international customary law, "the consequences of its application in any potential situation will be influenced by the circumstances of each case". …

The Special Burden of Proof in Environmental cases:

We shall next elaborate the new concept of burden of proof referred to in the Vellore case at p.658 (1996 (5) SCC 647). In that case, Kuldip Singh, J. stated as follows:

> "The 'onus of proof' is on the actor or the developer/industrialist to show that his action is environmentally benign."
> It is to be noticed that while the inadequacies of science have led to the 'precautionary principle', the said 'precautionary principle' in its turn, has led to the special principle of burden of proof in environmental cases where burden as to the absence of injurious effect of the actions proposed, – is placed on those who want to change the status quo …. This is often termed as a reversal of the burden of proof, because otherwise in environmental cases, those opposing the change would be compelled to shoulder the evidentiary burden, a procedure which is not fair. Therefore, it is necessary that the party attempting to preserve the status quo by maintaining a less-polluted state should not carry the burden of proof and the party who wants to alter it, must bear this burden. … The precautionary principle suggests that where there is an identifiable risk of serious or irreversible harm, including, for example, extinction of species, widespread toxic pollution in major threats to essential ecological processes, it may be appropriate to place the burden of proof on the person or entity proposing the activity that is potentially harmful to the environment. … It is also explained that if the environmental risks being run by regulatory inaction are in some way "uncertain but non-negligible", then regulatory action is justified. This will lead to the question as to what is the 'non-negligible risk'. In such a situation, the burden of proof is to be placed on those attempting to alter the status quo. They are to discharge this burden by showing the absence of a 'reasonable ecological or medical concern'. That is the required standard of proof. The result would be that if insufficient evidence is presented by them to alleviate concern about the level of uncertainty, then the presumption should operate in favour of environmental protection. Such a presumption has been applied in Ashburton Acclimatisation Society vs. Federated Farmers of New Zealand [1988 (1) NZLR 78]. The required standard now is that the risk of harm to the environment or to human health is to be decided in public interest, according to a 'reasonable persons' test…"

Unlike the International Bar Association's (IBA) Model Statute we do not think that the precautionary principle is needed to accept that climate change poses a serious risk of irreversible harm.[265] That climate change poses such a risk is almost commonly accepted which suffices for legal purposes.

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265 O.c. p. 22. For good order's sake: the reporter of this update was a member of the working group; his repeated observations to the same effect were ignored. The ABA take the same view: "while there remain some

The precautionary principle is explicitly mentioned in Principle 2.2.1 (a) and the definition of Global Carbon Budget in Principle 1.[266] The precautionary principle is the bedrock of environmental law. In the realm of climate change its role is more limited. The obligations emanating from this update are already very stringent. More likely than not, they will become increasingly demanding if global emissions are not going to fall sharply in the very near future, unless international politics would redefine the climate change goals/imperatives;[267] see section 27 and a reality check under Principle 2.1.1.

Arguably it would be possible to adhere to the precautionary principle in relation to some of these Principles or specific economic activities, but we are unable to submit a convincing blueprint of how such obligations should read in addition to the already demanding Principles embedded in this update.

This being said, the principle can – and should – play a role in impact assessments[268] and depending on the circumstances in tailoring a specific principle to the peculiarities of a case in point in the context of, for instance, Principle 9, 10, 18, 19, and 22.1.

22.9 Soft law as a legal basis

"Many putative principles of 'international law', 'customary law', or 'soft law' that are advanced through scholarship and by political processes … do not become binding laws, though they may have political force. Even when principles are adopted by states, their translation into national law can sometimes emasculate the proposed legal principle …"[269]

Soft law, such as a series of declarations, codes of conduct and governance, guidelines, listing requirements and the like certainly contribute to shaping the law.[270] Even if they

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uncertainties about its magnitude, the evidence of climate change easily passes the certainty tests that are used to make decisions in other relevant areas of law and policy", Resolution 111, o.c. p. 3.

266 See in more detail Jaap Spier, Tijdschrift voor Milieurecht 2018 p. 634 and 635.

267 Such a redefining exercise will not necessarily be effective; see Principle 16. See in more detail, also in the context of the climate scenario to be adopted, Jaap Spier, The "Strongest" Climate Ruling Yet: The Dutch Supreme Court's Urgenda judgment, NILR 2020 vol. 67, issue 2 (p. 319 ff) under 4.

268 See f.i. Gloucester Resources Ltd v the Minister of Planning (2019) 234 LGERA 257 [2019] NSWLEC 7.

269 Brian Preston, Paul Martin and Amanda Kennedy, Bridging the gap between aspiration and outcomes: the role of the court in ensuring ecologically sustainable development, in Christina Voigt and Zen Makuch, Courts and the Environment, o.c. p. 35.

270 See inter alia PRI and MSCI, Global Guide to Responsible Investment Regulation (not only soft law), https://www.msci.com/documents/1296102/0/PRI_MSCI_Global-Guide-to-Responsible-Investment-Regulation.pdf/ac76bbbd-1e0a-416e-9e83-9416910a4a4b p. 13 ff and the commentary to the EP p. 84 ff. See, with many examples, about soft law and the financial sector Sjoerd Meijer, Freerk Vermeulen and Christine Vreede, Climate change and the financial sector: soft law in public interest litigation, in Beekhoven van den Boezem et al. (eds), Sustainability and Financial Markets p. 113 ff and about its legal relevance in colouring open norms p. 120 with elaboration on p. 121 ff. See also Rodriquez-Garivito, o.c. p. 42 and for examples, Louis J. Kotzé and Anél du Plessis, Putting Africa on the Stand: A Bird's Eye View of Climate Change Litigation on the Continent, https://core.ac.uk/download/pdf/227471221.pdf, p. 14.

are not binding – listing requirements apply to listed enterprises – they mirror the (emerging) view on important issues,[271] constituting the opinion of the relevant parts of society. Thus, they can – and should – colour the interpretation of vague norms and fill gaps if pertinent legislation or case law is not available.[272] More often than not, they can easily be supported by widely accepted legal notions in legislation and case law. In their advisory opinion in the Urgenda case the deputy Procurator-General Langemeijer and Advocate-General Wissink put it as follows:

> "2.30 Treaty provisions that are not 'binding on all persons' within the meaning of Articles 93 and 94 of the Dutch Constitution can only have an *indirect* impact on the finding of unlawfulness. First of all, the interpretation of rules of national law is 'treaty-based' where possible, in accordance with the principle of international law that States are presumed to want to comply with their treaty obligations. Secondly, in implementing open standards, the national court will take international law into account as much as possible (irrespective of whether or not it has direct effect). This is the concept of reflex effect. It should be noted that it is not always possible to make a clear distinction between the two figures.
> *Soft law as a source of international law*
> 2.31 The distinction between direct effect, interpretation in accordance with the treaty and reflex effect has become more vague with the rise of 'soft law' within the context of international law. This refers to a wide variety of non-binding international instruments, such as guidelines, action plans, conference statements and non-binding resolutions of international organisations. Although these instruments are not legally binding in themselves, significance is increasingly attributed to them in the implementation of generally formulated obligations under international law and, by extension, in the implementation of open standards in national law. The ECtHR uses this technique as well, in the context of the common ground method to be discussed below. Moreover, it has been argued in the literature that it is not so much the legal status of the instrument that should be decisive for the classification as hard law or soft law, but rather the actual substance of the rule laid down

271 The business community also acknowledges the importance of soft law, Lise Smit, Claire Bright, Robert McCorquodale et al., Study on due diligence requirements through the supply chain, final report, https://op.europa.eu/nl/search-results?p_p_id=eu_europa_publications_portlet_search_executor_SearchExecutorPortlet_INSTANCE_q8EzsBteHybf&p_p_lifecycle=1&p_p_state=normal&facet.author=agent.British+Institute+of+International+and+Comparative+Law&facet.collection=EUPub&language=en&startRow=1&resultsPerPage=10&SEARCH_TYPE=ADVANCED, p. 16, and Freshfields Bruckhaus Deringer, Business and Human Rights, Navigating the legal landscape, https://www.freshfields.com/en-us/our-thinking/campaigns/biz-human-rights/, p. 6.

272 For a similar view see Lise Smit et al., o.c., p. 20.

> therein, i.e. whether or not that rule is suitable for application as a binding law.
> …
> 2.32 History shows that soft law not seldom acts as a trailblazer for hard law: initially non-binding action plans and declarations of intent can later result in enforceable obligations under international law. N.J. Schrijver refers to this process as 'crystallization'. Climate change is cited as an example of a field of law in which soft law has developed into hard law over the years, although it should be noted that by no means all of the objectives that the international community has set for itself in this respect have ultimately been enshrined in binding treaties. But this does not alter the fact that soft law can also play an important role in this subject. For instance, the authors of the *Oslo Principles on Global Climate Obligations* argue the following:
> "The repeated pledges by world leaders, in and outside the COP framework, and the urgent need to come to grips with the looming threats advocated by these leaders may in themselves not amount to legal obligations, but they are not meaningless either. Taken together with other legal bases, they help to crystallise enforceable obligations on countries."[273]

The Supreme Court of Canada put it as follows:

> "Customary international law is the common law of the international legal system, constantly and incrementally evolving based on changing practice and acceptance. Canadian courts, like all courts, play an important role in its ongoing development. There are two requirements for a norm of customary international law to be recognized as such: general but not necessarily universal practice, and *opinio juris*, namely the belief that such practice amounts to a legal right or obligation. When international practice develops from being intermittent into being widely accepted and believed to be obligatory, it becomes a norm of customary international law.
> Within customary international law, there is a subset of norms known as *jus cogens*, or peremptory norms, from which no derogation is permitted. ….
> Canada has long followed the conventional path of automatically incorporating customary international law into domestic law via the doctrine of adoption, making it part of the law of Canada. Therefore, customary international law is automatically adopted into domestic law without any need for legislative action. The fact that customary international law is part of our common law means that it must be treated with the same respect as any other law.

273 ECLI:NL:PHR:2020:1026.

> A compelling argument can therefore be made that since customary international law is part of Canadian common law, a breach by a Canadian company can theoretically be directly remedied."[274]

22.10 Pledges, declarations and the like as a basis for obligations

Captains of industry, and leading think-tanks related to – inter alia – the corporate world increasingly harp on the need to take swift and bold action,[275] to keep global warming below 1.5°C[276] or 2°C[277] and/or their willingness or the need to align with "the Paris

274 Nevsun Resources Ltd. v. Araya, 2020 SCC 5, https://decisions.scc-csc.ca/scc-csc/scc-csc/en/item/18169/index.do per Wagner CJ, Abella, Karakatmis, Gascon and Martinn JJ.

275 Some enterprises allegedly create the ill-founded impression of far-going change; see Nicholas Kusnetz, What Does Net Zero Emissions Mean for Big Oil? Not What You'd Think, https://insideclimatenews.org/news/15072020/oil-gas-climate-pledges-bp-shell-exxon#:~:text=The%20vast%20majority%20of%20the,and%20processing%20oil%20and%20gas.

276 See UN PRI, Seven major companies that committed to net zero emissions in 2019, https://www.unpri.org/pri-blog/seven-major-companies-that-committed-to-net-zero-emissions-in-2019/5255.article and Ecosystem marketplace, Nearly 180 Companies Embrace Science-Based Targets to Align With the Paris Agreement's 1.5°C Target, https://www.ecosystemmarketplace.com/articles/nearly-180-companies-embrace-science-based-targets-to-align-with-paris-agreements-1-5c-target/. See also the Ministerial Katowice Declaration on Forests for the Climate, https://cop24.gov.pl/fileadmin/user_upload/Ministerial_Katowice_Declaration_on_Forests_for_Climate_OFFICIAL_ENG.pdf albeit that it emphasises that "all pathways that limit global warming to 1.5 C project the use of carbon dioxide removal"; a letter of 11 January 2019 from a series of asset managers and NGOs to BlackRock, https://shareaction.org/wp-content/uploads/2019/01/Letter-to-Larry-Fink-Jan19-3.pdf and Paul Mougeolle, Current Developments in Carbon & Climate Law, CCLR 2/2020 p. 128 and 129. See also – a bit contradictory and for that reason also mentioned in the footnote concerning 2050 – https://www.shell.com/media/news-and-media-releases/2020/responsible-investment-annual-briefing-updates.html.

277 Not unimportantly, the TCFD Technical Supplement 2017 contends that the 2 degree scenario has to be considered anyway, https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Technical-Supplement-062917.pdf p. 4. See also a letter of 29 April 2019 to Heads of State and Government signed by many ceo's of inter alia Vattenfall, Unilever, Inter Ikea Group, Energias de Portugal, Heathrow, DSM, Royal Philips, Anheuser-Busch, https://www.corporateleadersgroup.com/reports-evidence-and-insights/pdfs/ceo-letter-to-eu-heads-of-state-to-signal.pdf. The letter also refers to "impacts of global warming of 1.5 C", the rapidly using of the remaining carbon budget and "the coming ten years [that] will be crucial."

Agreement",[278] or to reduce net emissions to zero by 2050.[279] The International Chamber of Commerce joins in declaring:

> "We recognise that climate change is a growing emergency, and we wholly endorse the findings of the Intergovernmental Panel on Climate Change on the urgent need to keep the global temperature increase below 1.5 degrees Celsius. Through our global network, we will advocate for policy frameworks that support the alignment of business operations with this target and help us to reach the additional goal of net zero emissions in many countries by 2050."[280]

Not surprisingly,

> "respondents to the [World Economic] Forum's Global Risks Perception Survey also are sounding the alarm. For the first time in the history of the survey, climate-related issues dominated all of the top-five long-term risks by likelihood among members of the Forum's multi-stakeholder community … And members of the Global Shapers Community—the Forum's younger constituents—show even more concern, ranking environmental issues as the top risks in both the short and long terms."[281]

The report emphasises that

278 See also below in the context of Principle 20.2 and Glencore, Furthering our commitment to the transition to a low-carbon economy, https://www.glencore.com/media-and-insights/news/Furthering-our-commitment-to-the-transition-to-a-low-carbon-economy. The Global Investor Statement to Governments on Climate Change, https://www.iigcc.org/download/global-investor-statement-to-governments-on-climate-change/?wpdmdl=1826&refresh=5e81df2f6a27e1585569583, signed by 477 investors, strongly "support the Paris Agreement" and emphasises the need to achieve "the Paris Agreement's goal"; their Statement is both welcome and vague in that it does not shed any light on what precisely is meant by achieving the PA's goals; after all: there are several goals and they point into different directions. See also Carbon Tracker, Balancing the Budget, https://carbontracker.org/reports/balancing-the-budget/ p. 22 ff.

279 See https://climateaction.unfccc.int/views/cooperative-initiative-details.html?id=94 under participants, companies. See also section 4. See also https://www.shell.com/media/news-and-media-releases/2020/responsible-investment-annual-briefing-updates.html, That is also the goal of the European Union: see European Commission, Proposal for a Regulation establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law), COM(2020) 80 final, https://ec.europa.eu/info/sites/info/files/commission-proposal-regulation-european-climate-law-march-2020_en.pdf.

280 ICC Declaration on the Next Century of Global Business, https://iccwbo.org/media-wall/news-speeches/icc-issues-declaration-next-century-global-business/.

281 The Global Risks Report 2020, o.c. p. 12.

> "[f]urther delay in reducing emissions will make it harder to achieve carbon budget goals".[282] "The second type of cost of delay is the increased cost of reducing emissions more sharply if, instead, the delayed policy is to achieve the same climate target as the non-delayed policy. Taking meaningful steps now sends a signal to the market that reduces long-run costs of meeting the target."[283]

In a presentation about directors' duties and climate change Lord Sales refers to a statement "by the Business Roundtable group in the US .. signed by 181 leading CEOs in the US, 'on the purpose of the corporation'", announcing "that corporations should no longer only advance the interests of shareholders, but also … 'protect the environment by embracing sustainable practices across our businesses.'" In a nice understatement he labels this "pretty bland stuff", which is an indication "that business leaders are coming to recognise that some kind of action by corporations is called for."[284]

Courts may well translate concrete pledges, even unrealistic ones harping on the need to keep global warming below 1.5°C, into legal obligations.[285] That is not to say that enterprises will (necessarily) be bound to unrealistic pledges or pledges over and beyond their legal obligations. Instead courts may expect a sound explanation why the pledges and similar outings are not met. If a defendant falls short of providing such an explanation and if the pledges, expressed concerns e tutti quanti, align with the views of the scientific and/or international community, courts could well require the defendant to achieve the self-imposed obligations or the propagated goals and ambitions. All the more so because the corporate world rarely promotes *unnecessary* (overly bold) steps or issues *unnecessary* pledges. If, however, the pledge would be unrealistic in that it sets a goal which the enterprise, the corporate world in general and States cannot reasonably achieve, it will not be overly difficult to explain why the pledge is not met. Even in that scenario the pledge is not legally meaningless. In that scenario a reasonable interpretation is that the relevant enterprise pledged truly bold action (what that means can only be determined in a case in point). If it is not taking such action it has to provide a convincing explanation why that is the case.

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282 Idem p. 35.

283 Executive office of the President of the United States, The Cost of Delaying Action to Stem Climate Change, July 2014, https://obamawhitehouse.archives.gov/sites/default/files/docs/the_cost_of_delaying_action_to_stem_climate_change.pdf p. 5; see also p. 11.

284 Lord Sales, Directors' duties and climate change: Keeping pace with environmental challenges, https://law-ccli-2019.sites.olt.ubc.ca/files/2019/09/Lord-Sales-speech.pdf p. 2.

285 See *Plan B Earth and Others v. Secretary of State for Transport* [2020] EWCA Civ 214, under [228] about pledges ("firm statements re-iterating Government policy of adherence to the Paris Agreement", https://www.judiciary.uk/wp-content/uploads/2020/02/Heathrow-judgment-on-planning-issues-27-February-2020.pdf.

This is not to say that the business community would be best advised to refrain from issuing pledges. First and foremost: they are a token of responsible behaviour and may seduce courts to be lenient if the messages, if implemented, are not *fully* sufficient. Secondly, acknowledging a problem is a first step to assuming one's responsibility. Playing the card of "der Geist der stets verneint"[286] will probably create an appalling impression.

22.11 Obligations towards future generations

Once again,[287] we had to consider the role to be played by obligations towards future generations. We do not deny at all that such obligations exist, but we do not think that we need them as an underpinning for our Principles. It suffices to predominantly focus on the interests of the present generation, many of whom will still be alive by the end of this century. They, too, will have to face the adverse consequences of climate change. This stance is fuelled by pragmatic reasons. One of the challenges is who can act on behalf of future generations.[288]

It is glaringly obvious that the next generation(s) may, and probably will, face even more serious adverse consequences, all the more so if States would not comply with the Oslo Principles as amended in Principle 2.2 and enterprises with this update. Even if global average temperature increase is kept to 1.75°C and critical tipping points are passed, the after-effects of global warming may, and likely will, further jeopardise future generations.

If States and enterprises would have an obligation to future generations – a rather undetermined feature – it is quite possible that even more must be done right now than the Principles and this update submit. That may well be desirable, but the obligations emanating from this update are already at the fringe of what is reasonably possible; as explained in section 27 the obligations will probably become increasingly stringent if global emissions are not reduced to the extent required. If judges would be willing to accept further reaching obligations the update offers enough manoeuvring room for doing so,[289]

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286 Literally: the ghost who always denies.

287 The same was true for the EP; see extensively the commentary thereto p. 52 ff.

288 See extensively, also for many further references, Klaus Bosselmann, Earth Governance, p. 252 ff.

289 The Supreme Court of Colombia ordered the State to create "an intergenerational pact for the life of the Colombian Amazon", https://www.dejusticia.org/en/climate-change-and-future-generations-lawsuit-in-colombia-key-excerpts-from-the-supreme-courts-decision/. Some courts have accepted obligations towards future generations; f.i. the Lahore High Court, Green Bench, in *Asghar v Federation of Pakistan* under 6, https://elaw.org/system/files/attachments/publicresource/pk.leghari.090415_1.pdf and Earth life Africa vs. the Minister of environmental affairs et al. (Thabametsi) 8 March 2017, https://elaw.org/system/files/attachments/publicresource/za.earthlife.Earthlife.6.march_.2017.pdf. See also Principles 7 and 8 IUCN World Declaration on the Environmental Rule of Law, the Five UN human rights treaty bodies issue a joint statement, o.c. under Agency and Climate Change Action, o.c. sub 2 and Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, https://repositorio.cepal.org/bitstream/handle/11362/43583/1/S1800428_en.pdf art. 3 (g).

f.i. by decreasing the carbon budget, applying the precautionary principle or by interpreting "excessive" in a way that goes beyond what this commentary suggests.

The Principles and the commentary thereto are based on the current scientific and to a lesser extent the political consensus. We can imagine that in 5 or 10 years' time the situation has deteriorated to the extent judges feel obliged to require more stringent action. In that scenario the interests of the by then present generation suffice to render such judgments. At that stage terribly difficult choices will be unavoidable. See Principle 2.1.1 under reality check.

Obligations to future generations could play a meaningful role if there are also *other* reasons for applying that feature, f.i. if a specific activity may have adverse consequences after many decades or more. The concept could arguably also be used in the context of impact assessments if courts believe that Principle 35 is overly lenient, as such or in relation to the case in point.

The above is not to say that future generations should not be taken into account and even less that they do not matter. All we are saying is that for the purpose of the legal underpinning of our Principles we do not *need* to dwell into the rather unchartered terrain of such obligations.[290]

22.12 The state of the law

Section 28 pays attention to the law as a living instrument. As such it is barely a revelation that the law is not cast in stone. All those who "practice" law, either as a judge, an attorney, an in-house lawyer or other advisor are aware of this at times inconvenient truth.

As a rule courts tend to assume, often without much ado, that the law did not change between the time they render their judgments and the time the relevant facts occurred. By way of example: in 2025 a court has to answer the question whether enterprise X complied with its reduction obligation concerning its GHG emissions in 2022. If there is no sound reason for the view that "the relevant law" in 2022 was any different compared to "the law" in 2025 a court will probably take it that the law did not develop in the intermediate period.[291] Parties rarely provide meaningful information about this issue.[292]

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290 See in more detail the commentary to the EP p. 52 ff, Kirsten Davies, Sam Adelman, Anna Grear et al., o.c. under 3.2, Edith Brown Weiss, Implementing intergenerational equity, in Malgosia Fitzmaurice, David M. Ong and Panos Merkouris (eds), Research Handbook on International Environmental Law, p. 117 ff. and UNFCCC art. 3 para 1. One of the difficulties of this legal feature is that it is rather undetermined; see Jaap Spier, Shaping the Law, o.c. p. 59 ff.

291 Strikingly, this may also happen if a court "overrules" earlier precedents; see in the Dutch context Jaap Spier, De uitdijende reikwijdte van de aansprakelijkheid uit onrechtmatige daad p. 229 ff.

292 See, also for many examples, Jaap Spier, The rule of law and judicial activism: obstacles for shaping the law to meet the demands of a civilized society, particularly in relation to climate change, in Michael Faure and André van der Walt (eds), Globalization and Private Law, The Way Forward, p. 426 ff.

In most instances this way of administering the law is unavoidable. It may do injustice to one of the parties, but it does not harm society at large. A different approach would also do injustice, albeit to the other party. By way of example: a specific realm of the law is in constant development. It is impossible to pinpoint the state of the law in, say, 2020. If the law would offer increasing protection to victims, just mentioned "different approach" would mean that in case of doubt victims would be deprived of the increasing protection until it has become crystal clear that the law has to developed to that effect in a case in point.

In the context of climate change this is a highly relevant issue.[293] First and foremost in relation to claims for damages, not covered by our Principles that focus on prevention; see section 8. It can also play a role in case of injunctive relief as the Urgenda case[294] illustrates. This case and similar cases in other countries are about the reductions of GHG gas emissions the State had to achieve before the end of 2020, i.e. in a series of previous years.

This means that enterprises and others whose obligations are covered by this update would be best advised to inquire the state of the law, which is necessary anyway to comply with their obligations.[295] If they would become targets of future litigation it may – and often will – be in their best interest to explain on what basis they believed and reasonably could have believed that the state of the law in, say, 2020 was X. In that respect it is both a blessing and a curse to them that ""climate law … is "hot law" ever evolving, making it difficult to ascertain the law at any particular time".[296] If they could reasonably have believed so, they should escape the consequences of the development of the law between, in our example, 2020 and the time of the judgment in, say, 2025, assuming that there were no noticeable developments between 2020 and 2025.[297]

This also affects the obligations of insurers, reinsurers, accountants, credit rating agents and attorneys (Principles 45 to 48). They cannot but act on the basis of "the state of the art" and should not be held liable if they did if subsequent developments changed "the state of the art."[298]

293 See extensively Brian J. Preston, Climate Conscious lawyering, to be published in the Australian Law Journal.

294 Hoge Raad 20 December 2019, ECLI:NL:HR:2019:2007.

295 That may be quite a challenge for multinational corporations seeing the vast amount of climate cases and climate laws; see Preston, Climate Conscious Lawyering, o.c. section I.

296 Preston, Conscious Lawyering, o.c. section II, also for further elaboration. Preston contends – and we second that view – "lawyers cannot give unqualified advice in binary terms, that an action is lawful or not lawful" (also section II).

297 See about this issue Jaap Spier, Mistake of Law and Sustainability, in Ernst Karner et al. (eds), Essays in Honour of Helmut Koziol p. 153 ff.

298 See, in the case of medical malpractice, Hoge Raad 19 June 2020, ECLI:NL:HR:2020:1082.

23 Not one size fits all

It belabours the obvious that not all enterprises can be lumped together. Enterprises differ in many respects: some manufacture or provide vital products or services, others non-luxury and others again luxury products and services. Some enterprises are based in a least developed or a bottom-end developing country, others in high end developed countries. Some enterprises have already taken many measures to cope with climate change, others are still leaning backwards.

To the extent reasonably possible we have tried to categorise the main features. These Principles aim to offer a map of fair and balanced obligations.[299] Particularly in the grey zone between the different categories our blueprint may lead to slightly unbalanced results. The Principles have to be read and applied with common sense. At the end of the day the fight against climate change should not become a bloodshed.

Fairness and equitable results matter, of course. The difficulty lies in the abstract notion of fairness. It may have a lot in common around the globe, if one tries to tailor it to a case in point agreement may vanish into the air.

Climate change is the greatest challenge humankind has ever faced. It requires reconciling hugely diverging interests: inter- and intra-generational. The only workable way to stem the tide and to serve the common good is to avoid passing fatal thresholds. That requires a workable formula.[300] If one would need to tailor obligations to any specific set of circumstances there is no hope to avert the threat posed by climate change, if not for other reasons because no enterprise would have a clue which action it has to take. Hence, the better solution is working with broad and general categories based on the most important differences.[301] That is what this update provides. The proof of the pudding will be in the eating.

299 The UN Environment, Environmental Rule of Law, First global report, emphasises the need for "fair, clear and implementable laws", http://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/27279/Environmental_rule_of_law.pdf?sequence=1&isAllowed=y p. 20. That is what we also aim at.

300 Thus we are not suggesting that it is unimportant to explore key features that can or could meaningfully contribute to such formula. The World Resources Institute has mapped a series of such factors: Visualizing Climate Equity: The CAIT Equity Explorer, https://wriorg.s3.amazonaws.com/s3fs-public/Visualizing_Climate_Equity_The_CAIT_Equity_Explorer_0.pdf in particular p. 9 ff.

301 See about such exercises in the context of the (negotiations about) the Paris Agreement Christina Voigt and Felipe Ferreira, Differentiation in the Paris Agreement, Climate Law 6 (2016) 58-74, also available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2827633.

24 Not all or nothing

We hope that our update will gain wide-spread acceptance. More likely than not some Principles will gain more acclaim than others. If only part of the Principles appeals to prospective users (judges, accountants, rating agencies and attorneys included) a lot would be gained if they would be willing to comply with the Principles they feel comfortable with.

25 No bullet proof interpretation

The commentary to the EP emphasises that the lack of *pertinent* international instruments, legislation and case law implies that it is impossible to provide a fully unambiguous, bullet proof blueprint of the obligations of enterprises and investors. Time will tell how the law will develop. More likely than not, courts will be influenced by the state of climate science and the adverse consequences of climate change at the time they render their judgments. It is not far-fetched to assume that they will rule (or implicitly assume) that these developments should be, or should have been anticipated. After all, current climate science points to a sufficiently realistic possibility that the future will be grim. Judges do not need to be brilliant scientists to understand that it is extremely likely, if not a certainty, that the natural catastrophes that scourge ever more countries and other evils caused by climate change will worsen. That unfortunate state of affairs has to be avoided within the constraints of what is reasonably possible.

We do realise that our blueprint is not perfect.[302] It lumps many enterprises, which find themselves in rather different positions, together. Principles 3 and 4 offer some flexibility. We have tried to make a distinction between developed and developing countries in line with the prevailing view that the former must take the lead, in line with inter alia the Paris Agreement[303] and the United Nations Framework Convention on Climate Change.[304] Concepts such as "excessive", "ascertain and take into account", and (compelling) justification also offer room for flexibility. We welcome concrete suggestions for improvement and constructive criticism. They will be given genuine weight in case of a further update and in the "promotion" of this update.

We acknowledge that the adverse consequences of climate change will be unevenly divided and that many vulnerable countries will be hit much harder than quite a few

302 See also Jaap Spier, Private Law as Crowbar for Coming to Grips with Climate Change in KNIVR 2018, Climate Change: Options and Duties under International Law p. 32 ff.

303 Preamble third recital; art. 2 para 2 and art. 4 para 4. A similar, but much more stringent, distinction was made in the Kyoto Protocol (Annexes 1 and 2).

304 Preamble; art. 3 para 1; art. 4 para 1.

wealthy countries.[305] That matters, of course, in particular in relation to their "right" to some compensation which falls outside the scope of our venture; it is less relevant in relation to the obligations side.

26 Bold interpretation in case of doubt?

The IBA Model Statute contains the following Principle

> "In case of doubt as to the interpretation of any Act or legal instrument, the Court or tribunal shall prefer the interpretation most favourable to protecting the environment from any likely adverse effects and adverse effects of climate change."[306]

Similar provisions appear in other drafts or soft law instruments.[307] We have considered to incorporate a similar principle, but have decided not to do so. Quite a few of our principles are on the edge of the state of the law. It seems preferable to leave it to courts to decide cases on their merits. Incorporating this principle would include the precautionary principle through the backdoor. Such a general rule would be a bridge too far, as explained before in section 22.8.

27 Gap filling obligations[308]

In the near future, it is not to be expected that all – and perhaps even most – countries and enterprises will comply with their reduction obligations under the OP and this update. That creates the problem of dealing with the reductions that have not been achieved.

305 Glenn Althor, James E.M. Watson and Richard A. Fuller, Global mismatch between greenhouse gas emissions and the burden of climate change, https://www.nature.com/articles/srep20281.pdf.

306 Article 2.3.

307 F.i. Principle 5 of the IUCN Declaration quoted in section 28.

308 Part of the text below is borrowed from the commentary to the EP p. 135 ff. See also Spier, Private law as crowbar, o.c. p. 68/9.

How does it work?

In the OP, as amended in Principle 2.2, the reductions to be achieved in a specific base period depend, *inter alia*,[309] on the achievements in the previous period which determine the carbon budget for the relevant base period. If a major country (X)[310] does not meet its reduction obligations by z ton in base period 1, z will be added to the reductions that have to be achieved *globally* in base period 2, because it lowers the global carbon budget.[311] Ideally speaking, X will assume responsibility for z added with 8% (Principle 14.1 (d)) in the subsequent base period (2), but in most instances it is unrealistic to assume that X will honour this obligation. The only *practical* way to achieve the aggregate reductions, globally required, for base period 2 is to redistribute z among all countries and by the same token enterprises that have reduction obligations under Principle 2.1.1 and 5.1 read in conjunction as the case may be. For practical purposes that means that part of z will be added to the reduction obligations of complying countries and enterprises; see Principle 2.2.1 (g). Most BPQ countries will not directly be affected by the gap filling obligation. After all, all BPQ countries have to do is to comply with their NDCs. In the somewhat longer term only the lowest end BPQ countries will escape the consequences of gap filling. At some stage the other (formerly) BPQ countries will become APQ countries; they will become an APQ country at an earlier stage than would have been the case otherwise. As an APQ country they will feel the consequences of the carbon budget that is depleted at greater pace than in a scenario that all countries would comply with their obligations.

Our formula implies a certain amount of double counting if, in our example, X keeps its non-achieved reduction obligation added with 8% and also has to assume part of its own non-fulfilled reductions. That may be unfair to X, the alternative would create extremely difficult calculations to all others, including complying entities. It would be an unreasonable burden for complying entities to be compelled to make terribly complicated calculations due to non-compliers.

Our approach is in line with art. 3 para 1 of the Kyoto Protocol which emphasises that the Parties "shall, *individually and jointly*, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of greenhouse gases … do not exceed their assigned amounts". Art. 2.1 of the Paris Agreement speaks of "the global response to the threat of climate change". According to Winkler article 4.1 PA "links the global temperature goal … with specific mitigation goals, to be achieved by parties collectively".[312] Although these legal instruments do not explicitly refer to a carbon budget, it is obvious that they garnish on

309 Other factors such as the most recent insights offered by climate change science play a role.

310 X is a shorthand for *many* countries and enterprises.

311 That is not entirely true. The measures mentioned in Principles 9 to10, if properly implemented, should reduce global emissions. Hence, they would to some extent "offset" the shortcomings of countries and enterprises to meet their primary reduction obligation.

312 The Paris Agreement on Climate Change, o.c. p. 144.

it; see art. 2.1 (a) PA: "Holding the increase in the global average temperature to well below 2C above pre-industrial levels …." That cannot be achieved without calculating a carbon budget.

Overly demanding?

Critics of this stance may argue that this approach is unfair or unbalanced. After all, it implies that the burden of shortcomings of specific players – in the short term a great many – have to be shouldered in part by compliers. The factual basis of this allegation is undeniably true. It is also true that it is unfair to expect that compliers step in where others violate their obligations. That, however, does not mean that our solution is mistaken. International politics – and to some extent "the law" – is unavoidably unfair. Over the centuries there have been many atrocities (crimes against humanity): wars, slavery, colonization and so on. The present-day world is not any different. Unjustified wars, massive destruction of (parts of) countries, over-fishing, logging of tropical forests, excessive emissions from massive coal-fired power plants and so on still happen, unfortunately not incidentally. In a few instances the law offers effective solutions by means of enforceable judgments by courts and tribunals. More often than not such remedies are absent. Quite often ruined countries are left with the mess created by other powers who deemed it fit to do so for their own (alleged) benefit. That is a sad reality.

This means that fairness and equity are not necessarily features of the political reality. That is not any different in relation to the issue in point, if not for other reasons because keeping climate change below fatal thresholds is so important that fairness to some extent has to be sacrificed on the altar of the common good. If all compliers (States and enterprises) would join forces they would be in a position to pressurise non-compliers to do a (much) better job. It also is a political reality that they prefer not to do so. That makes it all the less obvious that they can lean backwards to solve a global problem that they do not really want to solve. Quite often the law develops along the same lines. Judges do not live in ivory towers.[313] They are part of society and are keen to render fair, equitable and relevant judgments. That means that they cannot detach themselves from the political reality. That reality colours what needs to be done, which, in turn, determines shaping obligations to achieve that result. In our increasingly politicised world, which creates quite a few challenges to politicians, court cannot avoid to step in. For practical purposes and within the flexible boundaries of the law they can do what (many) politicians would have loved to do but cannot; more. For instance because there is no political backing. In the case in point that

313 We admit that does not mean they act accordingly, some (many?) judges feel obliged to render judgements contrary to their beliefs and preferences in light of their convictions on how the law should be administered. The Juliana case may serve as an example, see Kelsey Cascadia Rose Juliana et al v. The United States of America et al., http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2020/20200117_docket-18-36082_opinion.pdf.

means: creating gap filling obligations. Judges can prefer to hide themselves behind legal niceties, but that would only increase the gap filling burden of others. See for elaboration section 28.

In spite of quite a few positive developments – increasing awareness of the looming threats, the increasing willingness to achieve reductions, not to mention the increasingly bold pledges made in the international arena, cast in ever more alarming language – it would be a miracle if global GHG emissions are going to be curbed to keep the rise of global temperature (well) below 2°C, let alone below 1.5°C.[314] The NDCs in the context of the Paris Agreement are telling. Hence, it will be increasingly difficult and, at some stage in the foreseeable future, (close to) impossible for the complying countries and enterprises to fill the gap left by non-compliers by emission *reductions*.

Hence, there may be limits to the gap-filling obligation of some, and at some stage arguably of all compliers (the compliance burden depends, inter alia, on what can practically be achieved and at which cost). At some stage it is quite possible that the continuing GHG emissions by many non-compliers can only be offset by negative emissions. At that stage it is not unlikely that negative emissions are impossible to achieve on a large scale or that they are excessively expensive. If that would be the case that would pose limits to the gap-filling obligation. In such a scenario filling the gap to the extent reasonably feasible will still be immensely useful as it would minimise the degree to which the threshold will be passed. What is "avoidable" and what can still be regarded as "reasonably possible" depends on an assessment of the relevant facts in point.

"Secondary obligation"

To fill the gaps left by non-compliers is an obligation of complying countries and enterprises that does not supersede the initial obligations which were not complied with. In other words, the emission reduction obligation remains an obligation of the non-complying entity. The gap filling obligation is a secondary obligation placed on complying entities. This does not mean, of course, that free-riding should be rewarded. First, the law of unjust enrichment may pave the way, but materialising this realm of the law will not be a walk-over. Secondly, the reduction obligations not met coupled with the 8% mentioned in Principle 14 para 1 (d) will be added to the future obligations of the countries and enterprises in default. If, at some stage, only non-compliers will emit GHGs and all other emissions will belong to the past the non-compliers cannot stick to reducing their emissions to zero. They have to "compensate" for the earlier shortcomings. Concretely: they have to effectuate negative emissions to offset these shortcomings to the maximum extent possible, irrespective of the costs. In the most optimistic scenario that could imply that climate change could

314 See section 7.

be kept below 1.75°C or even lower because it takes some time before GHGs emitted into the atmosphere get their full effect.

Enforceable?
It can only be hoped that these obligations will be(come) enforceable and that Principle 20 (appropriate trade consequences against non-complying States) advocated by Oslo Principles[315] will be effectuated, if required. At the end of the day, these problems will have to be solved in the political arena.

28 The law as a living instrument

> "… it is impossible to resist an idea whose time has come".[316]

The Commentary to the EP pointed to a universal truth: over the centuries courts have tried to keep pace with the demands of society.[317] Distinguished members of the judiciary have made the same point. Brian Preston notes that

> "[a]s societal views and norms evolve, our understanding of existing legal rights and responsibilities similarly must evolve. … Cases and arguments that are first viewed as tenuous may be reassessed, adapted and reformulated by future litigants. … As our understanding of climate change and its place in traditional legal doctrines continues to shift, the many cases now being brought to hold corporations to account for their contributions to climate change may provide a different result."[318]

Laurent Fabius, the President of the French Constitutional Council (the highest court of the country), put it as follows: "we must rise to the key challenges of our time, or risk being destroyed by them".[319] Further down he observes that "the question [about contemporary challenges] put to us dimensions which, by their very nature, cannot be adequately

315 Oslo Principles on Global Climate Obligations, eleven international publishing 2015 also available at www.climateprinciplesforenterprises.org.

316 Victor Hugo, quoted by John Knox, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, https://undocs.org/A/HRC/37/59 p. 6.

317 P. 66. See in the common law context Smith v Fonterra Co-Operative Group Limited, [2020] NZHC 419 (6 March 2020), https://www.courtsofnz.govt.nz/assets/cases/Smith-v-Fonterra-Co-operative-Group.pdf under 101 and 102. See also Supreme Court of Canada, Nevsun Resources v. Gise Yebeyo Araya, o.c.

318 Preston, the Impact, o.c. p 52.

319 Speech on January 25, 2019 at the European Court of Human Rights, https://www.echr.coe.int/Documents/Speech_20190125_Fabius_JY_ENG.pdf.

addressed by strictly national responses". Naturally, he realises that the "construction of environmental justice" by courts will generate increasing "attacks on the highest courts". He hits the mark saying that "those who wish to destroy the rule of law have understood that if their brutalism is to prevail, they must attack these institutions and the judges whose task it is to protect the rule of law".[320] It clearly follows from his analysis and the analysis of many other distinguished experts, that "the rule of law" encompasses, or at least allows, bold interpretation to protect basic values of society and society itself.

Guido Raimondi, the then President of the European Court of Human Rights, put it as follows:

> "[t]throughout this sixty years period [of its existence], the Court[321] has interpreted the Convention dynamically in the light of living conditions, which have evolved considerably. Europe in the 1950s and the world we now live in are very different places. Our ways of life and moral standards are no longer the same."[322]

In the context of environmental courts, Brian Preston contends:

> "In the climate change context, courts have moved beyond their primary function of resolving disputes between private individuals and are now being used by public interest litigants as vehicles for achieving social change."

320 A similar point is made by Brian Preston, The End of Enlighted Environmental Law, o.c. The President of the Supreme Court of England and Wales, Lord Reed, emphasised that judges are not after "grabbing" political power from parliaments, The Guardian, Supreme court chief denies judges trying to 'grab' power from parliament, https://www.theguardian.com/law/2020/mar/04/supreme-court-chief-denies-judges-trying-to-grab-power-from-parliament.

321 This seemingly includes the former Commission. See for the role courts could play: Christina Voigt and Zen Makuch (eds), Courts and the Environment.

322 Opening speech on January 25, 2019 at the European Court of Human Rights, https://www.echr.coe.int/Documents/Speech_20190125_Raimondi_JY_ENG.pdf. The Tunis Declaration, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjM95qC8szqAhWJKewKHctUAhEQFjAAegQIBBAB&url=https%3A%2F%2Fwww.icj.org%2Ficj-congress-2019-the-tunis-declaration-video%2F&usg=AOvVaw3-fXL1CjcNVJA2d78kB0m8, puts it as follows: "the Rule of Law is …. necessarily a normative concept, consisting of principles and correlative standards and subject to progressive development" (under 3); see also Antonio Herman Benjamin, We, the Judges, and the Environment, 29 Pace Envtl. L. Rev. 582 (2012) and Robert Carnwath, Human Rights and the Environment, o.c.: "To me as an environmental lawyer and judge, the crucial point is that we have more than political commitments or even general human rights protections. We have a strong legal framework, with clear and enforceable precise targets based not on independent expert advice. We need to direct all our efforts to achieving comparable legal regimes across the globe" (p. 14). See also Jaap Spier, Mistake of Law and Sustainability, in Ernst Karner et al. (eds), Essays in Honour of Helmut Koziol p. 163 and 164.

Further down he speaks of "development of innovative remedies and holistic solutions to environmental problems."[323]

The European Union Forum of Judges for the Environment (the preposition "for" is telling) issued a Declaration on Environmental Responsibility.[324] The following parts underscore the above:

> "1. Legal liability is based on moral responsibility. As members of European nations, as well as citizens of the Globe, we feel reasonable responsibility for our environment, for safeguarding the constituent elements of nature: our natural capital. We have recognized that – especially in developed countries – the methods of production and consumption are no more sustainable. …
> 2. Therefore, environmental protection has become inseparable from regulating the economy and defining the principles of social justice, as well as justice between societies. Additionally, it is our responsibility to pass Earth on to future generations at least in a state we received it from our ancestors…
> 3. We acknowledge and aim at ensuring each generation's equal right to an appropriate quality of life, including preservation of and discharging all duties relating to our natural heritage.
> 4. …
> 5. As nature protection, ecology, environmental protection, … energy efficiency, the use of renewable resources, … are getting more and more interwoven – in accordance with the principle of integrating environmental protection into other policies –, it is necessary that professionals, including judges, acquire an ecological, environmentally conscious approach: they should realize that no static balance can be achieved between factors having influence over the environment. …
> 6. Our aim is to promote harmony: harmony with nature's capacities and harmony between nations; enhancing justice in society so that its members could live in harmony with one another and with the environment.
> 7. Considering the international, as well as European results achieved so far in the field of environmental responsibility, the task of legal systems is to provide legal protection for people suffering from environmental pollution and/or exposed to environmental load, thus defending the right to life and human dignity. ….

323 Brian J. Preston, Characteristics of Successful Environmental Courts and Tribunals (2014) 26 Journal of Environmental Law 365, 387, 388. respectively p. 31 and 32.

324 https://www.eufje.org/images/docConf/bud2014/Declaration_environmental_responsibility.pdf.

> 8. Legislators and legal practitioners play an important role in fostering sustainable development, … in the enforcement of environmental responsibility.
> II. Principal considerations
> 1. Signatories to the Declaration acknowledge that sustainable society necessitates social justice. The latter is based on … common bearing of social burdens. Further requirements for a sustainable and just society are the preservation and improvement of environmental quality and quality of life, as well as the sustainable use of natural resources…..
> 2. Signatories to the Declaration consider the protection and representation "of the biosphere and of goods without market value their pre-eminent task…."

It should be borne in mind that the declaration is not specifically about climate change, whereas certainly not all climate change cases will be decided by environmental judges.

A declaration by the IUCN on the Environmental Rule of Law[325] breathes the same spirit which is all the more important because it is (almost) literally taken over from a Declaration adopted by top judges at a gathering in Rio de Janeiro. For our purpose the following parts are relevant:

> "Foundations of the Environmental Rule of Law
> The environmental rule of law is understood as the legal framework of procedural and substantive rights and obligations that incorporates the principles of ecologically sustainable development in the rule of law. Strengthening the environmental rule of law is the key to the protection, conservation, and restoration of environmental integrity. Without it, environmental governance and the enforcement of rights and obligations may be arbitrary, subjective, and unpredictable.
> The environmental rule of law is premised on key governance elements including, but not limited to:
> a. Development, enactment, and implementation of clear, strict, enforceable, and effective laws, regulations, and policies that are efficiently administered through fair and inclusive processes to achieve the highest standards of environmental quality;
> b. Respect for human rights, including the right to a safe, clean, healthy, and sustainable environment;

325 https://www.iucn.org/sites/dev/files/content/documents/english_world_declaration_on_the_environmental_rule_of_law_final.pdf.

c. Measures to ensure effective compliance with laws, regulations, and policies, including … civil, and administrative enforcement, … effective accountability ….

II. General and Emerging Substantive Principles for Promoting and Achieving Environmental Justice through the Environmental Rule of Law

Principle 1 Obligation to Protect Nature

Each State, public or private entity … has the obligation to care for and promote the well-being of nature, regardless of its worth to humans, and to place limits on its use and exploitation.

Principle 2 Right to Nature and Rights of Nature

Each human and other living being has a right to the conservation, protection, and restoration of the health and integrity of ecosystems….

Principle 3 Right to Environment.

Each human, present and future, has the right to a safe, clean, healthy, and sustainable environment.

Principle 4 Ecological Sustainability and Resilience

Legal and other measures shall be taken to protect and restore ecosystem integrity and to sustain and enhance the resilience of social-ecological systems. In the drafting of policies ... and in decision-making, the maintenance of a healthy biosphere for nature and humanity should be a primary consideration.

Principle 5 In Dubio Pro Natura

In cases of doubt, all matters before courts… shall be resolved in a way most likely to favour the protection and conservation of the environment, with preference to be given to alternatives that are least harmful to the environment. Actions shall not be undertaken when their potential adverse impacts on the environment are disproportionate or excessive in relation to the benefits derived therefrom.

Principle 6 …

Principle 7 Intra-generational Equity

There shall be a fair and equitable sharing of the benefits of nature … There Shall be a fair and equitable sharing of efforts and burdens. Natural resources shall be used and managed in an ecologically sustainable manner.

Principle 8 Intergenerational Equity

The present generation must ensure that the health, diversity, ecological functions, and beauty of the environment are maintained or restored to provide equitable access to the benefits of the environment by each successive generation."

The IUCN declaration is not about climate change either, but there is no valid reason why it should not apply to it. Both Declarations are rather abstract. As such they are not a legal basis for most of our specific principles, but they *contribute* to a legal basis. They underscore that the top of the judiciary realises that leaning backwards is not an option for society, nor for them. Most, if not all, of our principles are in the same spirit as the declarations, albeit less flowery. These and similar declarations and speeches suggest that it could be a costly mistake to bet on judicial restraint.

Although its importance should not be overestimated, the conclusion of a mock trial in 2011 against CEOs of "fictional fossil fuel companies", two of whom were found "guilty" of "extensive destruction, damage to or loss of ecosystem(s) to such an extent that the peaceful enjoyment by the inhabitants of that territory, and other territories, has been severely diminished",[326] seems to point to a change in the mindset of society. Precisely because courts aim to keep pace with the changing demands and views of society, this kind of exercise could carry weight, also depending on the people involved. If they are – rightly or wrongly – perceived as zealous activists their views may be ignored for the time being. The "label" of "zealous activists", however, is not cast in stone. Both progressive and "conservative" stances of the past would probably be judged very differently present-day.

Even if some of our interpretations of the law as it stands or will likely develop are mistaken right now, that may well be very different in the near future. We very much agree with the view of Kotzé and du Plessis that human rights (and we add, the law in general) "have the ability to 'invoke a sense of profundity and moral weight that comports with the enormity and gravity of the climate change problem.'"[327] Enterprises and their boards of directors would be best served to realise this inconvenient truth, and, more importantly, to act accordingly.

Back to Fabius: his point can also be flipped. The increasing criticism might also fuel caution in delivering bold judgments.[328] Preston contends that:

> "One possible explanation … is that judges … risk bending in the direction of the prevailing political wind. The criticisms of the elites and their ideas do not stop at the doors of the courthouse. Judges are subject to the slings and arrows of outraged governments, media and citizenry. It takes courage to act in the

326 The Guardian, Test trial convicts fossil fuel bosses of 'ecocide', https://www.theguardian.com/environment/damian-carrington-blog/2011/sep/29/ecocide-oil-criminal-court.

327 Louis J. Kotzé and Anél du Plessis, Putting Africa on the Stand: A Bird's Eye View of Climate Change Litigation on the Continent, https://core.ac.uk/download/pdf/227471221.pdf, p. 9.

328 See in extenso Brian J. Preston, Environmental Law and Populism, o.c. The End of Enlighted Environmental Law, Journal of Environmental Law, 2019, 399-411 also cited in Cameron Diver, Three jurisdictions, three judgements: the increasing value of environmental litigation and judicial practice in strengthening the environmental rule of law, (2020) Journal of Energy & Natural Resources Law 1, available online at https://doi.org/10.1080/02646811.2020.1750220.

> face of fire, to make unpopular decisions that will result in public denunciation of the decision and the decision-maker."[329]

In Preston's view "[t]he environmental rule of law is in a worse state now than it has been for decades."[330]

In the most realistic scenarios the remaining carbon budget will be depleted in the coming 10 to 15 years.[331] That means that by 2030, if not earlier, keeping global warming below 2°C will require draconian measures which will inevitably significantly jeopardise the living standard of many people. At that stage all kind of luxury and perhaps also more daily products and services may need to be phased out swiftly, unless countervailing measures are going to be taken. It is in the clouds whether courts are willing to issue judgments to that effect and how they will balance the short, medium and long term impact of a reluctant or a bold stance.[332] We should not waste our time on speculations and gloominess. It is high noon, but the window of time is still open, albeit barely.

29 Role of courts[333]

It cannot be reiterated enough: the window of time is closing very soon. By then only extremely inconvenient options are available; see Principle 2.1.1 under reality check.

Many – NGOs, countries or parts thereof such as States and municipalities – vest their hope on the judiciary by submitting cases of all kind. Many of them try to be as creative as possible by introducing untested legal features and courageous writs. It follows from

329 The End of Enlighted Environmental Law, p. 408.

330 Idem p. 409. Further down he signals some reasons for hope. Also referred to in forthcoming Journal of Energy & Natural Resources Law article 2020.

331 The preface to the Global Risks Report 2020, o.c., puts it as follows: "the window for action is still open, if not for much longer" (p. 5). See extensively section 7.

332 Arguably, the majority opinion in the Juliana case (Kelsey Cascadia Rose Juliana et al. v. The United States of America et al.) forebodes this trend. The US Court of Appeals for the Ninth Circuit acknowledges that "failure to change existing policy may hasten an environmental apocalypse". Yet, Justice Hurwitz, joined by Justice Murguia, "reluctantly" concludes that the relief sought is beyond the Court's constitutional power. Judge Staton issued a very strong dissenting opinion. He summarises the defence of the United States thus: "it has the absolute and unreviewable power to destroy the Nation" (and, we add, the globe).

333 See in particular Christina Voigt and Zen Makuch (eds), Courts and the Environment, with contributions by authors from around the globe.

the speeches of top judges,[334] declarations issued by senior members of the judiciary[335] and a series of judgments discussed throughout this commentary that many courts feel obliged to step in to deliver what they perceive as responsible judgments; see in particular section 28.

Quite a few cases ended up in judgments which came as a surprise to many. Certainly not all cases are successful. Even if they founder they may have an impact in that they contribute to a change of mindset and bring (some) defendants to believe that the tide is turning. In addition, they inspire others to explore potentially viable options for litigation against a host of defendants before courts in ever more countries.

Litigation is very important and useful.[336] Next to action by investors, piecemeal legislation, impact assessments, disclosure (though a procedural gimmick), using litigation as a means of publicity to create awareness of the liability risk[337] and preaching the gospel of the urgent need to embark on far-reaching action is the best hope to keep climate change below fatal thresholds. Like any other contribution, except meaningful and enforceable international instruments, they are not *the* panacea.

Courts have to wait for the right cases (many potentially promising cases are not submitted), litigation takes time, favourable judgments may not be enforceable[338] and not all courts will take up the gauntlet. Hence, even if courts around the globe would be willing and in a position to issue the necessary judgments, the available time will be too short to effectuate the by then necessary measures.

That, unfortunately, is also the fate of this update if the corporate community prefers to neglect its obligations and most States would continue to emit more GHGs than "allowed"

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334 See section 28 and also Michael D. Wilson, Climate Change and the Judge as Water Trustee, 2018 48 ELR 1023; Atisha Sisodiya, The Role of Indian Judiciary in Protection of Environment in India, Academike, 2015, www.lawctopus.com/ academike/role-indian-judiciary-protection-environment-india/; Antonio Herman Benjamin, We, the Judges, and the Environment, Pace Environmental Law Review, Vol. 29, Issue 2, Winter 2012, p. 582 ff; Gitanjali Nain Gill, Environmental Justice in India, and about that book Michael Handtke in Transnational Environmental Law, Vol. 6, Issue 3, November 2017, p. 557 ff and Gabriel Wedy, Climate Legislation and Litigation in Brazil, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3052226.

335 See next to the declarations mentioned in section 28 f.i. the Johannesburg Principles on the Role of Law and Sustainable Development, https://www.eufje.org/images/DocDivers/Johannesburg%20Principles.pdf.

336 This is also emphasised by UN Environment, The Status of Climate Change Litigation: A Global Review, http://wedocs.unep.org/bitstream/handle/20.500.11822/20767/climate-change-litigation.pdf?sequence=1&isAllowed=y p. 7-9.

337 See f.i. Laura Burgers, Should Judges Make Climate Change Law, https://doi.org/10.1017/S2047102519000360: "Litigation is … a strong means for stirring societal debate. Even before a judgment is rendered, the publicity surrounding a lawsuit forces society to think about responsibility for the dangers of climate change. The debate can convince people of the new legal position and thus draw climate issues further out of the political domain."

338 That goes in particular for judgments issued by international courts and tribunals, which does not make them pointless. To the contrary: they underscore the view that those ignoring the reality and the need for swift and bold action will feel the sword of the law somewhere in the future. Worse: they, too, will become victims of climate change.

by Principle 2.2.1.. Even in that doom scenario – it would be against the odds to expect anything better – any contribution to the global challenge cannot but be applauded: keeping global warming below 3°C is preferable compared to 4°C and so on. That is a glimmer of hope for those working 24/7 to stem the tide.

Our Principles and the update do not take a stance on *specific* cases (although most members will have views on the same),[339] which leaves untouched that they can serve as a recipe for litigation. The stakes are so high and the time left so short that we dare say that we, too, have arrived at the conclusion that litigation is an unavoidable and necessary means to our goal to avoid global devastation.[340]

However, litigation is not a walk-over. Plaintiffs have to overcome various hurdles.[341] The political issue probably is the pre-eminent challenge. Lord Sumption, quoted by Lord Carnwath, put it nicely as follows:

> "Human Rights are where law and politics meet: it can be an unfriendly meeting."[342]

The defence can be – and is – invoked in litigation ranging from impact assessments, claims for declaratory judgments, injunctive relief and damages. The argument is embraced by some and rejected by other courts. It is an emerging line of thought, though not overly spectacular, that it cannot be successfully invoked if the defendant does not operate within the boundaries of the law which is enacted and has to be respected by the political branch. As the Dutch Supreme Court put it in the Urgenda judgment:

> "in the Dutch constitutional system of decision-making on the reduction of greenhouse gas emissions is a power of the government and parliament. They have a large degree of discretion to make the political considerations that are

339 Justice Preston was involved in ground-breaking cases.

340 See for recent developments inter alia Daniel Metzger and Hillary Aidun, http://blogs.law.columbia.edu/climatechange/2020/03/12/major-developments-in-international-climate-litigation-in-early-2020/?utm_source=Climate+Case+Chart&utm_campaign=e4613ba0e2-EMAIL_CAMPAIGN_2020_04_05_07_21&utm_medium=email&utm_term=0_a721b41b2d-e4613ba0e2-109024685&mc_cid=e4613ba0e2&mc_eid=4908f9cf7b. Five UN human rights treaty bodies "welcome that national judiciary .. are increasingly engaged in ensuring that States comply with their duties under existing human rights instruments to combat climate change" https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998&LangID=E introduction under 7. Others are very critical about the role of courts; see f.i. Lucas Bergkamp and Jaap C. Hanekamp, Climate Change Litigation against States: The Perils of Court-Made Climate Policies, European Energy and Environmental Law Review October 2015 p. 102 ff.

341 See for an in-depth analysis of the challenges for courts Brian Preston, Paul Martin and Amanda Kennedy, o.c. p. 49 ff. They temper the expectations and call for "more attention … to improvement of the meta-governance system within which the judiciary operates" (p. 58).

342 Lord Carnwath, Human Rights and the Environment, 2019, https://www.supremecourt.uk/docs/speech-190620.pdf.

> necessary in this regard. It is up to the courts to decide whether, in availing themselves of this discretion, the government and parliament have remained within the limits of the law by which they are bound."[343]

A similar point is made by the Superior Court of Quebec:

> "[72] It must be emphasized that it is not the courts that impose the supremacy of the Canadian Charter on the federal government, but rather the Canadian legislature which gave priority to fundamental rights by enacting the Charter as an integral part of the Constitution and applying it, inter alia, to the Parliament and government of Canada."[344]

The Quebec court adds, quoting Dickson CJ in Operation Dismantle:

> " … if the Court were simply being asked to express its opinion on the wisdom of the executive's exercise of its defence powers in this case, the Court would have to decline. …", adding
> [58] Indeed, courts should not decline to adjudicate when the subject matter of the dispute remains within the limits of what is proper to them only "because of its political context or implications" and
> "…. Courts cannot evade the exercise of judicial review only because the issue is complex or controversial or because "it is laden with social values."[345]

In a case initiated by Friends of the Irish Environment, challenging a plan of the government that "is not calculated to achieve substantial emission reductions or various targets in the short to medium term"[346] the High Court ruled:

> "91. If and when a court decides that a matter is justiciable, when considering the nature of any order to be made, respect for the separation of powers dictates that great care ought to be exercised in the framing of any such order, whether it be a declaration, a suspended declaration or an order quashing a measure

343 Hoge Raad 20 December 2019, ECLI:NL:HR:2019:2007 legal ground 8.3.2.

344 *Environnement Jeunesse v Attorney General of Canada* (QCCS, 500-06, 26 November 2018). https://enjeu.qc.ca/wp-content/uploads/2019/07/190711_Jugement_GaryDDMorrison.pdf and for the unofficial English translation http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/non-us-case-documents/2019/20190711_500-06-000955-183_decision-1.pdf.

345 Under 70. The claim is finally dismissed on procedural grounds.

346 High Court of Ireland, [2019] IEHC 747, http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/non-us-case-documents/2019/20190919_2017-No.-793-JR_judgment-1.pdf under 85.

> requiring the taking of certain action. There may be circumstances in which a court may make a mandatory order against an organ of State, but only when there is a *clear disregard* by the State for its constitutional obligations. … Disregard means a conscious and deliberate decision by the organ of the State to act in breach of its constitutional obligations to other parties.
> 92. I must accept that a consequence of the separation of powers doctrine is that the court should avoid interfering with the exercise of discretion by the legislature or executive when its aim is the pursuit of policy. Courts are and should be reluctant to review decisions involving utilitarian calculations of social, economic and political preference, the latter being identifiable by the fact that they are not capable of being impugned by objective criteria that a court could apply" (emphasis added).

That is fatal to the claim because it "cannot be said that the Plan does not contain a proposal to achieve the national transition by 2050".[347] The judgment was quashed by the Supreme Court because the Irish Plan "falls a long way short of the specificity which the statute requires."[348] In the context of whether a right which "cannot be found in express terms in the Constitution" can be "derived" (a word he prefers over an "unenumerated right") Chief Justice Clarke observes that

> "there must be some root of title in the text or structure of the Constitution from which the right in question can be derived. It may stem, for example, from a constitutional value such as dignity … It may stem from the democratic nature of the State whose fundamental structures are set out in the Constitution. It may derive from a combination of rights, values and structure. However, it cannot derive simply from judges looking into their hearts and identifying rights which they think should be in the Constitution."[349]
> "8.9 What needs to be guarded against is allowing for a blurring of the separation of powers by permitting issues which are more properly political and policy matters (for the legislature and the executive) to impermissibly drift into the judicial sphere. Where it is possible properly to derive from the Constitution then no such risk arises."

347 Under 113; see also under 116.
348 Friends of the Irish Environment CLG and The Government of Ireland, per Lord Justice Clarke (unapproved version), at 6.46.
349 Idem at 8.6.

Lord Justice Clarke's subtle analysis illustrates that there is a fluid line. Preston put it nicely as follows:

> "But just as time and tide wait for no one, the climate has changed, is changing and will change without waiting for the law to follow. The result is that there is no climate law as such, but rather a collection of laws that regulate these actions and intersections of private and public actors and aspects of causes and consequences of climate change.
> Legal imagination is needed to identify these intersections, whether bold or faint, between the law and the climate."[350]

The political argument-defence is particularly relevant if the defendant is a governmental body. It can also play a role if the defendant is an enterprise or another non-governmental entity. In the latter context the argument is that it is up to governments to determine the obligations of enterprises and others. That argument has some merit if the legislator has enacted pertinent and concrete obligations. In such a setting it is not self-explanatory that defendants would have further reaching obligations, although we strongly believe they do, if obligations crafted by the legislator do not suffice; see Principle 16. In most instances concrete obligations are not available which means that courts have to interpret the – often vague – general obligations offered by "the law". As long as they provide a basis for shaping concrete obligations courts remain within the boundaries of "the law".

30 Climate change and the other sustainability goals

The EP focus on climate change. Keeping global warming well below 2°C – in our update below 1.75°C – is by no means the only sustainability challenge the world faces, as emphasised by inter alia Transforming our world: the 2030 Agenda for Sustainable Development.[351] It is only too clear that our focus does not mean that the other "goals" can be ignored or can be put on hold.

Most of the Sustainable Development Goals (SDGs) predominantly put "obligations"[352] on States. The corporate sector can contribute to achieving quite a few of the goals, in particular 1 (end of poverty), 2 (food security and improvement of nutrition), 5 (gender equality), 6 (availability and sustainable management of water and sanitation), 9 (inclusive and sustainable industrialisation), 12 (sustainable consumption and production patterns),

350 Brian J. Preston, Legal imagination and climate change, Australian Environment Review, 2020, Vol. 35, No 1 p. 2.
351 https://sustainabledevelopment.un.org/post2015/transformingourworld under 52.
352 The SDGs are not binding but formulate ambitions; see under soft law as a legal basis, section 22.9.

13 (climate action) and 16 (protection and restoration of ecosystems, sustainable management of forests and halting land degradation and biodiversity loss).

Taking appropriate measures comes at a cost, even more so if they have to be taken at the same time next to the demanding obligations mapped in this update. We realise that this poses quite a challenge for enterprises. Not all of them will have the financial means to cope with this challenge. As a rule, lack of financial means will not be an excuse to lean backwards, if not for other reasons because doing so will make things worse, which, in turn, implies that even more costly measures will have to be taken in the near future.

We are mindful that there may be tension between some of the goals. F.i., limiting air travel will have an adverse impact on tourism and may jeopardise the tourist industry in poor countries.[353] More sustainable products may go at the expense of economic growth in light of the longevity of the products; a transition to renewable energy comes both at a loss and a gain of jobs, likely more a gain than a loss.[354] At the same time, climate action is expected to reinforce progress to achieve some of the SDGs, particularly for SDG 3 (good health and wellbeing), SDG 7 (affordable and clean energy), SDG 12 (responsible consumption and production) and SDG 14 (conservation of oceans and marine resources).[355]

It goes beyond the scope of these principles to dwell on this important topic. For now, we confine ourselves to emphasising that keeping global warming well below 2°C (below 1.75°C) is so important that it should be given priority. Luckily, combatting climate change will have a positive impact on other SDGs such as biodiversity.[356]

We are not suggesting that we do not care for the adverse consequences or the other SDGs. We do. We fully understand and appreciate that solutions are to be sought to cope with some of the adverse consequences of measures to cope with the risks posed by climate change. In our example about limiting air travel: strategies have to be explored to offer alternative means of income to – at least – poor countries. That largely, if not entirely, is a political issue.

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353 The adverse impact can be limited if and to the extent the airlines are allowed and prepared to take countervailing measures. See for examples, Louis J. Kotzé and Anél du Plessis, Putting Africa on the Stand: A Bird's Eye View of Climate Change Litigation on the Continent, https://core.ac.uk/download/pdf/227471221.pdf, p. 12.

354 Green energy industries tend to be more job-rich than other forms of energy production, Green New Deal Group, Jobs in every constituency, https://greennewdealgroup.org/wp-content/uploads/2018/09/GNDJobsReport9-18.pdf p. 8.

355 Liu Zhenmin, (Under-Secretary General for Economic and Social Affairs, United Nations), United Nations Association UK, Aligning SDG and climate action, 19 June 2019, https://www.sustainablegoals.org.uk/aligning-sdg-and-climate-action/.

356 See for a more cautious approach Resolution adopted by the [UN] General Assembly on 30 August 2019, A/RES/73/333 under second reaffirming.

31 The temporal effect of the update

31.1 Historical emissions before the EP[357]

Both the Oslo Principles and the Enterprises Principles do not pay *specific* attention to historical emissions.[358] That position has been criticised at several conferences. The criticism is understandable in spite of the fact that no pertinent solution was offered.[359]

With the benefit of hindsight, we arguably should have taken the obligations under Annex 1 to the Kyoto Protocol into account. It would be too easy, however, to add these obligations lock stock and barrel to the reductions that have to be achieved under the OP, as they are – at least to some extent – incorporated. After all, to some extent the formula adopted by the OP (and on its heels the EP) does take historical emissions into account. They play a role in the OP (Principle 13): countries have to reduce their emissions to the permissible level "within the shortest time feasible", which the commentary to the EP has interpreted as within one year.[360] The update has changed that approach by opting for base periods of 5 years (Principle 2.2.1 (b)), which leaves untouched what had to be achieved under the EP until this update "takes effect".

In addition, and with a few exceptions, most hugely emitting countries also emitted a lot in the past. That is exactly the reason why they are prosperous, currently emit a great deal and have to reduce their emissions significantly. Last but not least, we could not discern a sufficiently sound legal basis for translating past emissions into a workable formula.[361]

One could argue that emissions had to be reduced from the very moment that the dangers of global warming became known.[362] Even in that scenario, it is not overly clear

357 The following text is almost entirely borrowed from Jaap Spier, Private law as a crowbar, o.c. p. 40 ff. I is converted into we.

358 For elaboration see the Commentary to the EP p. 63 ff.; see also Spitzer and Burtscher, Liability for Climate Change; Challenges and Concepts, JETL 2017 p. 159; Marc Loth, Climate change liability after all, Tilburg Journal on international and comparative law 2016 p. 28 and 29 and Jaap Spier, Private law as crowbar, o.c. p. 40 ff.

359 Farber contends that earlier emissions caused harm, while those concerned "have enjoyed lower costs than they would have incurred by using alternative technologies or by reducing their output. Thus, there is a strong element of unjust enrichment, at least in some situations": Daniel A. Farber, 'Basic Compensation for Victims of Climate Change', 155 University of Pennsylvania Law Review 2006, p. 1641. Leaving aside whether alternative technologies were available, Farber has a point. It will be very difficult, however, to calculate the enrichment. It is also a bit one-sided to focus on the emitters only.

360 The Commentary to the EP p. 61 and 62.

361 The Commentary to the EP p. 63 ff.

362 Recent research (or leakage from internal sources) suggests that at least some enterprises were well aware of the threats of climate change for quite a while; see Center for International Environmental Law (CIEL), A Crack in the Shell: New Documents Expose a Hidden Climate History, http://www.ciel.org/wp-content/uploads/2018/04/A-Crack-in-the-Shell_April-2018.pdf. See about the knowledge in the past Nathaniel

how much major players should have reduced their GHG emissions, based on the knowledge of the time. Could they have predicted the miraculous economic progress in countries such as China? Were technical solutions, such as solar and wind energy, already available and were the GHG emissions of manufacturing that kind of equipment lower than doing without these and other techniques?

Close readers may argue that all they needed to know is that they had to reduce their emissions. They had to understand that courts would tell them sometime in the future whether their achieved reductions were enough. Here we enter a mine field. In our view, courts would be best served to refrain from dealing with past emissions.[363]

It is easy to rewrite history, but it is a very risky game. Until quite recently, too little people cared about climate change. That has changed. At least at the time of the Kyoto Protocol the penny dropped that a lot had to be done.[364] But little *happened*. In spite of ever stronger declarations and moving pledges, most major players knowingly confined themselves to inadequate action. Nobody, countries, enterprises and NGOs alike, cared about making obligations concrete. Even the admirable Paris Agreement, the very best that could have been achieved those days, leaves it to the countries to determine how much they are willing to reduce their emissions, albeit that it provides a valuable framework that countries have to respect.

Deliberate ignorance is not a strong excuse, let alone a justification for inadequate action. The asbestos cases have shown – as explicitly emphasised by e.g. the Dutch Supreme Court – that the mere fact that a specific behaviour is commonly "accepted" does not mean that it is also lawful.[365] The same could be argued in relation to past emissions. We wonder, however, whether such a stance is justified in the context of past emissions. We should be cautious to apply the asbestos-argument in relation to reduction obligations. To us, it matters that developing countries have been increasingly active to urge far-reaching actions of all kinds, but they did *not* try to map the specific legal obligations of developed countries and enterprises in the absence of pertinent international instruments. Seen from a doctrinal legal angle the latter is (a kind of) contributory negligence that, in many legal systems, does not wipe out all obligations of the tortfeasor.[366]

Rich, Losing Earth: The Decade We Almost Stopped Climate Change, https://www.nytimes.com/interactive/2018/08/01/magazine/climate-change-losing-earth.html. Intriguingly Rich poses the question whether it "is a comfort or a curse, the knowledge that we could have avoided all this".

363 See in this context Jaap Spier, Mistake of law, o.c. and Jaap Spier, Liability for climate change losses, o.c. p. 79 ff.

364 See also Daniel A. Farber, The Case for Climate Compensation: Justice for Climate Change Victims in Complex World, 2008(2) Utah Law Review 2008, p. 388 and 389.

365 Hoge Raad 2 October 1998, ECLI:NL:HR:1998:ZC2721.

366 It is up for debate – and will depend on the applicable law in point – whether contributory negligence comes into play to lower the primary obligation of tortfeasors or only plays a role in relation to claims for damages. In addition, it is *at least* questionable whether supposed contributory negligence of, say, a developing country can be a defence against its citizens seeking injunctive relief against, for example, a developed

Since time immemorial there have been many evils and atrocities, and there still are many. The answer has mostly been: let us forget about the past and try to do better. The South African Truth and Reconciliation Commission is a telling example. The shocking indifference of the US and its allies to the colossal and fully unjustified devastation they have caused in e.g. the Middle East, also is an example.[367]

All this being said, both the OP and the EP are quite demanding for (relatively) wealthy countries and enterprises in those countries. If they were to comply with both sets of principles global warming can be kept well below 2°C. If the corporate world would comply with the update we will even head towards 1.75°C.

Courts may take a different position on historical emissions. There is a swiftly emerging trend that they should play a role.[368] In that scenario, one has to figure out which emissions were unlawful. The easiest probably is to look at Annex I to the Kyoto Protocol, although that does not provide a solution for emissions before 2005, the year it entered into force.[369] It could be argued that *enterprises* had to reduce their emissions at the same rate as the country in which they operated, unless there is a sound reason why they had to reduce them at a higher or a lower rate. In this scenario, the plaintiff would have to explain why the defendant enterprise had to reduce its emissions to a higher extent, and the defendant why lower emissions were required. The factors mentioned in EP Principle 3.1 could support the case of the party arguing that more or less was required. Although this view carries weight, we prefer not to touch upon historical emissions for the reasons mentioned above.

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country. Such a case would certainly not fall under the umbrella of contributory negligence mentioned in art. 5:102 PEL Liab. Dam, or art. 8:101 PETL. Lege ferenda, an answer in the affirmative should be given a serious thought; see also Jaap Spier, valedictory lecture at Maastricht University, De lange schaduw van het verleden? Omgaan met historisch onrecht, p. 29 and 30, referring to art. 60 para. 2 of the Draft International Covenant on Environment and Development, Environmental Policy and Law Paper No. 31 Rev. 3 of the International Union for the Conservation of Nature and Natural Resources (IUCN) in cooperation with The International Council on Environmental Law, which reads: "In cases where there are no circumstances precluding wrongfulness, but the State affected suffers the damage due in part to its own negligence, the extent of any redress or the level of any compensation may be reduced to the extent that the damage is caused by the negligence of that State Party." It requires, however, a rather extensive interpretation of this article to sublime shortcomings of a State mentioned in the text under "its own negligence" of its citizens.

367 This is all the more striking in light of the colossal payments Iraq had to make after its invasion of Kuwait: http://www.loc.gov/law/foreign-news/article/united-nations-reparations-paid-for-1990-invasion-of-kuwait.

368 E.g. Peter C. Frumhoff, Richard Heede and Naomi Oreskes, The climate responsibilities of industrial carbon producers, 132(2) Climatic Change 2015, pp. 157-171, https://link.springer.com/content/pdf/10.1007%2Fs10584-015-1472-5.pdf; New Green advocates, Climate-change law suits, https://www.economist.com/news/international/21730881-global-warming-increasingly-being-fought-courtroom-climate-change-lawsuits; seemingly also Hinteregger, o.c. JETL 2017 p. 252 and 253; for a nuanced view see Faure and Nollkaemper, International Liability as an Instrument to Prevent and Compensate for Climate Change, Stanford Environmental Law Journal Vol. 26A, June 2007 p. 171 ff.

369 Annex 1 has been amended on 8 December 2012; the new Annex contains commitments from 1 January 2013 until 31 December 2020. We agree with Faure and Nollkaemper that the Kyoto Protocol is not decisive and that there is no evidence that the parties intended to replace customary law, o.c. p. 152.

31.2 From the EP to this update

Naturally, the EP "applies" in the period between its launch and the first of January after the launch of this update.

There is quite a difference between the EP and this update. Many obligations have been added and others are strengthened. We do not promote application of this update with retroactive effect. Hence, the update has to be applied for the first base period starting on the first of January after the launch of the update at the very latest.

This position causes some tension with the given that judgments tend to have retroactive effect. In the absence of pertinent legislation and case law judges barely have a choice but to assume that "the law" at the time of delivering the judgment is the same as the law at the time of the acts or omissions in point. Concretely: a judge has to decide in 2025 the reduction percentage of enterprise X in 2020. Unless the judge has concrete connection points to the contrary he will likely assume that "the law" as "found" in 2025 was not any different from the law in 2020.

Commentary to the Principles

Use of the previous version of the commentary

We have strived to comment on every principle and the key features of this update. Insofar Principles are left unchanged we have borrowed from the commentary on the previous version of these Principles without further reference. The previous commentary also contains a series of arguments, elaborations and background information to which reference is made in this commentary.

Principle 1

Definitions

Above Permissible Quantum country
The key feature of this definition is the permissible quantum. For its meaning see under Principle 2.2.1 (b).

Activity
Activity is a somewhat amorphous concept. Its meaning is quite clear, but is difficult to define with great precision. In this context it covers a wide spectrum, from advertising by means of illuminated billboards, elevators, canteens, copy-machines, printers, all kinds of services, manufacturing processes such as oil extraction, running internal combustion engines, chemical fertilisers, etcetera.

Base period
Unlike the EP this update is based on obligations to be determined for a period of five years.[370] This allows enterprises to make investments in the medium term while remaining flexible to changes in the longer term.

Perhaps recalculating the budget every five years does not create the certainty enterprises – and many others – would prefer. Many investments need time to realise. Many are based on a life-time of more than five years. There is no solution to that problem. It is not caused by the update, but by the unfortunate given that it is likely that quite a few States and

370 For a similar approach Todd Stern, The Future of the Paris Climate Regime, o.c.

enterprises are going to reduce their emissions at too slow a pace, whereas the impact of climate change may get increasingly grim as time progresses. Next to the increasingly bleak forecasts fuelled by climate science, that will probably mean that the obligations are doomed to be(come) ever more stringent as time passes; see also sections 7 and 27.

Happily, things are not as bad as they may seem. Enterprises do have at least some certainties. First: every reduction counts, the steeper the better. They know that the picture will become grimmer. How much is in the laps of the Gods. That unfortunate given is beyond our control. Last but not least: many investments to the effect of reducing emissions will keep their value, but they will be increasingly insufficient.

Base year

Base year is the first year of the relevant base period.

Below Permissible Quantum country

The key feature of this definition is the permissible quantum. For its meaning see under Principle 2.2.1 (b).

Board

The definition speaks for itself.

Company law may differ around the globe, but more likely than not the phenomenon of directors responsible for controlling and organising the enterprise is commonly accepted and sufficiently clear. If the distinction between executive and non-executive does not exist in a specific legal system the domestic features have to be read instead.

Many enterprises belong to a group of enterprises. For practical purposes the parent company may (try to) influence decisions by (the board of) its subsidiaries. Such pressure may be difficult to resist. This leaves untouched that, at least on paper, the board is in control.

CO2 Equivalent

It is beyond cavil that the international community appreciates the urgent need to stay well below the 2°C threshold. This is the unequivocal message of the Paris Agreement and other international instruments, declarations and pledges. The commentary to the OP explains in quite some detail that countries are under a legal obligation to reduce their GHG emissions.[371] In attributing reduction obligations, the OP formulate a reduction percentage to be achieved in total, not distinguishing between different GHGs such as

371 P. 59 ff.

CO_2, CH_4 and sulphur hexafluoride (SF_6). For these Principles, we take the same stance with a few provisos.

We maintain the approach of the OP to formulate obligations for the emission of all GHGs rather than for the emission of specific GHGs. In the OP, as amended in Principle 2.21 (b), the world's carbon budget is calculated per base period. In order to take into account all GHGs, the carbon budget is to be calculated in CO_2e (CO_2 equivalents), meaning that GHGs other than CO_2, such as CH_4 and N_2O are expressed in accordance with their greater Global Warming Potential (GWP) in relation to CO_2. (Principle 2.2.1 (e)). To this effect the Greenhouse Gas Protocol mentioned in the definition is to be used.[372] For example, the GWP of CH_4 is 28 times that of CO_2 over its lifetime in the atmosphere, according to the AR5 data recorded in the GHG Protocol. That means that 10g of CH_4 equals 280g of CO_2e.

Countervailing measure

The concept of countervailing measure appears in a number of Principles. It aims to offer a solution if an enterprise is unable to effectuate reducing its own emissions or the emissions of its activities, products and services to the extent required. Some enterprises can, based on the available technology, not fully reduce all emissions. F.i. steel and concrete manufacturers. Countervailing measures provide these enterprises with an option to comply with their obligations.

Within the limits offered in the relevant Principles, countervailing measures can be taken to the effect that emissions are reduced or that the emissions are offset. Reducing means the avoidance of emissions entering the atmosphere, f.i. providing technical or financial means to a third party entity for streamlining the production process so it is more efficient, or for new and less emitting machinery. These measures at least temporarily prevent GHG emissions from entering the atmosphere. Offsetting means compensating emitted GHGs, f.i. by afforestation and reforestation or land-management to increase

372 This Protocol is based on IPCC reports: "The following table includes the 100-year time horizon global warming potentials (GWP) relative to CO2. This table is adapted from the IPCC Fifth Assessment Report, 2014 (AR5). The AR5 values are the most recent, but the second assessment report (1995) and fourth assessment report (2007) values are also listed because they are sometimes used for inventory and reporting purposes" (as the Protocol puts it, p. 1): https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf. That is line with art. 5 para 3 of the Kyoto Protocol. See for more information on the global warming potential of methane: The Breakthrough Institute, Methane matters, but doesn't eliminate gains from emissions reductions, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjOxf3fruvqAhXM_qQKHfD6CmcQFjAAegQIBRAB&url=https%3A%2F%2Fthebreakthrough.org%2Fissues%2Fenergy%2Fhowarth-natural-gas&usg=AOvVaw34wWZ5k13thQ3ABO2Mtl7V.

carbon in soils.[373] Emphasis is to be put on reduction because (almost) all GHG emissions must be phased out eventually (likely sooner than later). As a rule reduction has a permanent effect, whereas offsetting only results in capturing a certain amount of GHGs.

Only where achieving one's own reductions is not possible or the additionality and benefit to the climate of the countervailing measures are not contested, should it be an option. Principle 2.1.4 ("significantly higher") is an example of a benefit to the climate. Double counting must be avoided to ensure that the countervailing measures have the necessary impact. A way to avoid double counting could be to establish a public registry of which enterprises have provided which means to which enterprises and which emissions have been avoided in this manner.

The definition emphasises that countervailing measures shall "fully offset" the non-achieved reductions. That may look self-explanatory, but it was not explicitly mentioned in the current EP. Take planting trees.[374] These trees will not absorb GHGs significantly straightaway. The delay in the absorption of GHGs must be compensated. By way of example: the shortcoming amounts to 100; trees are planted to offset this shortcoming. The amount of captured GHGs by the trees has to be 100 plus what is needed to countervail for the delay in full effectuation of the countervailing measures (Principle 14.1 (d)).

Unfortunately, reality is more complicated. It is vital that the countervailing measures achieve the required result. If an enterprise has planted a forest to offset its GHG emissions and the forest is either logged[375] or burnt[376] the emissions are only partially or temporarily offset. When providing either financial or technical means to another enterprise to reduce its emissions, it is uncertain what would have happened if the means were not provided: a bankruptcy, or the enterprise's demand dries up which would mean that the emissions would decrease. That means that calculating the emissions offset by the countervailing measure is quite a challenge.

To counter this uncertainty and to avoid that countervailing measures do not eventuate the required result, we propose as a rule of thumb to limit the number of years that the

373 See European Academies, Science Advisory Council, Negative emission technologies: What role in meeting Paris Agreement targets?, https://easac.eu/fileadmin/PDF_s/reports_statements/Negative_Carbon/EASAC_Report_on_Negative_Emission_Technologies.pdf p. 7.

374 Sufficient planting of trees will also have a positive impact on biodiversity. See about the feasibility of planting a huge amount of trees, Bob Berwyn, Can Planting a Trillion Trees Stop Climate Change? Scientists Say It's a Lot More Complicated, https://insideclimatenews.org/news/26052020/trillion-trees-climate-change.

375 If the wood from the logged trees is used to produce products with a long life-time the amount of CO2 remains stored in the products for at least their life-time. In addition new trees can be planted to absorb more CO2.

376 Forests can, depending on the severity of the fire, restore naturally. If the fire was very severe some action may be needed to help the forest restore.

countervailing measure count as effective. The number of years has to be determined on the basis of rules of experience concerning the countervailing measure in point.

At some stage all GHG emissions must be phased out or offset by means of countervailing measures. We realise some enterprises producing vital products, such as cement or steel, cannot avoid emitting GHGs, at least not with the currently available technology, which leaves untouched that they can take countervailing measures, such as planting trees, which offset the consequences of the emissions.

For the avoidance of doubt: countervailing measures only count if they effectively realise reductions of existing manufacturing processes or service providers. Whether providing funds to another entity to phase out f.i. a steel factory of a third party counts as a countervailing measure depends on what will happen to the production of the closed steel factory. This example shows that the impact on the climate will often be nil or close to nil. As a rule, the production will be transferred to other, often equally emitting, facilities.

Emissions

By emissions, generally anthropogenic emissions are meant because "emissions" mostly refers to the emissions of enterprises which are by definition anthropogenic. The only exception is in the definition of the global carbon budget.

Deforestation is a topic in its own right. Forests capture CO2 and store it in their biomass. "During photosynthesis, trees absorb CO2 from the atmosphere, and later use it to build new materials – such as trunks, stems and roots."[377] Although logging trees does not cause (direct) emissions (apart from the fossil fuels needed for the logging), for the purpose of our Principles the resulting loss of carbon sink has to be regarded as "emissions". See for the attribution of these "emissions" section 18.8.

The calculation of the relevant emissions may be difficult, in particular in case of illegal logging. The difficulty is that it may (and often will) be unclear which (kind of) trees have been logged, what their lost CO2 absorption capacity was and what would have happened without logging (f.i. fires or excessive droughts). This probably requires calculating on the basis of ballpark figures. If the enterprise to which the "emissions" are attributed wants to challenge the calculation on this basis, it bears the onus of proof for a lower figure. In this respect adopting in dubio pro natura "rule"[378] makes sense.

377 Carbon Brief, Forests containing several trees species could store twice as much carbon as the average monoculture plantation, research finds, https://www.carbonbrief.org/planting-a-mix-of-tree-species-could-double-forest-carbon-storage.

378 See the IUCN on the Environmental Rule of Law, Principle 5.

Enterprise

The distinction between enterprises and non-enterprises is somewhat fluid.[379] By way of example: some NGOs and governmental institutions also sell articles such as postcards, ties and sweets to make profits. We do not think that it is overly fruitful to enter into discussions whether or not these activities are characteristic of enterprises. At the end of the day, each example has to be assessed on its own merits and on the basis of common sense.

The key factor that makes a venture an enterprise for the purpose of this update is whether it is 'private' *or* carries out 'commercial or industrial activities'. 'Private' means that the enterprise is not under the financial control of one or multiple governments. In most instances, the answer to the question whether a venture carries on 'commercial or industrial activities' is self-explanatory. When it is not, a few factors may inform a decision: the generation of profits, existence of competition and/or the nature of the activity.

In the context of the so-called Zero-Draft Treaty on Business and Human Rights John Ruggie opposes the "for profit" requirement arguing:

> "As a result it could well exclude state-owned enterprises (SOEs) engaged in transnational business activity whose mission is not strictly profit-driven. As we know from practice, SOEs can serve as ATM machines for governments or as instruments to advance governments' geopolitical interests abroad, for which the SOEs may be subsidized and thus not be "for profit" at all. In either situation the SOEs may be in a joint venture relationship with private sector transnational enterprises, in which case under the terms of the treaty only the private enterprise might be held responsible for harm. SOEs constitute a non-trivial – and growing – fraction of global business, so the "for profit" stipulation adds another limitation to the treaty's scope.[380]

The problem mentioned by Ruggie is solved in our definition which focusses not only on profit but alternatively also on "commercial" and "industrial" (under (b)). Even if a SOE is created for geo-political purposes, it almost always falls under the definition of industrial and therefore of enterprise.

Most investors are enterprises. If their investments are managed by banks that is self-explanatory; after all, banks are private and/or carry out commercial activities. The same holds true for independent investment funds, such as Blackrock. Most, if not all,

379 See the commentary to the EP p. 103 ff.

380 John G. Ruggie, Comments on the Zero-Draft Treaty on Business and Human Rights, https://www.business-humanrights.org/en/comments-on-the-%E2%80%9Czero-draft%E2%80%9D-treaty-on-business-human-rights.

pension funds will not be enterprises as defined in Principle 1. In a sense they generate profits, but those profits are of different nature compared to the profits of enterprises that engage in manufacturing goods or providing services. The "profits" generated by pension funds are necessary to comply with their pay-out obligations to beneficiaries; that would be impossible without a return on the capital invested. This means that they are only bound by Principles 37 to 44. The difference between, say, General Motors and the Dutch pension fund ABP is that, unlike General Motors, ABP does not carry out a commercial or industrial activity. However, asset management companies (asset managers) that manage assets for pension funds such as the ABP *are* enterprises, as they carry out a commercial activity.

The burden of proof for a venture that does not want to be considered as an enterprise for the purpose of these Principles lies with the venture itself.

The text and the commentary to the EP devote attention to scenarios that some ventures are organised for commercial purposes and others operating in or belonging to the same field are not. Hospitals may serve as an example. Unlike the text and the commentary to the EP,[381] for the purpose of this update we opt for a straightforward and workable approach: the criteria under (a) and (b) are decisive. That means that private prisons, elderly homes and hospitals are enterprises for the purpose of the update. They may, however, prove that they do not carry out a commercial activity. By way of example: state-run hospitals in a country are of terribly poor quality for whatever reason. A charity offers hospital services at bottom prices or even less if it has funds of its own. The low price makes them affordable to the less privileged. If they would have to comply with, say, Principle 2.1, they would either have to close their doors or to increase the price which would make them unaffordable to poor people. In this scenario the hospital does not carry out a commercial activity for the purpose of the definition of enterprise.

If an entity is state-run and not commercial or industrial, it only falls under the Oslo Principles. This means that, as a rule, state-run hospitals are not an enterprise for the purpose of our Principles because they are not commercial.[382]

In our view it should not be a determining factor whether or not a government is the sole owner of a separate legal entity to determine whether or not an entity is an enterprise.

The authors of the commentary have discussed a series of examples in an attempt to offer a clear formula on the definition of "commercial". This exercise proved to be extremely difficult. The key issue is whether a commercial activity means that the enterprise *intends* to make profits. The mere fact that an "enterprise" *does* not generate profits is, of course, not decisive. By way of example, legal person X is fully owned by state Y. The employees

381 See p. 105.

382 The approach of the EP is different: "if the majority of hospitals in a country is state-run, no hospital in that country is considered to be an enterprise for the purpose of our principles, regardless of whether or not a specific hospital is government-run or private" (p. 105).

of X earn excessive salaries and retire at an early age with more than generous retirement benefits. X does not make any profits. Almost any private entity in the same branch would make significant profits. Did X intend to make profits and/or was it governed poorly? Does X carry out a commercial activity? We are inclined to answer the question in the affirmative, but it ultimately depends on the peculiarities of the case in point.

We do not express a view on whether a "company [that] is early in its development or too small"[383] is covered by our definition.[384] Any baseline is arbitrary. Even a small or medium-size enterprise can potentially have a relevant impact on the climate, either by its own activities, its suppliers or products and services. In such a scenario it has obligations under these Principles.[385] That being said, it is not practical to apply this update to truly small enterprises such as a local grocery shop or a painter with one or a few employees.

GHG

The new definition does not aim to change the substance. It basically aligns with art. 1 UNPCCC.

Global carbon budget

Anthropogenic and non-anthropogenic GHGs

The global carbon budget is a key feature of Principle 2. It is about all GHG that can still be emitted by the world at large, including non-anthropogenic GHGs. The non-anthropogenic GHGs create a problem. More likely than not these GHGs are doomed to increase due to f.i. unprecedented fires, and melting of permafrost. There are more uncertainties that are important to determining the carbon budget. The earth's natural system has only a limited capacity to absorb GHGs and this may decrease due to damage to coral reefs and acidification of the oceans; see section 7. It is uncertain whether this capacity will suffice if global warming is insufficiently abated, which, in turn, means that anthropogenic GHGs should possibly be reduced at a much greater pace to avoid – to the maximum extent possible – the adverse impact on climate change due to non-anthropogenic emissions. In this field there are so many uncertainties – the amount of non-anthropogenic GHGs, how it will develop and the natural absorption-capacity – that we confine ourselves to mentioning this point. This unfortunate given might well be a sound reason for even

383 Janis Sarra and Cynthia Williams, Time to Act, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3335530 p. 20.

384 See European Commission, My business and human rights, A guide to human rights for small and medium-sized enterprises, https://www.business-humanrights.org/en/pdf-a-guide-to-human-rights-for-small-and-medium-sized-enterprises. It emphasises that "All enterprises, from small and medium-sized enterprises through to large multinational corporations, have a responsibility to respect human rights" (p. 3).

385 For a similar view UN Human Rights, Working Group on Business and Human Rights, Companion Note II, version 16.10.2018, https://www.ohchr.org/Documents/Issues/Business/Session18/CompanionNote2DiligenceReport.pdf p. 7.

stricter reduction obligations. However, it is unclear what that would mean and the appetite for such additional measures will be nil.

The factual basis for the calculation of the carbon budget: the IPCC findings or something else?

In light of the diverging views about the remaining carbon budget available to keep global warming well below 2°C (in our update 1.75°C) and the possibility to keep it below 1.5°C, we are reluctant to incorporate a provision like art. 6 of the IBA Model Statute. This Model Statute requires courts "to accept the findings and conclusions contained in the IPCC Assessment or Special Reports as prima facie proof of the findings". The Model Statute introduces hurdles to challenge these findings.

We are not saying, nor suggesting, that the IPCC is mistaken. Nor are we suggesting that, as a rule of thumb, diverging views of distinguished experts pointing to a greater urgency than emanating from the IPCC reports – which unavoidably lag behind the facts due to the impressive and time-consuming working method of the IPCC – should be ignored; see in more detail under the section 7 and below from 2°C to 1.75°C. In this respect the precautionary principle carries weight. Keeping climate change below fatal thresholds is so important and so urgent that it would be a serious mistake to rule out diverging views from scratch.

This is not to say that the IBA's formula is to be ignored either. The – as already mentioned – necessarily slightly outdated IPCC findings can serve as the upper limit of the carbon budget. Enterprises and their advisors are probably best advised to take it that the most recent IPCC-approach equates to the minimum basis of determining the reduction obligations. Put differently: they constitute a basis for determining minimum obligations for the purpose of calculating the reduction obligation; see in more detail section 22.4.

A party keen to challenge the findings of the IPCC has to explain why an alternative carbon budget is the better option. However, the IBA's requirement that "the challenging party bears the evidential burden of proof" (art. 6.3 (c)) does not leave enough manoeuvring room for courts. It should be left to the court to determine which findings are, all in all, most persuasive.

Which climate scenario?

Determining the carbon budget also hinges on the climate scenario to be adopted. We have no doubt whatsoever that a 50% scenario (50% chance that global warming can be kept below 2°C, or 1.75°C or any other figure to be adopted) is irreconcilable with the very core of the law as long as the reductions required to keep climate change below the relevant

figure are achievable. Under Principle 2.2.1 (d) we explain that we should not bet on negative emissions.

For now it seems most realistic to adopt a 67% scenario. That requires a significant endeavour from most, and is a Herculean task for some, countries and enterprises in those countries. It is up to debate whether a 67% scenario is reconcilable with the precautionary principle because it leaves a 33% chance that catastrophe will set in. Whether this stance really is in conflict with the precautionary principle largely depends on value and political judgments; see in more detail section 22.8. Adopting a higher percentage might be doable, but it will have a major adverse impact on the economy. See, in a different context, under Principle 2.1.1 "a reality check". As private persons the members of our group would be prepared to adopt a higher figure than 67%, but as (mainly) lawyers we are more cautious. Also because the precautionary principle does not require unreasonable sacrifices. The word "unreasonable" is the trick. There is no bullet proof interpretation of that word, let alone in this sensitive realm.

The words "for now" must be emphasised. If the carbon budget is going to be depleted at great pace – a not unlikely scenario – a terribly difficult choice between the devil and the deep blue sea will have to be made: either adopting the 50% chance or one of the options mentioned under reality check; see under Principle 2.1.1. Let us hope for the better …

Once more: for now adopting the 67% calculation scenario seems to equate to a minimum standard.

Per capita

The Oslo Principles opt for an allocation per capita.[386] So does this update and the interpretation of the OP by means of the definition of global carbon budget in conjunction with Principle 2.2.1 (a) and (b). That choice is not self-explanatory, but it stands the best chance of gaining acceptance and it is, all in all, the fairest. As a rule it makes sense to allow every citizen on the globe the same amount of emissions. That may cause some tensions in relation to high population growth; see for a discussion of that topic below. There is no convincing legal basis for this approach, nor for any alternative.

386 Principle 6 and the commentary p. 19 ff.

Population growth

Weisbach rightly contends a per capita approach begs the question how to deal with population growth.[387] He hits the mark that it is by no means self-explanatory to "treat countries which have increased their populations rapidly as behaving better, as less responsible for climate harms." He adds – and we could not agree more – that for an alternative "we would need some theory for allowable population growth" which is "infeasible."[388]

Although explosive population growth poses enormous challenges of all kinds – food, biodiversity, climate change – we are not in a position to take a stance on what is "allowed". We believe that this is an internal matter to be decided by countries themselves. That leaves untouched that it would be possible to ignore a population growth over the average of the region, of all least developed countries, developing countries or developed countries. Doing so would have the advantage that imbalances between the different categories of countries would be diminished. The main disadvantage would be that it favours, albeit to a limited extent, the wealthiest countries and enterprises in these countries who have caused the climate change problem.

From 2 degrees to 1.75 degrees

We are slightly confused about the current state of climate change science concerning the remaining global carbon budget. The issue was already discussed in the section 7. In our understanding the IPCC Special Report 2018[389] conveys two messages which are not easily reconcilable. We have sought scientific advice from Carbon Tracker. Based on their guidance and the text of Chapter 2 of the IPCC report (i.e. not the summary), we understand that the carbon budget is almost depleted if global average temperature were to be kept below 1.5 degrees without overshoot. The report emphasises that "considerably [considerable?] uncertainties remain", but the authors stand firm in their belief that the remaining budget "would be larger than the estimates at the time of the AR5".[390] "Additional Earth system feedbacks such as permafrost thawing" were not considered. They are "uncertain, but estimated to reduce the remaining carbon budget by an order of magnitude of about 100 GtCO2, and more thereafter." The report notes also uncertainties as to the

387 David Weisbach, Negligence, Strict Liability, and Responsibility for Climate Change, The Harvard Project on International Climate Agreements, July 2010, Discussion Paper, https://www.belfercenter.org/publication/negligence-strict-liability-and-responsibility-climate-change.

388 O.c. p. 33.

389 Global Warming of 1.5°C, https://www.ipcc.ch/sr15/.

390 P. 104.

impact of "non-CO2 forcers".[391] On p. 107 the IPCC concludes that we still have 20 to 30 years to achieve net zero emissions. That seems to be in sharp contrast with the message a few pages further down. Departing from a 67% chance to keep global warming below 1.5°C the carbon budget from 2018 amounts to 420 GtCO2.[392] The past years global emissions amounted to approximately 42 GtCO2 annually. Hence, the remaining budget as per 2020 is approximately 375. "Committed emissions from existing coal-fired power plants built through the end of 2016 are estimated to add up to roughly 200 GTCO2 and a further 100-150 GTCO2 from coal fired power plants under construction or planned". Since new coal-fired plants are planned; a few were phased out. It follows that the carbon budget for other players is close to nil, if not already negative. It is possible, of course, that many coal-fired power plants will be phased out in the near future which would allow others at least some carbon budget. But it is fraught with risk and irreconcilable with the precautionary principle to bet on miracles. The uncertainties mentioned by the IPCC are a reason in itself to err on the safe side.

Last but not least, we do not want to bet on truly significant reductions in the very near future; see for elaboration section 7. Unfortunately, the odds are against those who take an optimistic stance. Others, again, bet on technology and, by the same token, postpone far-reaching reduction measures hoping for the better. To be fair: we realise that politicians keen to introduce far-reaching reduction measures will face significant opposition from voters and the corporate world. We are not suggesting that they should lend their ears to scores of people who oppose measures of all kinds, but we are mindful that this is easier said than done.

For all these reasons we aim to be pragmatic. We have adopted a figure of 1.75°C (just in the midpoint between 1.5 and 2°C), i.e. a figure well below 2°C as adopted in the Paris Agreement, albeit not as a legally binding threshold. This choice is fuelled by pragmatism. Submitting obligations that cannot be met is pointless, if not counter-productive.

Adopting an upper limit of 1.75°C creates a difficulty for calculation purposes. We already alluded that opinions diverge concerning the global carbon budget for 1.5°C and 2°C. That goes even more for 1.75°C which is not a commonly accepted threshold (although easily reconcilable with "well below 2°C"). We have sought the view of Carbon Tracker. The multiplying-factor depends on the scenario to be adopted (50% or 67%). If we compare 1.75°C to 1.5°C the factor is approximately 1.79 in a 50% and 1.9 in a 67% scenario. If we would compare 2°C to 1.75°C the relevant factors are respectively 1.44 and 1.46.[393]

391 P. 105.

392 P. 113.

393 See Axel Dalman, Carbon budgets: Where are we now? https://carbontracker.org/carbon-budgets-where-are-we-now/.

The Oxford Martin Principles ask enterprises to opt for a pathway to zero emissions based on a trajectory between 1.5 and 2°C to be chosen by the enterprise. Prima facie, one might think that no single enterprise may opt for less than 2°C, but that is not necessarily true, as illustrated in f.i. section 22.10. For instance, enterprises which are already close to being carbon neutral or keen to make themselves attractive to investors, may do so. Other enterprises may be much more optimistic than this commentary about the achievability of 1.5°C, or just tune in with the debate without realising the potential consequences of their stance.

For the avoidance of doubt: we are not suggesting that it is impossible to keep global temperature close to 1.5°C. Planting trees, in fact a kind of negative emission, would be a feasible option, at least on paper.[394] We have considered to add such an obligation. Next to the many obligations emanating from the update – many of them new ones – we do not expect that they will gain any support. Such an obligation may even backfire in that our Principles will only be used by entities with low emissions and the most progressive enterprises in developed countries. In that scenario our Principles would become a paper tiger. The law is not a beauty contest.

The precautionary principle

This definition still refers to the precautionary principle, a bedrock of environmental law. Realistically speaking its role will be very limited. The obligations embedded in Principle 2.1, 2.2.1 and 2.2.2 are already stringent. It follows from the discussion in section 7 that it will be quite a challenge to keep global warming below 1.75°C. If our assessment would be mistaken and if reducing global emissions to the extent necessary would be easier than we assume, the precautionary principle should carry weight to stretch the obligations to the maximum extent reasonably possible. See for elaboration section 22.8.

Global enterprises

The importance and influence of "global enterprises" is significant:

> "There are somewhere between 70,000 and 80,000 transnational corporations (precise numbers keep changing because of mergers and acquisitions, among other factors). According to the ILO, one out of seven jobs worldwide is global supply chain-related, not counting "informal" and "non-standard" work. According to UNCTAD, 80 percent of global trade (in terms of gross exports)

394 See about the feasibility of planting a huge amount of trees, Bob Berwyn, Can Planting a Trillion Trees Stop Climate Change? Scientists Say It's a Lot More Complicated, https://insideclimatenews.org/news/26052020/trillion-trees-climate-change.

> is linked to the international production networks of transnational corporations. World trade in intermediate goods ('transnational business activities') is greater than all other non-oil traded goods combined."[395]

We have slightly changed the definition of global enterprise to cope with criticism received on the EP. After reconsideration we have arrived at the conclusion that:

1) the mere fact that a parent company is based in a BPQ country is not, in itself, a sufficient justification to exempt a group-company active in a BPQ country from the obligations under Principle 5. Take Petrobras. The parent company is based in a BPQ country (Brazil),[396] has a market capital of US$ 91 billion, sales of US$ 95 billion and over 68.000 employees;[397] it is number 50 on the Forbes' Global 2000 list.[398] It would be difficult to explain why its subsidiaries in BPQ countries should escape Principle 5.
2) truly major enterprises, even if they are predominantly active in BPQ countries, should not necessarily escape the obligations under Principle 5.

This stance urged us to explore a workable formula. We have opted to align the definition with the Forbes 2000 list. The field of activity of most enterprises belonging to the Forbes Global 2000 is the world at large. Exceptions apply. The definition explicitly mentions two exceptions: the parent company is based in a BPQ country and 1) the group's turnover was less than US$ 1 billion annually over the past five years, or 2) the group of enterprises is exclusively, or predominantly active in BPQ countries. The Bank for Investment and Development of Vietnam, number 1716 on the 2019 Forbes' list,[399] is probably an example of the latter scenario: the parent company is based in Hanoi, Vietnam (a BPQ country); its activities are seemingly of a predominantly domestic or regional nature.

We realise that the figure of US$ 1 billion, or any alternative figure, cannot easily be explained or justified. Even enterprises at the low end of the Forbes Global 2000 list have sales of over one billion US$. The definition aims to restrict the scope of "global companies", in line with the commentary to the EP which emphasises that "we aimed to capture at least

395 John G. Ruggie, Comments on the Zero-Draft Treaty on Business and Human Rights, https://www.business-humanrights.org/en/comments-on-the-%E2%80%9Czero-draft%E2%80%9D-treaty-on-business-human-rights.

396 Brazil's GHG emissions per capita are low, i.e. about 2.4 metric tons; see https://www.statista.com/statistics/1068629/carbon-dioxide-emissions-per-capita-brazil/. The country's per capita GDP is approximately US$ 8.700; see https://data.worldbank.org/indicator/NY.GDP.PCAP.CD. Based on purchasing power it is over US$ 16.500; see https://www.indexmundi.com/brazil/gdp_per_capita_(ppp).html.

397 See https://www.investidorpetrobras.com.br/enu/14656/RelatriodeDesempenhodaPetrobras1T19_US_ING_v3.pdf.

398 See https://www.forbes.com/global2000/#bc848eb335d8, lastly visited on April 27, 2020.

399 See https://www.forbes.com/global2000/list/#country:Vietnam, lastly visited on April 27, 2020.

the truly global players, multinationals that are listed on the world's major stock exchanges".[400]

The Forbes Global 2000 includes both state owned, private companies and companies not listed at any stock exchange such as IKEA or SHV.[401] Principle 5 only covers enterprises as defined in Principle 1; state owned companies fall under this definition if they carry out commercial or industrial activities.

We are mindful that the Forbes Global 2000 list changes every year. Hence, some enterprises may become a global enterprise, or lose that qualification suddenly. In most of these instances, they will still be a global enterprise anyway because the group manufactures products or offers services that are, for a significant part, consumed in multiple APQ countries.

There may be instances where a strict application of Principle 5 does blatant injustice ("manifestly unfair/unreasonable/inequitable") to the case in point. Principle 49 offers a solution for these cases.

See about outsourcing "with the apparent aim of avoiding the reduction obligations under Principle 2.1 or Principle 5.1 (a)" Principle 23.

Group of enterprises

The definition is self-explanatory with one exception: joint ventures. As a rule of thumb, the majority shareholder or partner is deemed to be the parent company.

Investor

We have expanded the definition of investor compared to the EP. The reason for this expansion is the increasingly worrying state of affairs mentioned in section 7. This requires a contribution by all parts of society. All the more so because "in one-on-one interviews CEOs say the pressure to deliver short-term returns by far exceeds any demands for long-term decarbonization."[402] That trend must be reversed; otherwise there is not the slightest chance to keep global warming below fatal thresholds. All major investors can and should play a role to achieve that imperative.

We cannot think of any justification to exclude specific entities. The Oslo Principles as amended in Principle 2.2 cover the obligations of States, these Principles cover the obligations of enterprises and investors and a few key players. The main reason for focussing on investors lies in their ability and power to influence enterprises to keep global warming below 1.75°C. Like the EP this update does not contain obligations of private persons, with the proviso below.

400 P. 106.
401 https://www.forbes.com/global2000/#1763904f335d.
402 The Net-Zero Challenge, o.c. p. 10.

This update explicitly includes hedge funds and similar vehicles.[403] We realise that this requires a justification. Enterprises have to comply with our Principles,[404] irrespective of whether the board of directors or investors believe in climate change, care for the future or are after short term gains only. In the face of the daunting challenge presented by climate change the traditional view that short term views and decisions are acceptable is swiftly becoming obsolete. F.i. it is increasingly difficult for an enterprise to justify opening new coal mines as a leading Australian case shows.[405] Leaving hedge funds untouched would be saying that a not unimportant group of enterprises is (still) allowed to fritter away the future of humanity. Such a stance is very difficult to justify. The leverage that hedge funds and similar institutions have (and currently do not use) is bitterly needed to come to grips with climate change.

As already mentioned these Principles do not include private persons. As a matter of fact, a small number of people own a major part of the global wealth. That allows them more power than many enterprises. We hope that the law will develop obligations along the lines of Principles 37 to 44 for the over 2000 billionaires,[406] but this falls outside the scope of this venture. One of the difficulties would be to define which private persons are covered by Principles 37 to 44. One could imagine ball park figures such as US$100 million or one billion.[407] We hope that the law will develop in that direction. This group of private investors might be best served to comply with Principles 37 to 44 precisely to avoid possible nasty surprises offered by future case law. To the extent these people make use of investment vehicles such as investment funds, these investments are covered by our Principles, of course. If they make use of investment managers Principle 43.1 does not apply because the client is not an investor as defined in Principle 1 (i.e. a private person). That leaves untouched that these managers have obligations towards society which include the obligation to inform their private clients about the adverse consequences of climate-wise ill-considered investments and to decline orders to buy equity of entities with an appalling

403 Hedge funds are excluded in the Enterprises Principles; see the commentary p. 216.

404 "Sustainability cannot develop in a context where investment is dominated by short-term considerations", EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf p. 45. We reiterate that the principles are based on our interpretation of the law as it stands or will likely develop. We openly admit that our interpretation may be mistaken. But we stand firm in our belief that enterprises have discernible obligations and expect that they will not be very different compared to those emanating from the Principles. If enterprises challenge that view – which they may do, of course – they should explain which "alternative" obligations they believe to have. See for a similar view the commentary to the EP p. 95, 96 and 231 and this commentary section 25.

405 Gloucester Resources v. Minister for Planning (2019) 234 LGERA 257 [2019] NSWLEC 7, https://www.caselaw.nsw.gov.au/decision/5c59012ce4b02a5a800be47f. See about coal-fired power plants Principle 9.1.

406 https://www.forbes.com/billionaires/.

407 Quite a few investment funds have assets in that range.

carbon footprint. We strongly believe that those to whom the management of assets is entrusted have to comply with Principle 43.2 per analogiam, because the client is not an investor as defined in Principle 1. "The world's 2,153 billionaires have more wealth than 4.6 billion people combined, Oxfam says".[408] It would be very difficult to justify that asset managers of these billionaires would not have obligations in the face of climate change.

Least developed country
This definition speaks for itself.

Nationally Determined Contribution
The definition is self-explanatory. The second sentence aims to make the Nationally Determined Contributions easily comparable.

Oslo Principles
This definition is self-explanatory.

Paris Agreement
This definition is self-explanatory.

Permissible Quantum per base period
This definition is self-explanatory.

Primary reduction obligation
This definition speaks for itself.

Reduction percentage that the world would have to achieve in a base period
See for elaboration under 2.2.1(b).

Relevant country
This definition is self-explanatory.

408 Chloe Taylor, The world's 2,153 billionaires have more wealth than 4.6 billion people combined, Oxfam says, https://www.cnbc.com/2020/01/20/oxfam-worlds-billionaires-richer-than-a-combined-4point6-billion-people.html.

Enterprises' GHG emissions reduction obligations

Principle 2

General observations

> "23. Most States have become parties to major multilateral environmental agreements. Since the relevant environmental problems at stake are often of a global nature, the solution lies in collective action. The challenge is to encourage the participation of all relevant actors while at the same time ensuring that the commitments are ambitious enough to provide for an effective response to the problem, and to ensure that parties comply with their obligations."[409]

This is precisely what this Principle is about: collective action ensuring an effective response to the problem.[410]

Like the OP and the EP we distinguish between APQ and BPQ countries and enterprises in those countries. In addition we submit a different reduction trajectory for global enterprises; see Principle 5. See in more detail under Principles 2.1, 2.2 and 5.1.

We realise that the formula adopted in Principle 2.1 in conjunction with Principle 2.2.1 (d) – and below 1.75°C or well below 2°C – means that the high end APQ countries and by the same token enterprises active in these countries have a heavy reduction burden, particularly so in the first base period. It would be possible to lessen that burden, but that would come at the expense of other countries, including BPQ countries and enterprises

409 Report of the (UN) Secretary-General, Gaps in international environmental law and environment-related instruments: towards a global pact for the environment, http://www2.ecolex.org/server2neu.php/libcat/docs/LI/MON-094092.pdf p. 13.

410 That is fully in line with the international consensus; see f.i. Transforming our world: the 2030 Agenda for Sustainable Development, Resolution adopted by the UN General Assembly on 25 September 2015, A/RES/70/1, https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf under 31 and 32; also with the American Bar Association, House of Delegates, Resolution and Report 111 of August 12-13, 2019, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjz_-_l_LPqAhWOC-wKHXQxBuAQFjAAegQIAhAB&url=https%3A%2F%2Fwww.americanbar.org%2Fnews%2Freporter_resources%2Fannual-meeting-2019%2Fhouse-of-delegates-resolutions%2F&usg=AOvVaw1woUEnsRCIeR78KyuaaGNbn urging "governance, and the private sector to address climate change and take action to achieve the following goals: reduce U.S. greenhouse gas emissions to net zero or below as soon as possible, consistent with the latest peer review science, and contribute the U.S. fair share to holding the increase in global average temperature to the lowest possible increase above pre-industrial levels" (first page).

active in these countries;[411] the reduction obligation of APQ countries is slightly softened by Principle 2.2.1 (d) (i) as will be explained below. Alternatively, it would be possible to return to the "well below 2 degrees" of the Paris Agreement or even 2 or more degrees C. For the reasons explained in Principle 1 under definition of global carbon budget, from 2 degrees to 1.75 degrees we believe that adopting a 1.75 degrees threshold is, all in all, the better solution.

Betting on negative emissions?

A "solution" could also be to bet on the possibility of negative emissions. As a rule we do not promote betting on future technology and its availability at a relevant scale and at affordable cost. Because it takes a number of years before GHG emissions will have an adverse impact on the climate[412] it is not necessarily unfair or ill-considered to reckon with at least some level of negative emissions. It is also possible that at some stage countries or enterprises will decide to plant trees at a relevant scale. The mere fact that this is not yet happening does not mean that it is not going to happen in the future if the genie is out of the bottle (we are close to that point already). Another "solution" might be to phase out luxury products, or even top-end non luxury products or the quantity of such products.

Alternative solutions?

We explored proposing a formula based on a carbon budget of single countries. A proposal to that effect did not gain much enthusiasm among the members of the group, mainly because it requires a formula that is not easy to apply. The members of the group prefer the formula emanating from Principle 2.2.1 (c) and (d).

411 John Knox contends that each country's commitment "may reasonably vary according to its current and historical contributions to climate change, as well as its economic and social situation generally". Further down, he contends that "each state should do what it can", Climate Law 9 (2019) p. 173 and 174. The approach of John Knox – one of the most admirable and dedicated experts in this field – is understandable. However, it does not answer the question what precisely individual states must do. Our formula is clear, albeit not perfect. We opt for clear formula because the window of time is swiftly closing; see also section 16.

412 See, also for further references: Katharine L Ricke and Ken Caldeira, Maximum warming occurs about one decade after a carbon dioxide emission, Environmental Research Letters, Volume 9, Number 12, https://iopscience.iop.org/article/10.1088/1748-9326/9/12/124002#erl505119s3.

All in all, the approach of Principle 2 preferable

There is no self-explanatory legal or moral basis for either of these approaches, although it is obvious that the problem has to be solved. The reason for making the point is to offer pathways to "solutions" for courts and others who believe that our update is over-demanding and/or puts unachievable obligations on groups of enterprises.

Those keen to criticise our update as out of touch with reality ought to understand and appreciate that all we are trying to do is to offer solutions to a universally acknowledged problem. The international community has decided – and rightly so – that global warming must be kept well below 2°C and increasingly that it must be kept as close to 1.5°C as possible. That requires sacrifices. That is not caused by our Principles or the update but rather by the stubbornness and the unwillingness in the past to take the necessary action. It would be unfair to kill the messenger and to fight Principles that aim to offer solutions to a problem society has caused.

Not all GHG emissions are unlawful

The Oslo Principles, the EP and this update are based on the idea that not all GHG emissions are unlawful; if that was the case, they would have to be reduced to zero straightaway.[413] That is not to say that not all emissions contribute to climate change; they obviously do. After due consideration we have arrived at the conclusion that it is unfair, unworkable and against the apparently prevailing view in the international arena to label *all* emissions unlawful. It would mean, inter alia, that the emissions of least developed countries are treated similarly to those of the high end developed countries. As to the seemingly predominant view: the emphasis is on reducing emissions, albeit that not insignificant differences exist between the level of ambition of countries and enterprises.

For the purpose of reduction obligations the position that all emissions are unlawful would not make sense because it means that all emissions must be phased out without further ado.

Our stance, formulated in Principle 2, arguably is not in line with the polluter pays principle[414] which probably implies that losses caused by all and every emissions have to

413 See f.i. Jaap Spier, Tijdschrift voor Milieurecht 2018 p. 639 and the law as crowbar, o.c. p. 36 and 37. See for a different stance Vanuatu Environmental Law Association, Taking Climate Justice into our own hands, A Model Climate Compensation Act, https://www.researchgate.net/publication/305892185_Taking_Climate_Justice_Into_Our_Own_Hands_A_Model_Climate_Compensation_Act art. 4 in conjunction with art. 8, although that Act is not saying that emissions must be reduced to zero by now.

414 See section 22.8.

be compensated. This would have the awkward consequence that Bangladesh would have to contribute to losses in f.i. the US or Sweden.[415]

Emission trading schemes

Depending on the architecture of emission trading schemes our approach is very different compared to this feature.[416] It would be quite possible, of course, to tailor the polluter pays principle and emission trading schemes to the effect that they differentiate between f.i. developing and developed countries or luxury, non-luxury and vital products. To the best of our knowledge that is not how they are mostly cast or interpreted.

Critics of our stance could contend that our Principles also lump many emissions together.[417] There is some merit in that assumed argument. However, our Principles offer room for flexibility and tailoring the reduction burden in an equitable way (Principles 3 and 4)[418] and by using flexible concepts such as "excessive", and "ascertain and take into account".

Principle 2.1

> "The ultimate objective …. is to achieve … stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[419]

The commentary to the EP discusses the key reduction obligation of (what currently is) Principle 2.1.1: to link the reduction obligations of enterprises to the reduction obligations of the country in which they are based. See for the reasons for adopting that approach the commentary to the EP.[420] Allocation of the reduction burden to individual players is in line with the Kyoto Protocol.[421]

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415 A series of legal techniques could be used to avoid this unattractive stance, but for practical purposes that would mean that the concept of liability for all emissions gets undermined for a great many cases.

416 There is a vast amount of legal writings about trading schemes; see f.i. Tianbao Qin, The Emissions Trading System in the Context of Climate Change: China's Response in Oliver C. Ruppel, Christian Roschmann and Katharina Ruppel-Schlichting (eds), Climate Change: International Law and Global Governance, Volume I p. 463 ff with discussion of many legal systems.

417 See about that point Jaap Spier, Legal Obligations of Enterprises and Investors in the Face of Climate Change, Chinese Journal of Environmental Law 2 (2018) p. 103 and 104.

418 See in more detail Jaap Spier, Tijdschrift voor Milieurecht 2018 p. 637 and 638.

419 UNFCCC art. 2.

420 P. 110 and 111.

421 Art. 3 para 1.

The commentary to the EP acknowledges that this approach

> "is not necessarily fair in relation to each individual enterprise. But we believe that it is not possible, nor desirable, to map more detailed reduction obligations of enterprises (other than the obligations under Principle 7 and 8). Much depends and ought to depend on the flexibility for countries to (re)allocate the reduction burden between enterprises within their jurisdiction".[422]

At various occasions (what currently is) Principle 2.1.1 was challenged because it offers a one-size-fits-all approach. We appreciate that criticism, although it does not do full justice to our approach which entails an important correction mechanism (Principles 3 and 4). Be that as it may, we strongly suggest those who disagree with our approach should look at the factors enumerated in Principle 3.1 to determine the key reduction obligation of enterprises. In doing so, it must be borne in mind that very few enterprises, in particular in APQ countries, currently meet their primary reduction obligation. After all, global emissions are still rising which unavoidably means that a lot must be done at great pace.[423] Hence, an assumed outcome of applying Principle 3.1 resulting in no, or very little, reduction obligations of many specific enterprises is almost certainly mistaken because it is unlikely that this can be based on a proper application of the factors enumerated under Principle 3.1. Such an outcome could have dire legal and financial consequences for the enterprise in point, its board of directors and its advisors.

We still believe that Principle 2.1.1, with the correction mechanism of Principles 3 and 4, is the best possible solution. It comes at a cost, but the costs are bearable.[424] More likely than not that will change over time if many countries or enterprises fall short of meeting their obligations. See in more detail section 27 and under Principle 2.1.1 a reality check.

Principle 16 OP provides leniency to *countries* with GHG emissions close to the permissible quantum if and to the extent that not being lenient would create undue hardship. As a rule of thumb this leniency does not relieve *enterprises* in that country from part of their obligations. Exceptions may apply in extreme cases; see Principle 49.

In most instances it will be crystal clear what is meant by "reduction". This Principle, however, does not aim to include everything that is, strictly speaking, a reduction. Take

422 P. 68.

423 Throughout this commentary we acknowledge that the corona crisis has changed this pattern. For now, it is in the clouds how long that will last.

424 The alleged costs for Australia of complying with the Paris Agreement are A$ 8.566 per family over the period 2018-2030, i.e. per year A$ 714; see Daniel Wild, Why Australia Must Withdraw From the Paris Agreement, https://ipa.org.au/publications-ipa/australia-must-withdraw-from-paris-agreement. Governments could decide to put a lower burden on the lower income families, but that is an internal affair which goes beyond our Principles. We realise that the OP, the EP and this update are more demanding than most NDCs; nevertheless, the costs will mostly be manageable.

machinery that leaks a relevant amount of GHGs. These leakages should be repaired, of course. That, however, is an obligation towards the environment, employees and, in case of possible explosions, the neighbourhood. Hence, the lower emissions by repairing the leakages do not count as reductions under this Principle; see for a comparable example section 18.6.

Principle 2.1.1

In both the EP and this update the primary reduction obligations of enterprises is linked to the reductions to be achieved by the countries in which they are based. A UNEP report[425] wrote about the Oslo Principles:

> "the Oslo Principles, though not endorsed by the UN or binding on any states, contain a useful framework for conceptualizing state obligations in this context [domestic mitigation obligations]. The principles explicitly reference the need to protect human rights and clarify the obligations that states have to reduce GHG emissions, taking into account cost and other factors."[426]

Further down the report continues:

> "it is worth noting that non-state obligations with respect to human rights are also outlined in the Oslo Principles (which deal specifically with climate change)".[427]

As already mentioned the EP are a further elaboration on the principles on enterprises in the Oslo Principles. This update, in turn, further elaborates on the EP.

For enterprises in APQ countries the reductions to be achieved are linked to the higher of the percentage to be achieved by the relevant country or its NDCs; see Principle 2.2.1 (d) in conjunction with Principle 2.1.1. Enterprises in BPQ countries are required to reduce their emissions at the rate of the NDC of the relevant country; see Principle 2.2.1 (c) in conjunction with Principle 2.1.1.

The reduction obligations of enterprises in hugely emitting APQ countries will be significant, in particular in the first base period during which the lion's share of the reductions has to be effectuated. That may sound harsh. However, any leniency goes at

425 Climate Change and Human Rights, 2015, http://wedocs.unep.org/bitstream/handle/20.500.11822/9934/Climate-Change-Human-Rights.pdf?sequence=1&isAllowed=y.
426 O.c. p. 24.
427 O.c. p. 29.

the expense of enterprises in less emitting countries. These countries already bear the brunt of the significant past and current emissions by high end APQ countries. These emissions lower the economic fortunes of countries with historical and current low emissions, mostly least developed and developing countries. That is not fair, but a reality in today's international politics. It is the price for combatting climate change developing countries were prepared to pay in the negotiations leading to the Paris Agreement which entails an obligation to issue NDCs for all countries.[428] As already mentioned the reduction obligations of enterprises are linked to those of the countries in which they are based.

Prima facie, our approach may be unappealing to developing countries and enterprises active in these countries. We hope they will appreciate that the EP and the update are demanding for enterprises in (high end) APQ countries. It would have been possible to strike a different balance to the benefit of BPQ countries and enterprises in these countries. In our assessment that would have been counter-productive for two interwoven reasons: many enterprises in APQ countries would decry the update the acme of activism or out of touch with reality. That, in turn, would mean that nothing or very little would happen. It is no secret that climate change will be most detrimental to the most vulnerable countries. Hence, Principles that lead nowhere are not in their interests (either).

A reality check

We feel like messengers of very bad news. Churchill's historic words "I have nothing to offer but blood, toil, tears and sweat" spring to mind. The Prime Minister continued: "You ask, what is our aim? I can answer in one word: It is victory, victory at all costs."[429] Indeed: that should be our common aim.

Climate change is the defining challenge of our time. Our decisions will determine the fate of a major part of the present generation and many generations to come.

If we want to keep global warming well below 2 degrees C we have at most 10 to 20 more years to reduce global emissions to zero, unless we opt for negative emissions assuming that they will be available in due time. Even betting on 10 years is fraught with risk because we may pass tipping points between now and a rise of global temperature by 2°C; see section 7.[430]

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428 See f.i. Winkler, in The Paris Agreement on Climate Change p. 149 ff.

429 First Speech as Prime Minister to House of Commons, May 13, 1940, https://winstonchurchill.org/resources/speeches/1940-the-finest-hour/blood-toil-tears-and-sweat-2/. For the purpose of our Principles "all costs" should not be taken literally. With bleeding heart we have been – and had to be – pragmatic as explained throughout the commentary.

430 We are not suggesting that the 2 degrees C will be reached within ten years. The text refers to the uncertainty when tipping points will be passed. That could be by tomorrow; it may also be close to 2 degrees C.

In particular the high end APQ countries face an Herculean task to reduce their emissions to the extent required or to take countervailing measures.[431] It is glaringly obvious that many hugely emitting countries will not reduce their emissions to the extent needed.[432] That will put an even heavier burden on other countries and will push BPQ countries to the rank of APQ countries; see section 27. This is of direct importance to enterprises as their primary reduction obligation is linked to the country in which they operate. There is a fair chance that after one or perhaps two base periods very inconvenient choices have to be made:

1) To accept significantly lower living standards in developed countries until the very moment that the economy can run on renewable energy which cannot be eventuated overnight. That does not necessarily mean that life will be less enjoyable. It "only" means that we have to relinquish the often unnecessary luxury we are used to. The picture for developing countries is gloomier. That is appalling; it goes way beyond the scope of this update to solve this huge problem. Only international politics can;
2) To accept extremely steep reduction curves which may equally have the effect mentioned under 1;
3) To accept that global warming will increase by more than 2 (1.75) ° C. That is a tricky choice because it is totally unclear what that means. Climate change science is in the dark as to the consequences of passing tipping points. In addition: it is unpredictable how long countries and enterprises unwilling to reduce their emissions to the extent required will continue taking that stance;
4) To bet on technology or use insufficiently understood techniques such as geo-engineering. The Special Rapporteur on Human Rights and the Environment contends that "geoengineering strategies should not be used until their implications are much better understood."[433]

To make things worse, these are not choices individual countries can make. The future is in the hands of the global community and, for practical purposes, also in the hands of the obstructionists.

We have tried to offer the best possible formula to cope with the challenge ahead of us. It is demanding. And the prospects to gain full acceptance are not overly bright. Any alternative is worse.

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431 That is already true if they "only" comply with the Paris Agreement: see Felix Ekardt, Jutta Wieding and Anika Zorn, Paris-Abkommen, Menschenrechte und Klimaklagen, https://www.sfv.de/pdf/ParisSFV7.pdf.

432 It could be argued that this is a sound reason to lower their obligations. In that scenario the obligations of others need to be increased; see Principle 2.2.1 (a) and (b). If the obligations are not lowered, they do not disappear if not fulfilled; see section 27. The relevant countries expose themselves to "trade consequences" (Oslo Principle 20) and the relevant enterprises to the sanctions of Principle 14.1 (d).

433 Safe Climate, o.c. p. 38.

To many enterprises, compliance is a sound business case.[434]

Time is running out. Our update is not the evil, the shortcomings of the past are. We are the messenger of the bad news, not the bad news itself.

Dangerous GHGs

CH_4 emissions and other dangerous[435] GHGs should preferably be phased out in the very short term if the emitted amounts relevantly contribute to global warming. Some of the processes emitting these GHGs may be difficult to replace in the short term. Hence, it is impossible to offer a workable formula on how they should be phased out.

The idea of phasing them out as swiftly as possible is in line with be the message of the G7 Ise-Shima Summit[436] and the agreement on the amendment to the Montreal Protocol, Kigali (Rwanda), October 2016.[437]

Increase and decrease of production and mergers and acquisitions: general observations

These issues give rise to difficult questions. There is no self-explanatory solution that is satisfactory in every single situation. In extreme cases Principle 49 offers a solution. In addition, Principle 3.1 and 4.1 can come to aid.

More importantly, whatever choices are made, they do not majorly go at the expense of the climate. After all, the aggregate emissions determine the carbon budget for the subsequent base period. Hence, choices "only" affect enterprises between themselves and, depending on the choice made, the emissions within the relevant base period.

Increase of production

As the world economy is still growing there will be an increasing demand for products and services. That, in turn, means that many enterprises will be confronted with higher

434 See Basak Baglayan, Ingrid Landau, Marisa McVey & Kebene Wodajo (BHR, Frank Bold and ICAR), Good Business, the Economic Case for Protecting Human Rights, https://corporatejustice.org/eccj-publications/12124-good-business-the-economic-case-for-protecting-human-rights.

435 Dangerous in the sense that they have a greater and more intense warming potential than CO_2, the 'conventional' GHG. See Principle 1 under definition of CO2 equivalent.

436 G7, Ise –Shima Summit, Leaders Declaration, https://www.mofa.go.jp/files/000160266.pdf p. 27.

437 https://www.unenvironment.org/news-and-stories/news/kigali-amendment-montreal-protocol-another-global-commitment-stop-climate. See in more detail Gerrard and McTiernan, Developments In International Climate Change Law o.c. Once again, this new agreement can only be welcomed, but the reductions required fall short of what is needed. As so often, it comes too late and is too little.

demands. Increasing demand has to be related to the relevant base year. This begs the question how to account for the resulting emissions.

There are three possibilities:

i. to "allow" for these emissions which means that the relevant enterprises gain higher emission "rights"
ii. "allow" for part of these emissions
iii. require full offsetting of the emissions needed for the GHGs to meet the increased production.

It is in line with Principle 9.2 to opt for best practice in relation to the emissions caused by meeting the demand for more products. We acknowledge that Principle 9.2 is about new activities, but there is no compelling justification to treat both scenarios differently. We realise, of course, that it may be easier to require best practice in relation to a brand-new factory compared to an existing one, but the climate does not care about these practicalities. What matters is that the reductions needed for a higher demand of specific products and services are as low as possible.

This approach still leaves unanswered how to deal with the additional emissions caused, even if "best practice" is achieved and maintained. Is the enterprise under an obligation to fully offset them by taking countervailing measures or not? In line with the approach adopted in the commentary to the EP we do not believe that the relevant emissions have to be offset *in future base periods*. The reasons for this position are:

- This position is in line with the approach adopted by the Oslo Principles in relation to States, and also the adapted version of Principle 2.2.1 (b) and (g). An increase of the population has a direct impact on the permissible quantum of a country and via Principle 2.1.1 on each enterprise active in an APQ country. As explained in the commentary to Principle 1 under global carbon budget, population growth, we have considered to mitigate the consequences of unbalanced population growth, but arrived at the conclusion that we would be best advised to refrain from entering this mine field;
- If all additional emissions would have to be offset, the relevant enterprises will seek easy "solutions" such as outsourcing or building production facilities in BPQ countries with low NDCs.[438] The resulting carbon footprint would be negative for two reasons: the emissions caused by unnecessary transport and the lower reductions required;
- Our preferred solution has no ramification on the climate. It "only" means that the emissions required to meet the higher demand will deplete part of the remaining carbon budget for the next base period. That means that there will be less room for emissions by other entities.

438 Principles 5.1 and 23 put up a barrier to outsourcing.

The increase in production may arise anywhere between the start and end of the base period. How to deal with these different scenarios? We strongly believe that the better solution is to reckon with the new situation as from the subsequent base period. If higher emissions would be allowed in the course of the base period during which they arise, the aggregate global emissions during that base period would exceed the maximum level allowed to keep global warming below fatal thresholds as the following example illustrates. Assume that an enterprise, whose emissions amounted to 100 at the beginning of the base year, had to achieve reductions at a rate of 20% during the base period in point; the increase of production is 10%:

a) The higher emissions would count immediately
   Emissions at the starting point: 100; to be added 10 in light of the increase almost at the starting point. Reductions to be achieved 20% of 110. Final goal: 110 – 22 = 88.
b) The higher emissions do not count for the relevant base period, but they do for future base periods.

Emissions at the starting point: 100. The increased emissions do not create additional emission "rights" for the base period in which they fall. Suppose, in the base period in which the production is increased the reduction to be achieved is 20% of 100. That means that the emissions should be 100 – 20 = 80 at the end of that base period. That means that the additional 10% has to be reduced or that countervailing measures to offset the emissions over the base period in point.[439] As from the subsequent base period the increase will be taken into account which means that the reductions have to be achieved over 80 + 10.

Needless to say, an increase in production does not mean that an enterprise has more time to reduce all emissions to zero.

Decrease of production

As a rule, closing part of an enterprise's activities down will diminish the total GHG emissions of the enterprise.[440] In that scenario, the GHG emissions no longer emitted by the closed part count as reductions for the enterprise as a whole. If the reduction achieved in a specific base period is higher than required by these Principles, the surplus can be deducted from the reduction the enterprise fell short of achieving in the previous base period along with the percentage mentioned in Principle 14.1 (d). Any remaining surplus

439 Unless measures to the contrary are taken emissions occur every day. Reducing one's emissions with x% in the sense of Principle 2.1.1 means: they no longer occur, f.i. because renewable energy has been put in place. Offsetting one's emissions over a base period means: they are offset *for that period*, but reappear thereafter.

440 Not necessarily so. F.i., the relevant part may only have used renewable sources of energy.

can be deducted from the emissions required in the subsequent base period (Principle 2.1.2). Principle 2.1.3, however, will not apply. The reason for this position is that in today's world global consumption is still rising and there is little reason to believe that this will change soon, perhaps with the exception of times of crisis as the world experiences at the time of finalising this update (the corona virus). That means that closing down (part of) a factory is no bonus to the climate. The resulting products, similar and in some instances other products will still be produced and the production will usually cause emissions. Hence, applying the bonus of Principle 2.1.3 to a significant decrease of emissions would have an adverse impact on the climate.

Mergers and acquisitions

As to mergers, two scenarios have to be distinguished: so-called share deals and asset deals. Share deals do not need to be discussed as only the shareholder will change; this does not affect the legal person that must reduce the enterprise's emissions or the share or quantity of emissions to be reduced. In that respect it is irrelevant whether or not the new owner is based in another country because the reduction-rate is based on the country in which the GHGs are emitted unless the relevant enterprise is a global enterprise; see Principle 5.1.

An asset deal means, for practical purposes, that the buyer acquires the assets of another enterprise, whereas the employees remain employed by the seller.[441] Such a deal – the sale of a (part of the) enterprise – does not cause difficulties for the purpose of our Principles. We assume that enterprises know or are able to calculate the GHG emissions of their distinguishable parts, and thus know the amount of GHG emissions 'sold' with the sale of a part of their business.[442] The GHG emissions of the sold part will be deducted from those of the seller and added to those of the buyer. For the reason mentioned above Principle 2.1.3 does not apply to the lower emissions. In subsequent base periods, the buying enterprise's emissions will consist of the sum of its GHG emissions and those of the bought business. Its reduction obligations will be calculated accordingly.

Our calculation per base period may cause some difficulties, in particular if the sale is eventuated at the very beginning of this period. In that scenario the emissions of the buyer will increase, possibly even significantly; the opposite goes for the seller. In such a scenario the solution advocated under increase in production cannot be applied lock stock and

441 Unless the applicable law determines otherwise, as, for example, European Council, Directive 2001/23/EC of 12 March 2001 on the approximation of the laws of the Member States relating to the safeguarding of employees' rights in the event of transfers of undertakings, businesses or parts of undertakings or businesses, http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0023&from=EN, does.

442 The calculations should be realistic and accurate, of course.

barrel because the additional emissions on the buyer's end may be significant. Unlike a genuine increase this situation is about a transfer of emissions which, all things equal, should not lead to higher aggregate emissions. In that scenario the buying enterprise has to reduce the relevant part of the emissions for the remaining part of the base period at the rate flowing from Principle 2.1.1 applicable to the buyer.

This pans out as follows. Enterprise A emits 100 and has to reduce its emissions by 20 in a given base period (20%). It sells half of the production and the resulting emissions to enterprise B. B emits 50 and has to reduce its emissions by 10 in the same base period (20%). The transaction is implemented at the start of the base period. This means that A's emissions will decrease to 50 and B's increase to 100. A has to reduce its emissions by 20% of 50; B by 20% of 100.

If the sale were implemented half way through the relevant base period A would have to reduce its emissions by 10 (= 20% over 50% of 100) + 5 (= 20% over 50% of 50); B by 5 (= 20% over 50% of 50) and 10 (= 20% over 50% of 100). Like before, the combined reductions to be achieved by A and B amount to 30.

One question remains: what about an excess? The seller may go into bankruptcy or continue its life as a legal vehicle without or with only a few employees. In such a scenario, the surplus will be of little use to the seller; it no longer emits GHGs, which means that it is no longer under an obligation to curb emissions. Consequentially, there are no emissions from which the surplus could be deducted. In other words, the surplus disappears, as would also happen in the case of bankruptcy.[443]

International transport

Transport is accountable for 14% of global GHG emissions including non-CO2 emissions and 25% of CO2 emissions from burning fossil fuels.[444] Although not specifically mentioned in our principles, it seems useful to address this topic. As emissions caused by domestic transport are included in the emissions brought about by countries and enterprises and therefore covered by the Oslo Principles and these Principles, we confine ourselves to international transport as explained below. The solution advocated below seems a sensible and practical way to account for these emissions.

In our view the emissions caused by international transport of people (either for tourism or not) and goods should count as emissions of the transport company as it delivers a

443 Here, the question arises whether a surplus that can no longer be used by the enterprise that created it, could be sold. In our view, that would require specific (national) legislation.

444 WRI, Everything You Need to Know About the Fastest Growing Source of Emissions: Transport, https://www.wri.org/blog/2019/10/everything-you-need-know-about-fastest-growing-source-global-emissions-transport.

service, or the relevant enterprise if it chooses to perform transport itself. If it would not be willing to bear the cost necessary to curb emissions, it could increase the price of its service.

Emissions from international transport should be calculated by summing the emissions of all transport activities; the enterprise's reduction obligation is then calculated over this number.[445] Its reduction obligation under Principle 2.1.1 is calculated by taking 50% of the reduction obligation of the country of departure and 50% of that of the country of destination.[446] This may seem arbitrary, but incorporating the reduction obligations of the countries through which transport is conducted would be impractical and at times even impossible, for instance in case of transport over the part of oceans that is not under the control of any country or the Arctic.[447]

In its 39th Assembly in Montreal early October 2016, the International Aviation Organization agreed on two policies applicable to international transport.[448] That is an important step forward.[449]

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445 This data is available; an example is KLM's CO2ZERO programme. KLM states that it receives emission data from each flight, and uses this data to calculate its carbon footprint per passenger. More information on this programme is available at: https://www.klm.com/travel/nl_en/about/co2/together/index.htm.

446 This may open a door for 'smart' constructions to minimise the reduction obligation (and therewith probably the cost): f.i. either the contracting parties or a transport company itself arranges transport so that most of the emissions caused are between countries with low reduction obligations. By way of example: horticulture products are transported from Kenya to Italy. Kenya is a BPQ country, Italy is an APQ country; direct transport between these two countries would hence result in relatively high reduction obligations for the international transport enterprise and consequentially high(er) costs. But if the horticulture products are transported from Kenya to Albania, and then from Albania to Italy, the emission reduction obligations would turn out much lower (because Albania is a BPQ country). In the case where this transport is organised by one and the same enterprise, the solution is quite clear: the stopover in Albania should be seen as nothing more than a means to circumvent "the law", and the reduction obligations should be calculated over the transport between Kenya and Italy. In the case where the transport between Kenya and Albania is organised by one enterprise, the products are handed over to another enterprise in Albania and thereafter transported to Italy, the solution is less clear. In the latter scenario, it will be the responsibility of a judge or other legal overseer to correct such evasive behaviour.

447 See about the latter topic, labelled as the use of "ownerless property", Paulo Magalhães and Francisco Ferreira, Global Free Riders, in Paulo Magalhães et al. (eds.), SOS Treaty: The Safe Operating Space Treaty: A New Approach to Managing Our Use of the Earth System, chapter 1 supra 4.

448 See for recent developments https://www.icao.int/Meetings/a40/Documents/WP/wp_561_en.pdf.

449 See in more detail, also about the shipping sector, Michael B. Gerrard and Edward McTiernan, Three Major Developments In International Climate Change Law, New York Law Journal 256 (92) 10 November 2016, http://columbiaclimatelaw.com/files/2016/09070111614-Arnold.pdf. See about recent developments in Bulgaria and Germany, Michal Nachmany et al., The 2015 Global Climate Legislation Study, A Review of Climate Change Legislation in 99 Countries, Summary for Policy-makers, Grantham Research Institute on Climate Change and the Environment at London School of Economics & Political Science, GLOBE and IPU, https://www.researchgate.net/publication/284149889_The_2015_Global_Climate_Legislation_Study_-_A_Review_of_Climate_Change_Legislation_in_99_Countries_summary_for_policymakers, p. 18. Despite the fact that the Agreement is an important step forward, it is too little, too late and too much based on voluntary steps until 2026 (!); see in more detail: International Center for Trade and Sustainable Development (ICTSD), Countries agree international aviation emissions pact, 14 October 2016, http://www.ictsd.org/

Calculation of reductions of enterprises in BPQ countries

As explained in section 31.2 these Principles have to be "applied" as from the first of January after their launch. BPQ country X issued an NDC to the effect that it will reduce its GHG emissions in the five year period between January 1, 2020 and January 1, 2025 by 5 % and in the subsequent 5 year-period by 6 %. The Principles are launched in 2020. Hence, they become "operable" on January 1, 2021. Enterprise A, operating in country X, has to reduce its emissions during the base period between January 1, 2021 and January 1, 2026 by 4/5 x 5% and in 2026 by 1/5 x 6%.

Another example: BPQ country X issued an NDC to the effect that it will reduce its GHG emissions in the five year period between January 1, 2020 and January 1, 2025 by 5 % and in the subsequent 5 year-period by 6 %. Enterprise A opens its doors on January 1, 2021. It has to reduce its emissions over the base period between January 1, 2021 and January 1, 2026 by 4/5 x 5% and 1/5 x 6%.

Principle 2.1.2

This Principle is self-explanatory. Regard should be had to the temporal effect of these Principles, discussed in section 31.

Principle 2.1.3

We have added this Principle to provide enterprises some leniency if an enterprise achieves higher reductions in a given base period than required. The formula has to be applied as follows. Enterprise X had to reduce its emissions in a base period by 10%; it realised reductions at a rate of 15%. In the previous base period it also had to reduce its emissions by 10%; instead it only realised 5%. In this scenario this Principle does not apply because X still falls short of its reduction obligation because it should have reduced its emissions by 10% + 5% + 8% over (the shortfall of) 5% = 15,4%. See for the 8% Principle 14.1 (d). If it had realised more than 15.4%, say 16.2%, 0.8% can be deducted from the reductions to be achieved in the subsequent base period.

One can debate at length about the meaning of significant. At the very least it should be relevantly more than the 4% bonus emanating from this Principle. Depending on the case in point high reductions in absolute terms but low in relative terms (in terms of a percentage) may carry weight.

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bridges-news/biores/news/countries-agree-international-aviation-emissions-pact and IATA, Airlines Hail Carbon Agreement, www.iata.org/pressroom/pr/Pages/2016-10-06-02.aspx.

Early reductions are a benefit to the world. Therefore there ought to be a reward for doing so. We realise the 4% is a bit arbitrary. We tried to balance both the interests of the relevant enterprises and the world at large. Giving these interests the same weight results in 4%, i.e. precisely halfway 0% and the 8% mentioned in Principle 14.1 (d). Principle 2.1.3 can only be invoked for achieving actual reductions, not for countervailing measures.

In just mentioned example (the 0.8% scenario) the 4% "bonus" does not apply because 0.8% over a base period is not significant.

See for the consequences of significantly lower emissions caused by decreasing production under Principle 2.1.1.

This principle only "applies" from the launch onwards. That means that reductions achieved in the past and non-achieved reductions in the past will not be taken into account *in this principle*. This is not to say, of course, that non-achieved reductions under the EP do not matter. They do; as a rule they still need to be effectuated and this factor will play a role under Principles 3.1 (a) and 4.1. If an enterprise has achieved higher reductions than required under the EP, that factor will carry weight in the context of Principle 3.1 and 4.1.

Principle 2.1.4

Keeping global warming below 1.75°C requires significant reductions of GHG emissions. In line with the common but differentiated responsibilities maxim emphasis is to be put predominantly on reduction of the emissions of APQ countries, enterprises active in these countries and global enterprises.

As a rule of thumb, in the EP and this update, countervailing measures (providing money or technology to others instead of reducing one's own emissions) are only allowed if all reasonable steps have been taken to effectuate the enterprise's reductions (Principle 13.1). In such a scenario double counting has to be avoided (Principle 13.4). In spite of the best intentions of those involved, it cannot be taken for granted that double counting *is* avoided. That in itself is a reason to be cautious with alternatives to reducing one's own GHG emissions.

This being said, we have to be pragmatic. Keeping global emissions below fatal thresholds is what ultimately counts. Hence, we are keen to avoid unnecessary hurdles to achieve that imperative. Principle 2.1.4 offers an alternative to reducing one's own emissions even if that would have been possible. In line with the just mentioned reasoning, that requires more than just offsetting the non-achieved own emissions. The alternative reductions should be "significantly higher".[450] "Significantly" leaves room for some flexibility

450 That is not fully in line with art. 4 para 1 Kyoto Protocol which is about fulfilling commitments jointly. The reason for our different approach is that the Kyoto Protocol dates of 1998. Since the urgency to come to

to tailor a fair interpretation to the case in point. Thus, f.i., a distinction can be made between an enterprise which generates little profits, or an enterprise putting vital or luxury products on the market. For the avoidance of doubt: even if an enterprise only generates modest profits "significant" should be taken literally. All we are saying is that even more may be required from a manufacturer of luxury products which wants to invoke this Principle.

It should not be too easy to avoid effectuating one's own reductions. If an enterprise provides another enterprise with the technical or financial means to achieve its reductions, this could lead to a scenario where at some stage real emissions by the provider of technical or financial means would count as no emissions. That, in turn, means there are no additional reduction obligations for the enterprise that has provided the financial or technical means. Hence, the more an enterprise has, on paper, achieved all reductions, while achieving none in reality, the more stringent "significantly" has to be interpreted.

This Principle begs the question whether the "bonus" of 4% under Principle 2.1.4 can be invoked for the excess of "significant" and whether alternative reductions in excess of "significantly higher" can be carried forward or backward under Principle 2.1.2 or 2.1.3. As to carrying back- or forward the better option is to deny such a possibility and a fortiori the "bonus" of 4%. We can easily imagine the possibility that an enterprise could achieve significant cheap reduction by providing an enterprise in a developing country with financial or technical means. There should not be too much of an incentive to avoid achieving one's own reductions.

Principle 2.2.1

(a) Unlike the OP and the EP, the update is based on the global carbon budget. The logic behind the approach adopted by the EP and the update is not different. The formula adopted in Principle 2.2.1 emphasises that the global carbon budget is not to be exceeded. After all, if there is no longer a carbon budget, there is no more room for emissions unless they are at the same time and to the same extent adequately offset. To ascertain this imperative the global carbon budget has to be recalculated every base year (Principle 2.2.1 (g)).

See for the calculation of the global carbon budget, the climate scenario to be adopted, the meaning of per capita, population growth, the 1.75°C approach and the role of the precautionary principle under the definition of Global carbon budget (Principle 1) and for the precautionary principle also section 22.8.

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grips with climate change has significantly increased which means that emphasis should be put on the reduction of one's own emissions.

(b) The update is based on reductions to be achieved per base period; see for elaboration under Principle 1, Base period.

Why five year periods?

The reasons for adopting a five year period are:

- to offer certainty for that period. At least some certainty about the immediate future is required to allow an enterprise to adopt the necessary measures to achieve the required reductions. As explained above – inter alia in sections 7 and 27 – the odds are against those betting on a high likelihood that the carbon budget is going to be depleted along the glidepath; see for the meaning of "glidepath" below. Much more likely than not, it will be depleted at greater pace which will require additional efforts to keep the increase of global temperature below 1.75°C compared to pre-industrial levels. Enterprises would be best advised to take this inconvenient truth into account when making investment decisions to the effect of reducing their emissions;
- enterprises in high end APQ countries will have to reduce their GHG emissions significantly in the course of the first base period. We considered offering greater leniency – for example a ten year period – but refrained from opting for such a period seeing the need to recalculate the carbon budget and incorporate all relevant changes in the Global carbon budget in a timely manner for the reasons explained in sections 7 and 27. A period of five years offers at least more room compared to the one year period of Principle 2.1 EP.

The update is more concrete on how to calculate the permissible quantum per base period. To that effect the global budget is to be calculated "consistent with a glidepath of steady reductions towards net zero emissions without exceeding the global carbon budget." The glidepath-approach is borrowed from the commentary on the Oslo Principles,[451] with a caveat: the carbon budget and by the same token the glidepath has to be recalculated every base period (Principle 2.2.1 (g)).

The glidepath

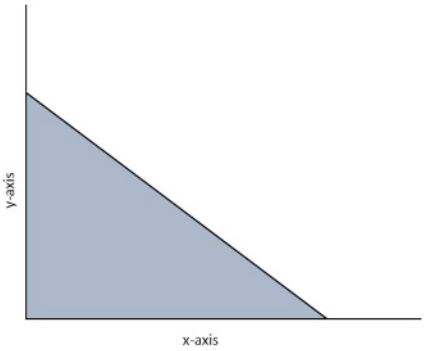
The glidepath has to be understood as follows. Let us assume that the global carbon budget allows for a glidepath of steady reductions towards net zero emissions by the end of 2050 (see for the calculation of the global carbon budget the definition under Principle 1).

451 P. 62 ff.

Assuming that 2020 will be the first base year, this means a glidepath for the coming 30 years. In this example we assume a global carbon budget per capita of 100 Gt.

In our example the global carbon budget per capita (100Gt) and the time period in which to achieve net zero emissions (30 years)[452] are known.

If we take a linear approach towards net zero emissions this would provide the following figure:



The permissible quantum is the yearly emissions (Gt) per capita on the y-axis (height). The years to deplete the global carbon budget are shown on the x-axis (base).

In this example, the carbon budget is the surface of the triangle. The calculation of the surface of a triangle is the base multiplied by the height, divided by two: 100 = 30 x PQ x 0.5. The permissible quantum (PQ) in 2020 would be: 100:0.5:30 = 6.67 (Gt).

This Principle speaks of "net zero emissions". As explained in Principle 1 under countervailing measures and Principle 13.1 we are very reluctant to bet on "negative emissions". Yet, they are not entirely avoidable, if not for other reasons because in the future fossil fuels may still be necessary for other purposes than generating power.

(c) This Principle does not need further elaboration. It is based on the idea that countries will refrain from formulating NDCs they do not want, or are unable to achieve.[453]

According to Oslo Principle 23 a State is temporarily exempted from its obligations in case of "excessive hardship or extraordinary circumstances beyond the State's control". In such a scenario an enterprise active in such a State is not necessarily relieved from its obligations. It only is exempted if it can successfully invoke Principle 17. That is in line with the approach adopted by the Oslo Principles. According to the commentary to

452 As explained in section 7 we wonder whether we still have 30 years.

453 See about art. 4.2 Paris Agreement – the relevant article – Harold Winkler, in The Paris Agreement on Climate Change, o.c. p. 146 ff.

Principle 23 OP is about "circumstances such as a major natural catastrophe that lays *major parts* of a country in ruin".[454] If the catastrophe does not majorly affect an enterprise active in the country, as a rule it cannot invoke Principle 17.

(d) i

The reduction percentage

The reduction percentage[455] is to be calculated as follows. The calculation under Principle 2.2.1 (b) provides a permissible quantum of GHG emissions per capita for a relevant base period. By way of example: in a given base period the permissible quantum of GHG emissions is 10 Gt per capita. A country's annual per capita emissions are 4 Gt; if unabated this would mean emissions of 20 Gt in that base period. The reduction percentage in this example is 10:20x100 = 50%.

Calculation of the NDCs of BPQ countries

Principle 2.2.1 (d) i introduces a new feature: the deduction of the sum of GHG emissions to be curbed on the basis of the NDCs of all BPQ countries divided by the population of all APQ countries together. The reason for doing so is to lower the already very heavy reduction burden of most[456] APQ countries. If one or more of the NDCs are not met, the resulting figure will co-determine the global carbon budget for the next base period.

One member of our group rightly observed that the calculation of the amount of GHGs to be deducted is not so easy. To start with: there is no list of APQ and BPQ countries. The list will change every base period because the carbon budget has to be recalculated (Principle 2.2.1 (g)) and the per capita emissions of countries will change over time. The calculation, however, is possible. One "only" needs to apply the formula of the definition of APQ and BPQ countries; see Principle 1.

Fully reliable information may be unavailable concerning the size of the population and/or the emissions of a relevant country;[457] see Principle 1, definition of carbon budget. Much more likely than not, the impact on the formula between the available information and "reality" will be small. If the calculation is executed in good faith – as is to be expected

454 O.c. p. 79.

455 See Principle 2.1.1 in conjunction with Principle 2.2.1 (d).

456 The reduction burden of most low end APQ countries is not very heavy.

457 See for the emissions per country IEA, Countries and regions, https://www.iea.org/countries and for the population per country The World Bank, Population, total, https://data.worldbank.org/indicator/SP.POP.TOTL. We are not suggesting that these figures have to be applied; there may be alternatives. The reason for referring to these sources is to emphasise that the information is readily available.

– enterprises cannot be blamed if they are slightly mistaken. If their reductions, based on good faith calculations, fall short of what is needed based on "the right calculation" – which may come to light based on facts only available post facto – that does not count as a shortcoming under Principles 2.1.2, 13 and 14.

We acknowledge that it may take some time to calculate the NDCs of BPQ countries, because some are lengthy documents, but that is doable.[458] It may indeed be a bit of a challenge to translate some specific NDCs into concrete reductions that a relevant country aims to achieve; for the purpose of our calculation only clear reduction targets count. If a country has not submitted an NDC – a few countries did not[459] – it has to be assumed that it is unwilling to curb its GHG emissions.

We do not underestimate, but one should not overestimate either, the cost involved in making these calculations. If our Principles, in particular Principle 2, gain traction, the calculations will become readily available. Interested parties, businesses or business organisations, investors or groups of investors, consultants, international organisations, NGOs and academics, could join forces, or they could ask others (including members of our group) to effectuate the calculations. Anyway, enterprises that feel that making the calculations is overly burdensome have an easy escape: they can – and have to – apply the formula without the deduction.

A reality check

We have executed a reality check to determine the consequences of our approach for individual countries. It is clear that our approach is demanding for many, but we do not think it is unfair with one possible exception: Iraq. The country was devastated by war and may not have the financial resources to reduce emissions significantly. It might well be fair to lessen its burden and by the same token the burden of domestic enterprises. That would not have a significant impact on global emissions.

For the remainder: most countries with high per capita emissions are the same countries which have reaped the fruits of large-scale combustion of fossil fuels; they should have to the resources to effectuate the required reductions and, if unavoidable, to take countervailing measures.

Our approach is in line with the concept of common but differentiated responsibilities and respective capabilities. In a handful of instances it could be debated at length whether the population of a highly emitting country has benefitted equally from the combustion of fossil fuels. Even in those instances the country was aware of the global problem and

458 See for the latest information on the respective NDCs https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx.

459 See for information the previous footnote.

has had the means and resources to effectuate reductions. The global community has no control over the way individual countries are governed. Domestic politics on the distribution of wealth are not within the scope of these Principles.

(d) ii, see for elaboration under Principle 2.2.1 (c).

(e) This Principle is self-explanatory. See under Principle 1, CO2 equivalent.

(f) Ideally speaking each year's reduction should be 1/5 of the reductions to be achieved in the relevant base period. However, that could create practical problems for the countries in point. The carbon budget and by the same token the reduction obligation derived from that budget is only known at the start of the relevant base period. Hence, it may be too much of a challenge to take the required measures straightaway. This does not mean that the country has full flexibility. Its efforts to achieve 1/5 each year should be genuine and, if requested, it should explain why this cannot be met and how it intends to achieve the required reductions in the base period. The same applies to enterprises (Principle 2.1.1).

(g) Ideally speaking, the recalculation of the carbon budget should be executed every year, but that would make anticipation and policy-making impossible. Hence, we opt for recalculation every five years (per base period).[460] See in more detail Principle 2.2.1 (b) under Why five year period? and section 27.

The factors that determine the carbon budget will almost certainly change for the worse every base period; see section 7. We can only hope for the better, but it is unlikely that the reductions to be achieved in the near future come even close to what is needed. At some stage the picture may become rosier due to significant negative emissions,[461] but for the time being the options are limited.[462] Hence, it would be mistaken to calculate the budget still available for depletion for more than one base periods. After all, we cannot tell the fortunes.[463]

460 The commentary to the EP also points to the importance of some certainty: p. 62.

461 We realise that at some stage negative emissions will be unavoidable to offset GHG emissions that cannot be reduced or avoided, such as cattle breeding, steel production, and production of some chemicals. Seen from a global angle a discussion on negative emissions is pointless as long as the technical means to achieve the same are not yet available at a relevant scale. The Ministerial Katowice Declaration on Forests for the Climate, https://cop24.gov.pl/fileadmin/user_upload/Ministerial_Katowice_Declaration_on_Forests_for_Climate_OFFICIAL_ENG.pdf takes the view that "all pathways that limit global warming to 1.5°C project the use of carbon dioxide removal".

462 See about the need for negative emissions and practical possibilities Michael B. Gerrard, Direct air capture: An emerging necessity to fight climate change, https://climate.law.columbia.edu/sites/default/files/content/docs/Michael%20Gerrard/TR%20MarApr%202020%20Gerrard%20article.pdf.

463 See UNFCCC preamble p. 2.

Principle 2.2.2

Principle 2.2.2 is an obligation vested on countries. It is one of the means to avoid passing fatal thresholds. It has an indirect impact on enterprises: when the relevant governmental agency is not allowed to grant permits for unnecessarily inefficient or excessively emitting new activities they should be a non-starter. This obligation is interwoven with Principle 35 (Impact assessments).

By way of example: a new airport or the expansion of an existing airport in a poor country to allow for increasing tourism, which will help alleviate the poverty-rate in the country.[464] We do not dare to say that this is unnecessarily excessive, even if no countervailing measures are taken; see also section 30. If the costs of countervailing measures can reasonably be inserted in the airport tax, that factor carries significant weight; see Principle 11 para 1. In developed countries new airports or expanding new ones may be allowed, but only if appropriate countervailing measures are taken, irrespective of whether they can be passed on to the users of the airport (the passengers).[465]

Another example: a permit for the exploitation of a new oilfield.[466] As a rule of thumb this should only be granted if sufficient countervailing measures are taken because global emissions should decrease and not increase or, at best, stabilise.[467]

The reason for inserting this principle also lies in Principle 38.1: investments in non-complying entities which explicitly include investments in countries. This requires elaboration on some key obligations of countries.

We have considered reformulating all the obligations of the Oslo Principles but decided to refrain from doing so for practical reasons. The developments mentioned in the section 7 demand issuing this update as soon as practical. Full revision of the Oslo Principles would have caused unnecessary and potentially significant delay, also because organising a meeting

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464 Reality is that it often also, if not predominantly, increases the gap between rich and poor in that country, but even so the poor also benefit.

465 We do realise that this is a sensitive issue. See for a different view the Schwechat-case, http://climatecasechart.com/non-us-case/in-re-vienna-schwachat-airport-expansion/ and about that case Dieter Altenberg, Arza Dizdarevic, Georg Schwarzmann, Austria, The Aviation Law Review Edition 7, https://thelawreviews.co.uk/edition/the-aviation-law-review-edition-7/1197151/austria. See in more detail under Principle 35.

466 See also sections 18.3 and 18.4.

467 This is in line with the joint statement of five UN human rights bodies, o.c. under States' Human Rights Obligations under 2 and 3. See for a different view: Oslo District Court 4 January 2018, http://www.xn--klimasksml-95a8t.no/wp-content/uploads/2020/01/dom.pdf, and for an unofficial translation of the judgment of the court of first instance http://www.klimasøksmål.no/wp-content/uploads/2019/10/Judgement-4.-jan-2017-Oslo-District-Court-stamped-version.pdf and on appeal Borgarting Court of Appeal 23 January 2020, http://climatecasechart.com/non-us-case/greenpeace-nordic-assn-and-nature-youth-v-norway-ministry-of-petroleum-and-energy/. At the time of writing the case is pending before the Norwegian Supreme Court.

with a group of experts from around the globe is impossible and will likely remain impossible for quite a while due to the corona-virus.

The obligation in Principle 2.2.2 is confined to new activities or the expansion of existing unnecessarily inefficient or excessively emitting activities because it will often be difficult, if possible at all, to revise existing permits. For the meaning of excessively emitting we refer to the commentary to Principles 9, 11 and 12.

Principles 3 and 4: flexibility to determine the reduction obligations different from Principle 2.1.1

In our quest for a workable and clear formula we had to lump together enterprises in spite of at times not insignificant differences in their performance in the face of climate change. Principles 3 and 4 offer an instrument to tailor the obligations of enterprises to cope with these differences. To avoid arbitrariness and a race to the bottom to the detriment of the climate we had to restrict the possibility of a determination different from the obligations emanating from Principle 2.1.1.

Some countries take measures geared at significant reductions such as closing coal fired-power plants. Depending on the relevant circumstances, the reason for taking such a measure may be considered as an implicit application of Principle 3.1 or Principle 4.1. In that scenario it seems fair to take the achieved reductions into account when determining the reduction percentage of other enterprises within the country. That may require difficult calculations.

Since this update submits more and at times much stricter obligations than the EP, it provides some flexibility for self-determination by enterprises if countries refrain from applying Principle 3.1 or Principle 4.1. We realise that the commentary to the EP takes the stance that "offering a vague formula allowing enterprises to lower their obligations under Principle 2 would be of limited or no avail to enterprises."[468] Although not perfect in borderline cases the current version provides a formula which gives enterprises a workable basis for self-determination of their obligations different from Principle 2.1.1 by using the flexible formulations "beyond reasonable doubt" and "stringent application" in Principle 3.3.1 and "manifestly unreasonable" in Principle 4.3.1.[469] The reason why Principle 3.3.1 and Principle 4.3.1 should be acceptable lies in Principle 3.3.3 and Principle 4.3.3: the remedies if an enterprise sets the bar too low.

The flexibility for self-determination offered by Principles 3.3.1 and 4.3.1 is confined to scenarios where the relevant country does not use its flexibility "at all" under Principle

468 P. 122.

469 See for a similar approach art. 222-1-C (French) Decree 2015-1491 concerning national carbon budget.

3.1 or Principle 4.1. If and to the extent a country does use its flexibility under Principle 3.1 or Principle 4.1 for some and not for other enterprises, or if an enterprise believes that the country was not lenient enough, it has to respect the country's choices. If a country has used the flexibility under Principle 3.1 or 4.1 it has to be assumed that it deliberately chose to refrain from doing so in other situations. All the more so because an enterprise which believes its reduction-burden should be lowered can apply for flexibility. If the country refuses the request there should not be any room for self-determination. This leaves untouched that an enterprise, unhappy with the country's choice, can submit the case to domestic courts, assuming that the courts will in principle accept the approach adopted by Principle 3.1 or Principle 4.1. If courts do not, the enterprise could seek a declaratory judgment about its reduction obligations if it is keen to learn its reduction obligation.

States may feel tempted to be overly lenient to some or more enterprises, either by wrongly applying Principle 3.1 or Principle 4.1 or by ignoring them altogether. If the interpretation is *clearly* mistaken the enterprise is only relieved of the part of its reduction obligations that matches with a reasonable interpretation of Principle 3.1 or Principle 4.1.

The "sanctions" mentioned in Principles 3.3.3 and 4.3.3 have to be interpreted with common sense. They do not apply if an enterprise only marginally failed to comply with its self-determined obligations. The meaning of "marginally" depends on the case in point. If an enterprise had to reduce its emissions by 20%, a difference of 0.5 % could be marginal if it only happens once. If its reduction obligation amounted to 5%, a difference of 0.25 % is probably not marginal. This being said, enterprises would be well-advised to err on the safe side. For the avoidance of doubt: this does not negate the obligation to add the shortcoming to the next base period (Principles 3.3.3 and 4.3.3).

Principle 3.1

This Principle enumerates a series of factors to be considered when a country aims to determine an enterprise's reduction obligations to be different from what they would be under Principle 2.1.1. These factors should be given serious weight. See for elaboration the commentary to the EP.[470] Factor (h) has been added.

(a) Under Principle 2.1.2 we already discussed reductions achieved and non-achieved in the past. If an enterprise did not meet its obligations under the EP, that factor carries weight in determining the country's flexibility under Principle 3.1 (a). *As a rule*, obvious laggards (such as enterprises that did not or only to a very insignificant extent reduce their

470 P. 123 ff.

GHG emissions over the past, say, 10 years) should not be allowed to benefit from this Principle.[471]

(b) and **(c)** "Competitors", "the industry as a whole" and "significance" leave space to negotiate the interpretation to different cases. The size of the enterprise and the market in which it operates carry weight.[472]

(d) This factor leaves quite some manoeuvring room. In the abstract it is impossible to be more concrete about "the extent", and the relevant period. So much is clear: the smaller the extent or the longer it takes to effectuate the relevant measures, the less this factor counts.

(e) This factor carries significant weight. Examples are construction companies specialised in carbon-neutral architecture, and manufacturing (components for) renewable energy technologies. What ultimately matters is balancing the enterprise's own carbon footprint with the carbon footprint benefits for society.[473]

(f) By "vital" we mean goods and services that constitute basic life necessities. Its meaning may be different in least developed, developing and developed countries, a sad reality.

(g) Outsourcing to avoid the enterprise's obligations in the face of climate change is a relevant factor to refrain from lifting part of its reduction obligations. It may be a sound reason to *increase* its reduction obligation, also depending on the other factors mentioned in Principle 3.1. Principle 23 also raises a barrier to this kind of outsourcing.

(h) An enterprise's decision to discontinue outsourcing its production to a BPQ country should be positively factored in when determining whether the enterprise's reduction obligation can be lowered. Firstly, the reduction obligations of enterprises in BPQ countries will mostly be lower than those of enterprises in APQ countries, even in case of global enterprises. Secondly, to discontinue outsourcing part of the manufacturing process often saves unnecessary transport. Thirdly, production facilities in APQ countries tend to be more energy efficient than those is BPQ countries. Finally, this factor is the flip side of factor (g).

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471 As explained in section 31.1 we ignore past emissions for the purpose of Principle 2.1.1. That means that high emissions in the past do not create more reduction obligations under this Principle. The issue discussed in the text is a different one. As a rule there is no reason to be *lenient* to enterprises with poor track record in the past.

472 Commentary to the EP p. 124.

473 Commentary to the EP p. 125.

Over-use of Principle 3.1 by countries

Principle 3.1 offers a complying country quite some flexibility to re-determine the reductions of enterprises. It might feel tempted to reduce the reduction obligations of many enterprises, f.i. because it is keen to attract foreign enterprises. If the country respects the factors mentioned in Principle 3.1, that is acceptable. It may even induce other countries to comply with their obligations to create more flexibility for themselves under this Principle.

If the country is overly lenient it runs the risk that it is no longer complying with its own obligations which has a series of adverse effects. One of them is that it loses the flexibility offered by Principle 3.1 and has to fall back on Principle 4.1 for the next base period(s).

A non-exhaustive list

The commentary to the EP emphasises that the factors enumerated under (a) to (h) are not exhaustive. Other factors that are relevant, seen from an objective angle and not merely in the view of the person in charge with the re-determining, may also be used in the process mentioned in this Principle.[474]

Principle 3.2

This Principle is self-explanatory.

Principle 3.3.1

No carte blanche

We reiterate that this Principle does not provide carte blanche to enterprises to determine their own obligations; see also Principles 3 and 4: flexibility to determine the reduction obligations different from Principle 2.1.1. Doing so requires a stringent application of Principle 3.1. In addition, it should be beyond reasonable doubt that the self-determining enterprise will achieve the alternative reductions. If the self-determined reductions are not realised, Principle 3.3.3 provides an appropriate remedy.

474 Commentary to the EP p. 126; it speaks about "another compelling reason". Our formulation is more lenient.

Examples

A few examples may illustrate how to interpret this Principle.

If an enterprise's starting point is very different compared to its competitors, for instance because it has a state of the art factory with low emissions (Principle 3.1 under (a) and (b)), it could be justified to lower the enterprise's reduction obligation, particularly if it would not have the financial means to pay for the additional measures to reduce its emissions even further. Such a scenario suffices, unless one or more of the other criteria (c-g) indicate that there is no (or less) room for self-determination.

Another example is an enterprise that manufactures products which contribute to a low carbon society (Principle 3.1 (e)). Assume the enterprise's emissions are x; on the basis of Principle 2.1.1 they had to be 0.9x. The enterprise manufactures solar panels. The use of these panels hugely offsets the shortcoming of 0.1x. This scenario does not *necessarily* suffice; f.i. the enterprise's financial capacity to reduce its emissions further may carry weight, also depending on the net benefit to the climate of solar panels and the shortcoming. Once again, the other factors may point to more or less leniency.

The extent to which the enterprise's financial means have to be used to reduce emissions raises a difficult question. Insofar the use of solar panels hugely offsets the shortcomings, one could argue that this is enough benefit for the world as a whole. On the other hand there is a great urgency to reduce global emissions significantly and at great pace. Balancing both the interests of enterprises and those of the world at large is difficult and to some extent arbitrary. Especially in cases mentioned in Principle 3.1 under (e) it is important not to disincentivise this kind of activities and to make these enterprises as attractive as possible for investors, in line with the strongly emerging trend to invest more in products and enterprises which contribute to a low carbon society.

Another example:

- an enterprise (X) produces a non-vital product
- it does 25 or 50% better than its closest competitor regarding the reduction of emissions
- it complies with 50, 70 or 90% of its reduction obligation under Principle 2.1.1
- financial capacity: the enterprise does not have the financial means, has difficulty or would have to use a significant part of its profits to achieve the required reduction, or it can easily afford achieving its required reductions.

A matrix of the respective factors

We put the different factors into a matrix. For instance: enterprise X does 25% better than its nearest competitor, achieves 90% of the required reductions and does not have the financial means to achieve more reductions. This matrix creates 18 different scenarios.

We used this matrix to determine in which of these scenarios leniency to the enterprise in point could be justified, meaning a different reduction obligation than emanating from Principle 2.1.1 would be acceptable under Principle 3.3.1.

We conducted a survey among some of the members of our group. The results were largely conclusive. If the enterprise in point falls significantly short of meeting the reduction obligation under Principle 2.1.1 (in our example 50%) there is no room for self-determination under Principle 3.3.1. As a rule there is no justification either if the enterprise achieves only 70% of the required reductions.

If the enterprise has the financial capacity to easily reduce the emissions to the extent required under Principle 2.1.1, only in exceptional cases there would be room for self-determination under Principle 3.3.1.[475]

If the enterprise does 25% better than its closest competitor in achieving the required reductions, only in exceptional cases there would be room for self-determination under Principle 3.3.1.

Border line cases difficult

We are mindful that this principle may produce somewhat arbitrary results in borderline cases. However, that is unavoidable. Alternatively, we could have offered a concrete formula which would create certainty, but at the same time produce unfair results in concrete cases.

If the self-determination is not in line with this Principle the enterprise has to comply with its obligations under Principle 2.1.1.

Principle 3.3.2

Principle 3.3.2 seems self-explanatory. It emphasises the importance of compliance with the outcome of the flexibility test under Principle 3.3.1 in conjunction with Principle 3.1.

Principle 3.3.3

On the same note, there should be a strong disincentive to abuse Principle 3.3.1. The enterprise in point is barred from invoking Principle 3.3.1 for future base periods. Future base periods is deliberately a bit vague. It depends on the circumstances whether the enterprise should be barred for one or more base periods. If the shortcoming is significant,

475 As already mentioned, a different approach may be justified under Principle 3.3.1 depending on the weighing of all relevant factors enumerated under Principle 3.1.

as a rule it will be fair to bar it from using Principle 3.3.1 for several base periods. "As a rule" because the reason for non-compliance (force majeure, unforeseen circumstances, or unwillingness) may carry weight. If the shortcoming was marginal barring the enterprise from invoking Principle 3.3.1 for one base period should suffice.

The 8% in Principle 3.3.3 is borrowed from Principle 14.1 (d).

Principle 4.1

In the short term few countries will comply with their reduction obligations. Should this deprive the relevant countries of the manoeuvring room to determine the reduction obligations of enterprises within their jurisdiction different from the reduction obligations under Principle 2.1.1? It could be argued that enterprises cannot help it that the countries in which they operate do not meet their obligations, although in quite a few instances they may have opposed far-reaching reduction measures which would not leave them unaffected. Be that as it may, it would be unfair to sacrifice the interests of f.i. enterprises that already have reduced their GHG emissions significantly or have already switched to energy efficient products or services. On the other hand, countries should not get a free ride to ignore their own reduction obligations.[476] The world at large is best served by strong incentives for countries to comply with their reduction obligations. Restricting their flexibility in relation to the determination of the reduction obligations of enterprises in their jurisdiction may serve as a powerful incentive towards compliance.

The (limited) flexibility offered by this Principle is also desirable in light of the broad definition of enterprise. As already mentioned above in the commentary to Principle 1 under Enterprises, public transport or even prisons may fall under this definition. The same may well go for elderly homes or day care for indigent persons. In those instances, the relevant institution will either entirely or partially depend on public money.[477] It may face the dilemma to spend money on the reduction of GHG emissions or lower the, too often,[478] already poor service or increase the already high prices of services. The better solution would be for the government to provide the money needed to ensure a good

476 Whether they have such a "free-ride" depends on inter alia the courts, assuming that the "right" cases are submitted and the pressure from other countries and society.

477 In quite a few countries "private" elderly homes, hospitals and the like also largely depend on money from the government.

478 See, e.g., Megan Mumford, Diane Whitmore Schanzenbach and Ryan Nunn, The Economics of Private Prisons, The Hamilton Project, 2016, https://www.brookings.edu/wp-content/uploads/2016/10/es_20161021_private_prisons_economics.pdf; Jill Filipovic, America's private prison system is a national disgrace: An ACLU lawsuit against a prison in Mississippi is the latest to detail flagrant abuses at a private correctional facility, The Guardian, 13 June 2013, https://www.theguardian.com/commentisfree/2013/jun/13/aclu-lawsuit-east-mississippi-correctional-facility.

service. If it is unwilling to do so, it could use this principle to lower the reduction obligation of the relevant institution. If the government decides not to use any of these options, the institution will be on the horns of a dilemma. It might consider legal action against the relevant governmental institution(s) for the money needed to comply with its reduction obligation.

Principle 4 is based on a compromise. It tries to balance the competing interests. Even non-complying countries are granted some flexibility to determine the reduction obligations of enterprises within their jurisdiction, provided that *all* of the conditions of Principle 4.1 (a) to (c) are met. It follows that the mere fact that an enterprise has already curbed its GHG emissions to a significantly higher extent than its competitors or that its GHG efficiency is higher than the efficiency of its competitors will not suffice.

(a) This factor is largely self-explanatory. "Compelling" offers manoeuvring room to tailor a case in point to the relevant circumstances. It goes beyond ticking the box. The circumstances should be genuinely compelling. In addition: this is only one of the three relevant criteria. All of them have to be met.

(b) We have rephrased the wording of Principle 4.1 (b) to better express that the non-complying country only has flexibility if the reductions achieved *by all enterprises together* amount to at least the reductions they are bound to effectuate under Principle 2.1.1. See for truly hard cases Principle 4.2.

In most instances it is unlikely that if a country does not comply with its reduction obligations under Principle 2.2.1 the corporate world as a whole in that country does achieve its reductions required under Principle 2.1.1, even less so after re-determination. That means that leniency towards one or more enterprises requires putting quite an additional burden on other enterprises.

As already explained in the commentary to the EP[479] this Principle aims "to balance the competing interests;" more concretely the interests of society and those of the world at large. If the assumption mentioned in the previous paragraph is correct, the non-complying country's flexibility will be very limited. A non-complying country can only apply Principle 4.1 if the enterprises of that country together *achieve* the reductions required. That may seem far-fetched, but that is not necessarily so. F.i., the country could close a coal fired power plant which may have a significant impact on the aggregate GHG emissions of the corporate community in the country.

479 P. 129.

The new wording is more stringent than the wording in the EP. Under the EP the reduction *obligations* of all enterprises were decisive; in the current version the reductions *achieved* are. The reason is, once again, that global emissions are still rising.[480]

(c) This factor is self-explanatory.

Principle 4.2.1

Principle 4.2.1 offers limited flexibility if the condition of Principle 4.1 (b) is not met. It sets the bar high: the country has only room for re-determination of an enterprise's reduction obligation if complying with Principle 2.1.1 would be manifestly unreasonable. To determine whether that is the case the factors enumerated in Principle 3.1 and the adverse impact on global climate change have to be taken into account. The latter is important because Principle 4 is about enterprises in non-complying countries. Non-compliance with Principle 2.1.1 by one or more enterprises unavoidably means that the reduction gap widens even further.

Principles 4.2.2 and 4.2.3

The second and the third paragraph are self-explanatory.

Principle 4.3.1

Unlike the EP, the update provides some flexibility if a country does not make use of its limited flexibility under Principle 4.1 *at all*; see for the justification of this new approach under Principles 3 and 4: flexibility to determine the reduction obligations different from Principle 2.1.1. The flexibility is deliberately very restrictive.

Unlike a country, an enterprise does not have the power to make another enterprise or other enterprises to do more when it wants to lift part of its own reduction burden. Hence we faced a dilemma how to cope with Principle 4.1 (b). On the one hand it is unsatisfactory to create flexibility if all enterprises together fall short of meeting their aggregate obligations under Principle 2.1.1, on the other hand it could be manifestly unreasonable in extreme cases to not allow *any* room for self-determination of the reduction obligation as the following examples may illustrate.

480 World Meteorological Organization, Greenhouse gas concentrations in atmosphere reach yet another high, 25 November 2019, https://public.wmo.int/en/media/press-release/greenhouse-gas-concentrations-atmosphere-reach-yet-another-high; see for the impact of the corona crisis f.i. under Principle 11.

1) An enterprise manufactures vital products for which no immediate alternatives are available; it has state of the art production facilities, and it does not have the financial means for further reductions.
2) An enterprise manufactures products that contribute to a low carbon society. Its emission reductions are 0.9 x; on the basis of Principle 2.1.1 they had to be 1.0 x. The enterprise manufactures solar panels. The use of these panels hugely offsets the shortcoming of 0.1x. The enterprise lacks the financial means for further reductions.
3) An enterprise in a non-complying developing country with very ambitious NDCs, does not have the funds to achieve the required reductions, nor to offset the non-achieved reductions. It employs a large number of local people in a very poor region with no alternative employment opportunities. In this scenario conflicting SDGs come into play: the eradication of poverty and keeping global warming below fatal thresholds. How to balance these and other important features has to be decided in the case in point; see also section 30.

As already mentioned under Principle 4.2.1 "manifestly unreasonable" is a very strict test, justified by the fact that the relevant country does not comply with its obligations. On the other hand, not all vital interests can be sacrificed on that altar.

The formulation "the factors enumerated under Principles 3.1 and 4.1 under (a) and (b) must be taken into account" emphasises that these factors have to be given genuine weight. Ticking the box does not suffice. However, these factors are not necessarily decisive, as just mentioned examples illustrate.

Principles 4.3.2 and 4.3.3

See for explanation the commentary under Principles 3.3.2 and 3.3.3, which have the same content.

Principle 5: General observations

See for the definition of global enterprise and its consequences under Principle 1 under Global enterprise.

The reasons to vest additional obligations on global enterprises are: they are global players and thus generally emit larger quantities of GHGs e.g. due to transport if goods are manufactured by subsidiaries in developing countries and sold on the market of

developed countries.[481] If a parent company based in, say, Norway opts for a subsidiary in f.i. Mali or Venezuela it (often) does so to benefit from the local niceties: lower wages, less environmental and other obligations and quite often lower taxes. Precisely because the environmental standards tend to be low – in quite a few countries global enterprises are so powerful that legislators are reluctant or outright unwilling to create the necessary regulatory framework for combatting climate change[482] – and the NDCs of the relevant countries very modest, such a subsidiary would barely have reduction obligations without a provision like this Principle. See for elaboration the commentary to the EP.[483]

The global nature of the enterprises in point usually allows them to better spread costs. As a rule they are more profitable than domestic players.

The approach to distinguish between purely domestic and global enterprises is by no means a novelty. See for elaboration the Commentary to the EP.[484]

We altered the definition of global enterprise; see in extenso under the definition in Principle 1. We acknowledge that our definition is not self-explanatory. No alternative would be either. Our definition aims to strike a fair balance between the diverging interests, although borderline cases may raise questions.

Principle 5.1

The text of Principle 5 of the EP has been amended. The change in the first sentence "enterprise, being or belonging to a global enterprise" (as defined in Principle 1) is only made for clarification purposes. For the same reason we have split Principle 5.1 into two parts: one about enterprises in APQ countries, and one about enterprises in BPQ countries.

(a) Under the EP the reduction percentage of global enterprises in APQ countries was linked to Principle 2.1.1 (in the current numbering). We have added "by the higher of the reduction percentage that the world at large had to achieve in the preceding base period ….". This aims to avoid that global enterprises in bottom tier APQ countries could have lower reduction obligations than the percentage the world at large has to achieve, and by the same token less than global enterprises in some BPQ countries. If the NDC of a (low

481 The same holds true in case of outsourcing. To some extent that issue is covered by Principles 18 and 23. We do not think that the law has already progressed to a stage allowing, so to speak, piercing the veil created in case of outsourcing. There certainly are movements to ignore specific constructions (f.i. ECJ Kaupunki v Skanska Industrial Solutions 14 March 2019, ECLI:ECJ:C:2019:204 in the context of European competition law) but outsourcing poses additional challenges.

482 Commentary to the EP p. 130.

483 P. 105 ff.

484 P. 105 ff. See Human Rights Council, Report on the fourth session of the open-ended intergovernmental working group on transnational corporations and other business enterprises with respect to human rights, A/HRC/40/48, in particular 5 supra 14, p. 8 under 15, p. 10 under 55, p. 11 under 63, p. 12 under 68, p. 13 under 73, and p. 14 under 76.

end) APQ country would be higher than the percentage the world at large has to achieve or the percentage from Principle 2.2.2 (d) i, the NDC determines the enterprise's reduction percentage (Principle 2.1.1 in conjunction with Principle 2.2.2 (d) ii).

(b) We realise that Principle 5.1 (b) may create a competitive disadvantage for a global enterprise in a BPQ country. To counter-balance this disadvantage, Principle 5.2 creates flexibility for reallocation within the group. That being said, the level playing field issue is commonly overstated.[485]

Principle 5.2

If a parent company makes use of its flexibility under this Principle this may have an impact on the emissions of – mostly – APQ countries because it will often mean that the emissions of enterprises in APQ countries are less reduced and by the same token those of enterprises in BPQ (or low end APQ) countries more. Countries can avoid such reallocation by specific legislation if they prefer to do so. In that scenario Principle 16 does not apply, nor does the corresponding Oslo Principle 12 because such a law would not have any adverse impact on global emissions.

For the remainder this Principle speaks for itself.

Principle 6

This Principle aligns with the emerging view that parent companies are responsible for acts and omissions of subsidiaries.[486] Courts increasingly extend this rule of thumb to liability for unlawful acts of subsidiaries. It is also in line with the approach of the OECD Guidelines for Multinational Enterprises.[487]

We have added "direct or indirect" before control. An example may shed light on this addition. Parent company X, based in country A, has three factories and a sub-holding Y in country B. The obligation under this Principle means that X has controlling obligations over sub-holding Y and the three local factories; sub-holding Y also has control over the three factories in its own right.

485 The Net-Zero Challenge, o.c. p. 24.

486 See for a failed Swiss initiative SWI, swissinfo.ch, UN experts raise concern over Swiss 'responsible business' initiative, https://www.swissinfo.ch/eng/business-and-human-rights_un-experts-raise-concerns-over-swiss--responsible-business--initiative/45269268.

487 See Commentary to the EP p. 138. See also Freshfields Bruckhaus Deringer, Business and Human Rights, Navigating the legal landscape, https://www.freshfields.com/en-us/our-thinking/campaigns/biz-human-rights/, p. 21.

French law can serve as a shining example.[488]

Principles 7 and 8

Principles 7 and 8 are about secondary reduction obligations. That begs the question whether the reductions achieved by complying with one or both of these Principles can be deducted from the primary reduction obligation under Principle 2.1.1.

We are inclined to answer this question in the affirmative, predominantly because what counts is that global emissions will be reduced at the pace required. It does not matter for the climate whether this goal is reached by efficiency, incurring costs that will pay back or other measures. There are more reasons for our position. First, the obligations emanating from the EP and even more so from this update are quite stringent. They are unavoidable to keep the rise of global temperature below (in our update) 1.75°C. However, there is no reason for putting an unnecessarily heavy burden on enterprises. Reductions on the basis of Principles 7 and/or 8 next to those based on Principle 2 are unnecessary to reach our goal. Secondly, in many instances it will be a challenge to effectuate measures within a base period. Our position creates some relief without compromising the climate.

Principle 7

Achieving reductions of GHG emissions at no relevant cost is low hanging fruit as illustrated and explained at some length in the Net-Zero Challenge-report: "[m]ost companies – even in the energy-intensive sectors – can still realize efficiency gains in the range of 20% … at little or no cost."[489]

The foundations of tort law lie at the basis of this Principle. The key formula, around the globe, is based on what can be expected from a reasonable person.[490] It belabours the obvious that a reasonable person should not put the world at large at significant risk if such a person can lower that risk through no relevant cost measures. The Hong Kong ESG Reporting Guide requires

488 Notre affaire à tous, Benchmark, De la vigilance climatique des multinationales, rapport general, https://notreaffaireatous.org/wp-content/uploads/2020/03/Rapport-Général-Multinationales-NAAT-2020.02.01.pdf.

489 O.c. p. 13 with further elaboration. See for a series of measures that could be taken Michael B. Gerrard and John C. Dernbach, Legal Pathways to Deep Decarbonization in the United States: Summary and Key Recommendations, o.c. p. 25 ff. See also WWF and CDP, The 3% Solution, https://www.worldwildlife.org/projects/the-3-solution, Centre for Alternative Technology, Zero carbon Britain, Rethinking the Future, https://www.cat.org.uk/info-resources/zero-carbon-britain/research-reports/zero-carbon-rethinking-the-future/.

490 See for references the commentary to the EP footnote 373 and the discussion about tort law as a legal basis in section 22.7.

> "a company … to decide whether to comply and report … or explain why not … on the efficient use of recourses including energy – this specifically includes both direct and or indirect use of energy (such as in your supply chain), as well as initiatives on energy usage".[491]

The idea to focus on efficiency is by no means a novelty, the EU already emphasised the importance of energy efficiency in 2009.[492]

No relevant cost has to be measured on the basis of the profits of the relevant enterprise.[493] For the purpose of this Principle as a rule of thumb no relevant means additional cost less than, say, 0.1% of the net profit of the year in point for all "no cost" measures that have to be taken together. This figure is on the safe side. It is to be hoped that enterprises are prepared to take these measures even if the costs are higher. Judgments to that effect would also be welcome. An enterprise should strive to take the measures that are the most beneficial to the climate.

Principle 7.1

(a) Lighting accounts for approximately 6% of global CO2 emissions.[494] Reducing these emissions is low hanging fruit and is a benefit to those who can save the cost of energy. Take an office where the lights are left on even when (almost) everybody has gone home. If sensors detecting motion in offices which switch off lights automatically can be installed at no relevant cost this measure should be taken. If such a measure would come at a cost it will often be required by Principle 8.

In the update we have inserted lighting under (a) (and taken it from (b)) because it particularly comes into play if the lighting is of no use (and, by the same token, should "not be in use").

(b) By *excessive* heating or cooling we mean for instance heating over 21 degrees C and cooling below 21 degrees C. Exceptions may apply, for instance in hospitals or elderly homes.[495] Another example of excessive energy consumption is in some instances business travel. The corona-virus era has revealed that it is often quite possible to conduct all kinds of meetings and conferences by means of video or similar techniques. That saves a lot of

491 Maya de Souza, Chartered Secretaries, Climate change – not my problem?, http://csj.hkics.org.hk/site/2017/11/14/climate-change-not-my-problem/.

492 See preamble under 1 and 2 of Directive 2012/27/EU, see also Directive 2009/29/EC.

493 The EP do not contain the word "relevant"; see the commentary p. 137/8.

494 The climategroup.org. See in more detail Eva Mills, The $ 230-billion Global Lighting Energy Bill, https://pdfs.semanticscholar.org/af45/cda1a788e6453c27ea9341a2545408bdf332.pdf.

495 See also UNFCCC preamble p. 3.

travelling and by the same token GHG emissions. It is often much cheaper and saves a lot of travelling time.

(c) is about using electric cars, or public transport if possible and reasonable in the given circumstances.[496] In many instances public transport is a perfect alternative to using – often hugely emitting – company cars.

(d) speaks for itself.

(e) If an enterprise has a choice between electricity generated by fossil fuels and renewable energy it has to opt for the latter if the latter option is not relevantly more expensive. See also Principle 18.1 and 18.2.

Principle 7.2

As a whole this Principle is self-explanatory. It aligns with the need to include a focus on products and services; see also Principle 10.

(a) This Principle is self-explanatory.

(b) Remote-control lights on screens are another example. Each individual light does not cause a great deal of emissions. All TVs, CD players, game consoles etcetera amount to an immense number of lamps that consume energy 24/7 while the device is switched off. The only function of these lights is to signal that the user can use the button on the remote-control device instead of only the switch on device itself. All emissions of these lamps are completely unnecessary and thus excessive. Hence, as a rule, there is no room for such lights.

(c) Over time quite often significantly more efficient products will be put on the market. By then old products – often products with a long life-time – will emit significantly more. Hence, it depends on the circumstances and the amount of emissions caused by a product whether a long(er) life time is a gain for the climate.

As to **(b)** and **(c)** are supported by the EU Ecodesign Directive

> "[t]here is world-wide demand for more efficient products to reduce energy and resource consumption. The EU legislation on ecodesign and energy labelling is an effective tool for improving the energy efficiency of products. It helps eliminate the least performing products from the market, significantly contributing to the EU's 2020 energy efficiency objective. It also supports industrial competitiveness and innovation by promoting the better environmental performance of products throughout the internal market."

496 See also Kyoto Protocol 2 para 1 (a) i.

This directive also contains a provision against 'planned obsolescence' of products.[497]

Even if increasing a product's life-time does not come at a cost, the manufacturer will sell less products in light of their longer life span. Strictly speaking that is not a cost but it means less profits which comes basically down to the same, seen from the enterprise's angle. For the purpose of this principle such an increase does not incur relevant additional cost if the manufacturer is able to charge a higher price to "offset" the benefit of a longer life span.

Principle 8

The International Energy Agency expresses "deep concern" about "the faltering momentum behind energy efficiency improvements."[498] It adds that

> "a sharp pick-up in efficiency is the most important element that brings the world towards the Sustainable Development Scenario. The pursuit of all economically viable opportunities for efficiency improvement can reduce global energy intensity by more than 3% each year. This includes efforts to promote the efficient design, use and recycling of materials such as steel, aluminium, cement and plastics. This increased "material efficiency" could be enough in itself to halt the growth in emissions from these sectors."[499]

It is not entirely clear whether the required measures would come at a cost. If not, they fall under Principle 7; otherwise under this Principle.

The legal basis is basically the same as mentioned under Principle 7. Principles 7 and 8 differ, but they have much more in common. Both require measures that do not come at a cost, albeit that enterprises have to advance costs under Principle 8. In light of the urgency to cope with the threats of climate change Principle 8 is fully justified, if not required.[500] All the more so because many projects can end up in not insignificant savings.[501]

Additional costs include interest that has to be paid on loans for the purpose of complying with this Principle. If an enterprise employs own funds, the costs include the

497 European Commission, Ecodesign, https://ec.europa.eu/growth/industry/sustainability/ecodesign.

498 World Energy Outlook 2019, o.c. p. 12.

499 Idem p. 13.

500 See Michael B. Gerrard, Heatwaves: Legal Adaptation to the Most Lethal Climate Disaster (So Far), UA Little Rock Law Review Vol. 40 2018 p. 528.

501 WWF, Ceres, Calvert and CDP, Power Forward 3.0, https://c402277.ssl.cf1.rackcdn.com/publications/1049/files/original/Power_Forward_3.0_-_April_2017_-_Digital_Second_Final.pdf?1493325339 p. 29 ff with a series of case studies.

interest that the enterprise would have received if the funds were not used for this purpose. If the interest is (close to nil)[502] Principle 7 comes into the picture.

This Principle entails an obligation to improve f.i. an inefficient production process at additional costs when it is beyond reasonable doubt that the costs will be offset by future financial savings or gains. Quite often such investments have a significant "internal rate of return".[503]

We do not mean to say that if there is an option to take measures to reduce GHG emissions that incur additional costs that will beyond reasonable doubt be offset by future financial savings or gains, an enterprise is deprived of making choices that make this option impossible. F.i. an enterprise in a least developed country has the choice between taking such measures or increasing the wages of its employees currently just above the poverty line, if it does not have funds to do both and cannot borrow the required funds; see section 30.

This does not mean either that in all, or perhaps even in most instances, an enterprise will have the unlimited freedom of choice.[504] Whether it has a choice in a case in point will depend on the all relevant circumstances. If the choice is between taking the reduction measures and increasing the salary of the board and/or its bonuses, or building a more prestigious head office, it belabours the obvious that the latter choices are incompatible with this Principle. If the choice is between an important acquisition and complying with this Principle there is room for some doubt. We would overstate our case by saying that spending money on the acquisition is necessarily the wrong choice.

See also section 19 on a circular economy.

General commentary on Principles 9 and 10

Section 12 explains why the update pays more attention to products and services. The UN Guiding Principles also put quite some emphasis on products and services.[505]

Principles 9 and 10 hinge upon the word "excessive". There is no self-explanatory definition of "excessive". The predominant view will largely depend on the relevant

502 At the time of writing a not unrealistic proposition in quite a few countries.

503 The Net-Zero Challenge, o.c. p. 13.

504 The Dutch Activity decree environmental management, Activiteitenbesluit milieubeheer, 19 October 2007, https://wetten.overheid.nl/BWBR0022762/2020-07-01, requires all energy saving measures that pay back within 5 years to be taken (article 2.15).

505 https://www.ohchr.org/documents/publications/guidingprinciplesbusinesshr_en.pdf; see Principles 13 (b), 17 (a), 19 (b) (i). See in quite some detail Swiss Confederation, The Commodity Trading Sector, Guidance on Implementing the UN Guiding Principles on Business and Human Rights, https://www.seco.admin.ch/seco/en/home/Publikationen_Dienstleistungen/Publikationen_und_Formulare/Aussenwirtschafts/broschueren/Guidance_on_Implementing_the_UN_Guiding_Principles_on_Business_and_Human_Rights.html.

circumstances such as the spirit of time and the region of the world. Social class may also be a factor but as a rule the view of the elite carries little weight for the purpose of these Principles, unless it is more stringent than the view of others.

The interpretation of "indispensable" and "luxury" is to some extent arbitrary. A large part of the world has a huge number of material possessions, which another part of the world would almost certainly deem luxurious and "excessive". We acknowledge it is unsatisfactory not to look at this fact. However, if the meaning of excessive would (have to) be determined by the view of (the most) vulnerable people this Principle would not stand any chance of acceptance. The more promising, though not the fairest, meaning of these concepts is to take local factors and views into account. In our wicked world this is an inconvenient truth.

The emphasis on products and services, particularly luxury products and services aims to include emissions caused by these products and services, irrespective of whether they are caused by enterprises, or consumers.[506] It is fair that consumers of excessively emitting luxury products bear the consequences of their carbon footprint because the relevant products and services are disproportionally burdensome to the climate.

Principles 9 and 10 differentiate between excessively emitting *activities* leading to products and excessively emitting *products and services*. In borderline cases there may be room for doubt whether something falls under the umbrella of Principle 9 or 10. In-depth discussion of this grey zone is of little avail because both principles are basically the same. In most cases the answer will be clear. It is true that all services are activities at the same time, but they are not necessarily activities resulting in products. In the case of a Ferris wheel or sunbed, when selling these are products, if they are offered to be used by the public they are a service. The building of a hotel is an activity, while offering of accommodation and food and beverage is a service.

Activity includes all relevantly emitting features such as heating an office. Hence, the GHG emissions from the heating of the office fall under Principle 9.1.

The definition of excessive will change over time. Two factors carry particular weight:

- Innovation drives the possibilities for efficiency and a transition towards renewable energy. That carries weight in determining whether the GHG emissions caused by an activity, product or service are excessive;
- Whether the world is willing to keep global warming below fatal thresholds. The more the world emits, the smaller the carbon budget becomes. That influences the meaning of "excessive". If the carbon footprint of oil is greater than that of gas – taking the

506 For the avoidance of doubt: the emissions caused by the use of the products or services are not attributed to the manufacturer or service provider which leaves untouched that they have to take measures to avoid excessive emissions; see in more detail about attribution section 18.

leakages into account[507] – oil may become excessive at an earlier stage than gas, for the purpose of these Principles.

See also section 19 on a circular economy.

Principle 9.1

According to Principle 9.1 enterprises must avoid activities that cause or are likely to cause excessive GHG emissions, or take countervailing measures to offset the excessive part. This obligation is additional to the general reduction obligation under Principle 2.1.1.[508]

Coal-fired power plants are specifically mentioned. A recent study shows that "phasing out coal yields substantial local and environmental benefits that outweigh the direct policy costs." It is "a no-regret strategy for most of the world regions, even when only counting for domestic effects and neglecting global benefits from slowing climate change."[509] That reinforces the view that phasing out coal fired-power plants is not only necessary in light of their major contribution to climate change,[510] but that it can reasonably be required. That also affects the legal basis. Next to the arguments mentioned in section 22, legal arguments to avert the adverse local impact come into play. See in a Nigerian context about unrestrained gas flaring the Gbemre case.[511]

The Special Rapporteur on Human Rights and the Environment concludes and recommends to

> "stop building new coal-fired power plants unless equipped with carbon capture and storage technology, and require existing coal-fired power plants to be retrofitted with carbon capture and storage technology or be closed by 2030 in high-income nations."[512]

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507 See about leakage section 18.6.

508 A circular of November 4, 2015 of the Securities and Exchange Board of India, https://ca2013.com/clarifications/sebi-circular-circfdcmd102015-dated-04112015/, Annexure II Principle 2 (4) sets the bar higher requiring regular review and improvement "upon the process of new technology development … incorporating social, ethical, and environmental considerations." Under the law of the Canadian province of Alberta coal-fired electricity will be phased out by 2030; see Sarra, o.c. p. 76.

509 S. Rauner, N. Bauer, A. Dirnaichner et al. Coal-exit health and environmental damage reductions outweigh economic impacts, Nat. Clim. Change 10, 308–312 (2020). https://doi.org/10.1038/s41558-020-0728-x.

510 IEA, Global Energy & CO2 Strategy Report 2019, https://www.iea.org/reports/global-energy-co2-status-report-2019/emissions.

511 Gbemre vs. Shell Petroleum Development, http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/non-us-case-documents/2005/20051130_FHCBCS5305_judgment-1.pdf, and about that case, Louis J. Kotzé and Anél du Plessis, Putting Africa on the Stand: A Bird's Eye View of Climate Change Litigation on the Continent, https://core.ac.uk/download/pdf/227471221.pdf, p. 23 ff.

512 Safe climate, o.c. p. 35.

Animal farms are a brain teaser.[513] In light of the current state of the law, we wonder whether breeding cattle or lamb (the most GHG "emitting" animals) can be labelled excessively emitting, although it clearly is as a matter of fact.[514] However, we expect that the law is going to develop in that direction in light of the significant contribution of meat production to global warming: it would be low hanging fruit. As already mentioned in General commentary to Principles 9 and 10 the circumstances of the case in point determine the meaning of excessive. It is quite possible, if not likely, that the development of the law in this respect will be different in developed and developing countries, also in light of affordable alternatives.

For the avoidance of doubt: labelling meat production "excessive" would not mean a ban on meat. It would "only" imply that the excessive part (for instance by comparing the emissions caused by the production of lamb and cattle meat to that of chicken) has to be offset. We assume that in many instances the costs of offsetting the excessive emissions can be added to the price of the meat; see Principle 11 (a).

Principle 9.2

This Principle introduces the requirement of achieving and maintaining best practice in relation to new activities. This concept is borrowed from the Principles of Environmental Impact Assessment Best Practices.[515] It is in line with the spirit of the Outcome Document of Rio+20, the Future We Want:

> "47. We encourage industry, interested governments and relevant stakeholders with the support of the United Nations system … to develop models for best practice and facilitate action for the integration of sustainability reporting, taking into account experiences from already existing frameworks and paying particular attention to the needs of developing countries, including for capacity building."[516]

By "best practice" we mean the practices pronounced by f.i. the International Organization for Standardization (ISO).[517] As a rule non global enterprises based in least developed and

513 See for the need for sustainable agriculture the Kyoto Protocol art. 2 para 1 iii.

514 See FAO (Food and Agriculture Organization), Key facts and findings, http://www.fao.org/news/story/en/item/197623/icode/.

515 https://www.iaia.org/uploads/pdf/principlesEA_1.pdf.

516 https://sustainabledevelopment.un.org/futurewewant.html. See, also for further references, commentary to the EP p. 144 and 145.

517 The Special Rapporteur on the issue of human rights related to the enjoyment of a safe, clean, healthy and sustainable environment defines good practice as broadly including "laws, policies, jurisprudence, strategies,

developing countries have to align with the highest standards used by their domestic competitors, not being global enterprises. Insofar as competitors perform poorly, higher standards are required in relation to new activities. The meaning of "higher standards" depends inter alia on the nature of the relevant products: luxury, non-luxury or vital.

The Australian Panel of Experts on Environmental Law(APEEL) formulates a new guiding principle reading as follows:

> "APEEL proposes a best available techniques principle. This principle would require all decisions and actions to be based upon the application of the best available techniques, by mandating the application of up-to-date tools and methods suitable for protecting the environment and conserving biological diversity. It could be implemented through the inclusion in environmental legislation of a provision to the following effect: 'In the implementation of this Act, all decisions and actions shall be based upon the application of the best available techniques (BAT)'. BAT could be defined as 'the most effective and advanced stage in the development of particular techniques and their methods of application, which indicates their practical suitability for protecting the environment and conserving biological diversity'."[518]

Best practices and a best available techniques principle are not entirely the same. Best available techniques fall under the umbrella of best available practices. We support the just quoted principle, noting that it should apply especially to high-end developed countries. The implications of BAT could well prove to be overly expensive for developing countries in which case the APEEL Principle would be overly demanding. They may also diverge per sector.

See for a discussion on increases of production the commentary to Principle 2.1.1.

Principle 9.3

Principle 9.3 defines which GHG emissions are *not* seen as excessive. It is rather self-explanatory. By way of example: an enterprise produces solar panels; this activity

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programmes, projects, and other measures that contribute to reducing adverse impacts on the environment, improving environmental quality and fulfilling human rights", "the legal recognition of this right can itself be considered a good practice", UN Human Rights Council, Right to a healthy environment: good practices, A/HRC/43/53, https://www.ohchr.org/en/issues/environment/srenvironment/pages/annualreports.aspx. p. 3-4.

518 Australian Panel of Experts of Environmental Law, The Foundations of Environmental Law, https://static1.squarespace.com/static/56401dfde4b090fd5510d622/t/58e5f852d1758eb801c117d8/1491466330447/APEEL_Foundations_for_environmental_law.pdf p. 45.

causes excessive GHG emissions. The excessive part will often be offset by the lower emissions caused by the use of the solar panels.

Principles 9.4 to 9.6

The "offset burden" differs materially between Principles 9.4, 9.5 and 9.6. This is justified by the nature of the products in point. Principle 9.4 deals with indispensable products resulting from the activities in Principle 9.1. Only what is *reasonable* in light of the financial capacity of the enterprise or the group to which it belongs has to be offset or reduced. In this respect, financial capacity means part of the available funds and of the profits generated by the products in question; not the capacity to borrow money. We limit the additional reduction obligation because it should not become unattractive for enterprises to produce indispensable products.

Principle 9.5 concerns non-luxury and not indispensable products resulting from excessively emitting activities mentioned in Principle 9.1; the criterion is that reasonable action to reduce the excessive emissions or reasonable countervailing measures to offset the excessive emissions must be taken at the highest rate *reasonably possible* in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs. The approach implies that, as a rule, a significant part of the profits of the enterprise or of the group of enterprises as a whole may have to be used to reduce or offset excessive emissions. "May", because the range of possible scenarios makes it difficult to offer pertinent rules (of thumb), without running the risk of overstating our case. We expect that in most instances reducing or offsetting the excessive emissions resulting from the activities will not absorb a major part of the profits.

Principle 9.6 deals with luxury products brought about by excessively emitting activities as mentioned in Principle 9.1. The criterion is that the excessive emissions have to fully be reduced, or countervailing measures have to be taken to offset the excessive emissions. Both the – often high end – consumers and producers of luxury products have the financial capacity to either offset or reduce the excessive emissions, or to pay the higher price of the relevant products if the costs would be externalised. Hence, there is no justification for greater leniency.

Principle 9.4

Principle 9.4 concerns excessively emitting activities resulting in indispensable products or services such as concrete, electricity, steel production and in case of excessive droughts

desalination of sea water[519] if no alternatives for desalination are available. Take manufacturing concrete: a hugely emitting activity. For the time being, concrete is indispensable and therefore the excessive GHG emissions of the activity only have to be reduced or offset to the extent *reasonable* in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs.

Principle 9.5

Principle 9.5 concerns excessively emitting activities generating non-luxury and not indispensable products and services, such as earbuds, shampoo, deodorant. There unavoidably is a grey zone, f.i. microwaves.

In this scenario the excessive emissions have to be reduced or offset at the highest rate *reasonably possible* and *reasonable* in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs. The addition of "highest rate reasonably possible" indicates that more is to be required than by the "reasonable-test" under Principle 9.4. If it is reasonably possible to reduce excessive emissions it will often be unreasonable to refrain from doing so. Exceptions *may* apply, f.i. if the relevant activity emits less GHGs compared to (most of) its competitors, the board of the enterprise is unprepared to incur the relevant costs and considers to phase out the activity in which case the products from activities which emit even more GHGs will be bought. Yet, one should be cautious to accept such an argument for at least two reasons. First, it is speculative whether the relevant activity would effectively be passed out if the costs would have to be incurred. Secondly, the argument is often used in an attempt to "justify" why GHG emissions do not need to be curbed. Although there may be truth in the argument, it is tricky. If it would be an excuse to refrain from reducing emissions to the extent required the global problem would be insolvable.

Principle 9.6

Principle 9.6 is about excessively emitting activities resulting in luxury products, such as jewellery and unnecessarily large televisions or computer screens. In this scenario the excessive emissions have to fully be reduced, or countervailing measures have to be taken to offset the excessive emissions.

519 See Heather Cooley and Matthew Heberger, Key issues for Seawater Desalination in California, https://pacinst.org/wp-content/uploads/2013/05/desal-energy-ghg-full-report.pdf.

Principle 10

This Principle is about products and services causing excessive GHG emissions.[520] The first question is: what is meant by "excessive GHG emissions"? Do high emissions suffice to be excessive? Take MRI scanners. Their electricity use is high, resulting in high emissions. For the purpose of this Principle it is irrelevant to whom the emissions are attributed (in our Principles to the electricity producer; see section 18.5). The commentary to the EP takes the stance that the emissions caused by the use of MRI scanners are not excessive for the purpose of our Principles.[521] We adhere to that view. Assuming that Principle 11 (a) does not come into play the relevant costs would have to be borne by the manufacturer to the extent reasonable *if* the emissions by the MRI scan would be labelled as "excessive".

So much is clear: this Principle does not aim to make it unattractive, let alone impossible, to put this vital medical equipment on the market. The better option is to argue that the emissions caused by the scan are not excessive. This example illustrates that the mere fact that emissions are high does not necessarily mean that they are excessive for the purpose of Principle 10.

The Science Based Targets contain an interesting approach:[522]

> "Level of ambition for scope 3 emissions reductions targets: Emission reduction targets (covering the entire value chain or individual scope 3 categories) are considered ambitious if they fulfill any of the following:
> – Absolute: Absolute emission reduction targets that are consistent with the level of decarbonization required to keep global temperature increase to 2°C compared to preindustrial temperatures. Absolute targets can be expressed in intensity terms based on units that are consistent and representative of companies' activities.
> – Economic intensity: Economic intensity targets that result in at least 7% year-on-year reduction of emissions per unit value added.
> – Physical intensity: Intensity reductions aligned with the relevant sector reduction pathway within the SDA; or targets that do not result in absolute

520 See also Jaap Spier, Tijdschrift voor Milieurecht 2018 p. 638 and 639 also about not fully comparable parallels with tobacco and asbestos. A circular of November 4, 2015 of the Securities and Exchange Board of India, https://ca2013.com/clarifications/sebi-circular-circfdcmd102015-dated-04112015/, Annexure II Principle 8 (2) and 10 (1) goes a step further requiring innovation and investments "in products, technologies and processes that promote the wellbeing of society as well as serving "the needs of their customers", taking "into account the overall well-being of the customers and that of society."

521 P. 146.

522 SBTi Criteria and Recommendations, o.c. p. 10 and 11. They also contain targets on supplier or customer engagement (p. 11).

> emissions growth and lead to linear annual intensity improvements equivalent to 2%, at a minimum."

The calculation of the emissions caused by products may be difficult because a lot depends of the manner in which they are used. In such a scenario it is justified to base calculations on ball park figures.

Principle 10.1

According to Principle 10.1 enterprises must not make available products, including packaging, or render services that cause excessive GHG emissions, without taking countervailing measures to offset the excessive part. This obligation is additional to the general reduction obligation under Principle 2.1.1. With "make available" we aim at the enterprise that manufactured the product and subsequently put the product on the market.

We have inserted "including packaging" because it quite often is a relevant source of GHG emissions. An example is plastic made from polyethylene which, if decomposed, emits, among other gases, methane, a powerful GHG.[523]

Air-conditioning is a brain teaser. It requires a lot of energy. It may be justified in tropical countries, but is not necessary in many other countries where temperatures do not get as high and fall at night. In such countries using a fan or opening a window would suffice. Although we are mindful of the practical difficulties of such a solution, a solution could be to label air-conditioners sold to buyers in tropical countries as not excessive.

For the remainder we refer to the general commentary to Principles 9 and 10.

Principle 10.2

Principle 10.2 concerns excessively emitting indispensable products and services such as arguably central heating equipment, or refrigerators.[524] The excessive GHG emissions only have to be reduced or offset to the extent *reasonable* in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs. See for elaboration the commentary to Principle 9.4.

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523 Sarah-Jeanne Royer et al., Production of methane and ethylene from plastic in the environment, https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0200574.

524 We realise that the labelling of indispensable may be difficult to explain to poor people in the least developed countries. However, the examples belong to the realities of the world in which wealth is unevenly divided and we cannot close our eyes to this reality. It is up to debate whether a tumble dryer is indispensable. If it is not it is covered under Principle 10.3.

Principle 10.3

Principle 10.3 concerns excessively emitting non-luxury and not indispensable products and services, such as fans, televisions, and ordinary cars. In this scenario the enterprise must take reasonable measures to reduce the excessive emissions or take reasonable countervailing measures to offset the excessive emissions at the highest rate reasonably possible in light of the higher of the financial capacity of the enterprise or the group of companies to which it belongs. See for elaboration the commentary to Principle 9.5.

Principle 10.4

We could argue at length about the meaning of luxury. We have little doubt about steam trains for tourists,[525] even if it is impossible to reduce the emissions because the train is state of the art. Ferris wheels are another example. Both services[526] emit excessive amounts of GHGs because they are unnecessary and do not justify large emissions without taking countervailing measures. Their excessive emissions have to be fully reduced or offset because these are luxury services.

We admit there is a grey area. The definition will probably change over time as the adverse consequences of climate change get worse. For now, we are inclined to believe flying economy class for holiday purposes is not to be seen as a luxury service. However, this could soon change in light of current discussions about an aviation tax. We have no doubt that five-star hotels are a luxury service but there may be room for doubt concerning four-star hotels. We agree with Weisbach that "heated swimming pools, oversized vehicles, and McMansions" are luxury products.[527] For the avoidance of doubt, we do not mean that there is or should be no room for five star hotels and flying business class. All we are saying is it should come at the price of fully offsetting or reducing the excessive emissions. For practical purposes that price will ultimately have to be paid by the users of those products and services. See for elaboration the commentary to Principle 9.6.

525 We realise that these may belong to cultural heritage, but that should not be a justification for not taking countervailing measures.

526 We use the word "service", realising that each service is also an activity. To avoid confusion with the terminology in Principle 9 we have opted for service.

527 David Weisbach, Negligence, Strict Liability, and Responsibility for Climate Change, The Harvard Project on International Climate Agreements, July 2010, Discussion Paper 10-39, https://www.belfercenter.org/publication/negligence-strict-liability-and-responsibility-climate-change p. 29 with further elaboration on p. 30.

Principle 11

This Principle elaborates on the meaning of "excessive" for the purpose of Principles 9 and 10. Once again, the reason for a more demanding obligation is the urgent need to reduce global emissions at great pace. This, we think, justifies Principle 11 which only imposes an additional obligation if that is reasonable in the given circumstances as mentioned under (a) and (b).

In light of the challenges posed by climate change it seems reasonable to expect an enterprise to take measures if it is in a position to charge the additional costs to its buyers. Take airlines; as a rule they could easily increase the price of tickets to offset their significant GHG emissions, which increase sharply over the years.[528] We realise that a certain amount of flights is necessary. However, the costs to offset at least part of the emissions are relatively modest. If and insofar flights purely for recreational purposes would become unaffordable for the less privileged – a not overly likely scenario because many cheap international flights are significantly less expensive than mid-distance domestic journeys by train – that "only" means that they can travel a bit less. That was not any different until 10 to 20 years ago, a time in which people were not unhappier.

(a) goes beyond ticking the box. It does not suffice to ask whether the buyer is prepared to pay for the additional costs. A genuine effort to comply with this Principle is required. In quite a few instances the onus of proof will be on the enterprise which runs the activity or puts the product or service on the market. In case of luxury products it is unlikely that an increase of the price will have a measurable impact on the demand.

In the context of Principle 10, MRI scans were mentioned as an example. Their emissions are high. As explained before we believe that they are not excessive under Principle 10. That leaves untouched that they could be excessive under Principle 11 (a), or (b), depending on the facts in point. If they fall under (b) it is unproblematic to label them as excessively emitting. That is less self-explanatory if they fall under (a), again depending on the circumstances. If a buyer has limited choice between suppliers it is at the mercy of the supplier. The suppliers can easily raise the price. That will have an impact on the cost of healthcare. If the amount required for offsetting would be significant in absolute terms and if that would have a noticeable impact on the price of health care (f.i. on health insurance premiums) strict application of this Principle can be softened, an option offered by the word "reasonably".

528 See Gwyn Topham, Airlines' CO2 emissions rising up to 70% faster than predicted, https://www.theguardian.com/business/2019/sep/19/airlines-co2-emissions-rising-up-to-70-faster-than-predicted and www.atag.org/facts-figures.html. Due to the corona crisis the number of flights decreased significantly. It is in the laps of the Gods how long that will last.

Paragraph **(b)** covers a series of scenarios, ranging from luxury products with a high margin and run-of-the-mill products which nevertheless generate a huge profit, which is rarely the case with "bulk-products". Internet services, that generate huge profits, serve as an example. The electricity used for internet services is responsible for approximately 10% of global electricity consumption.[529] It is up to the provider to choose whether or not it wants to charge the costs of offsetting GHG emissions to the users. If it prefers not to do so, it can easily afford to bear these costs itself.

We realise that this Principle may cause some competitive disadvantage, for instance for very efficient or well-run enterprises compared with competitors.[530] This Principle speaks of "easily". That creates flexibility to tailor what is deemed to be excessive to the case in point. The mere fact that an enterprise can easily afford taking the measures does not necessarily mean that the funds have to be used for that purpose. If, for example, the enterprise puts a series of products on the market, part of them at a loss, it is justified to take that factor into account. If the enterprise is keen to buy another enterprise and/or to make significant investments, resources that could otherwise have been used for taking the relevant measures may instead be necessary for that purpose. Because Principle 11 is an additional obligation next to quite a few others, we are not suggesting that the obligation (b) should prevail irrespective of the circumstances.

This principle presupposes that the relevant measures come at a cost. Some may also fall under the umbrella of Principle 7 (only if the cost is not relevant), others under Principle 8, and others again under Principle 9 or 10. It aims to add an obligation to the obligations emanating from just mentioned Principles.

Principle 12

This Principle compels producers of luxury products or services to offset emissions caused by electricity generation from excessively emitting fossil fuels for the purpose of manufacturing the products or providing the services if the condition under (b) or (c) is met.

Although the EP and this update attribute these emissions to the electricity supplier (see section 18.5), it is fair to require offsetting if the electricity supplier did not do so itself, by the relevant activity undertaker and service provider. As a rule it is inherent to this kind of products and services that the profits are huge. In addition, it will often be easy to increase the price.

529 Vera P. Jensen, Internet Uses More Than 10% Of The World's Electricity, https://www.insidescandinavianbusiness.com/article.php?id=356.

530 See however the Net-Zero Challenge, o.c. p. 24.

Principle 13.1

Principle 13 deals with scenarios in which an enterprise has taken "all steps reasonably available" to comply with the key reduction obligations of Principle 2.1.1 or Principle 5.1. The commentary to the EP emphasises that "reasonably available" should be strictly interpreted. "Available" only focuses on whether it is possible or not. The costs do not count.[531]

We had to reconsider this stance in light of the significantly more stringent obligations in this update for the reasons explained in the section 7. Thus we had to consider whether there should be a balance between the costs of achieving reductions of the enterprise's GHG emissions and the costs of taking countervailing measures in that taking countervailing measures would be allowed if the costs of reduction would be very or excessively high.

Emphasis has to be put on reduction of emissions. First, it is inevitable to reduce the emissions of enterprises. In the short term countervailing measures, such as planting trees, may work on a relatively modest scale. In the near future, global emissions must be reduced to (net) zero which can only be achieved by curbing emissions and not by alternative measures as long as techniques such as carbon capture and storage are not available at a large scale. The sooner these reductions are effectuated, the better. Secondly, alternative strategies will often mean: a race to the bottom, f.i. providing funds to reduce emissions of hugely emitting enterprises in BPQ countries which can be achieved at little cost. That, in turn, means that in the very near future relatively cheap alternatives will no longer be available to enterprises which will need to rely on offsetting because they cannot reduce their own emissions. That means that we cannot avoid taking the same position as the commentary to the EP.

Our position is in line with the stance taken by the IEA and leading NGOs.[532] After a discussion of the advantages and disadvantages of countervailing measures, the IEA concludes:

> "Emissions offsetting is a widely used tool that is likely to gain momentum. It can be done in multiple ways and venues, so it provides an opportunity for

531 P. 151.

532 See Science Based Targets Initiative and CDP, Towards a Science Based Approach to Climate Neutrality in the Corporate Sector, https://sciencebasedtargets.org/wp-content/uploads/2019/10/Towards-a-science-based-approach-to-climate-neutrality-in-the-corporate-sector-Draft-for-comments.pdf), World Resources Institute, Bottom Line on Offsets, https://www.wri.org/publication/bottom-line-offsets), WWF, Go with Gold for Quality Carbon Offsetting in Energy Sector, https://www.worldwildlife.org/press-releases/go-with-gold-for-quality-carbon-offsetting-in-energy-sector?_ga=2.38074016.2030901048.1580837292-599384980.1580837292).

> companies to pursue independent reduction goals in ways that are meaningful to the company, its core business, and its key stakeholders.
> Offsetting has the advantage of enabling organisations to look further for cost-effective ways to reduce their emissions of greenhouse gases. However, many of the internationally recognised mechanisms and rules that allow companies to count specific offsets are still being developed. There are particular challenges for sequestration projects about how to quantify the offsets and how to create assurances that carbon will be sequestered for sufficiently long time periods. Offsetting should never be the first step in any carbon-neutral strategy. Instead, companies should seek to reduce their impact on the climate by wasting less energy and by examining their industrial processes to see if they can be made more efficient or less carbon-intensive. …. Companies should only offset those emissions they cannot eliminate."[533]

This means that, as a rule of thumb, reduction measures have to be taken, even if they are expensive. If, however, there is a clear imbalance between the costs of achieving reductions and the costs of countervailing measures there may be room for some leniency by interpreting "reasonably available". Take an enterprise that can easily afford reductions, but there is a clear imbalance between the costs of achieving reductions and the costs of taking countervailing measures. In such a scenario countervailing measures may be allowed, but only if they are taken to a significantly greater extent than the original reduction obligation; see Principle 2.1.4. In this example "significantly greater" has to be interpreted strictly: for the reasons mentioned above the benefit to the climate of the countervailing measures should justify that the enterprise refrains from (fully) complying with Principle 2.1.1 or Principle 5.1. As a rule the enterprise will not be allowed to invoke Principle 2.1.4 for its entire reduction obligation.

A fortiori if achieving the full amount of required reductions would come at the expense of the *entire* profit for a longer period of time, countervailing measures may be allowed to offset *part of* the required reductions if the countervailing measures achieve a higher amount of reductions compared to the reductions the enterprise had to achieve.

Whether there is room for some leniency depends on all relevant circumstances such as the nature of the products (are they luxury or indispensable), whether the costs are one-off and the financial capacity of the enterprise and the group of companies to which it belongs. See for elaboration the commentary to Principle 2.1.4.

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533 IEA, Voluntary Carbon Offsets, https://ieaghg.org/docs/general_publications/Carbon%20Offsetsweb.pdf p. 25.

Without taking countervailing measures which would achieve additional reductions Principle 14.1 offers a solution for exceptional cases. It should be emphasised that Principle 14 does not offer a solution for hopeless cases; see Principle 14.2.

Principles 13.2 to 13.5

These Principles are self-explanatory. They aim at ensuring that the relevant measures are effectively taken.[534]

Principle 14

In exceptional circumstances Principle 14 offers a relevant and fair escape if the conditions of Principle 13.1 are not met. As a rule of thumb enterprises which are unable to reduce their emissions to the extent required by Principle 2.1.1, adjusted in accordance with Principle 3 or 4 as the case may be, or Principle 5.1, or are unable or unwilling to take countervailing measures under Principle 13.1, will have to close their doors. Only if there are sufficient reasons to believe that the enterprise will achieve its reductions in the longer term together with the 8% mentioned in Principle 14.1 (d) can it invoke this Principle.

By way of example: an enterprise has ordered equipment for carbon capture and storage to achieve its reduction obligations, or it has ordered solar cells which, due to high demand, a natural event, or the corona crisis, have a long delivery period. The delivery and installation of this equipment may take a few years which means that the required reductions cannot be achieved within the relevant base period. It is, however, clear that the enterprise will achieve its reduction in the longer term together with the "sanction" of Principle 14.1 (d).

It must be emphasised that this Principle speaks of "if and to the extent". In most instances there will not be an excuse to refrain from effectuating all or even the greater part of the reductions, f.i. by improving GHG efficiency. If that is unreasonably burdensome, it is not overly likely that the condition of Principle 14.2 can be met.

The meaning of "unreasonably burdensome" has to be determined in a case in point. F.i. an enterprise which is temporarily short of cash, and a real prospect to borrow money is absent because a major client went bankrupt leaving huge sales unpaid. If it is sufficiently credible that this is "only" a temporal impediment to the enterprise, this Principle may bring solace if all conditions enumerated under 14.1 (a) to (d) and 14.2 are met.

534 This approach is in line with Kyoto Protocol art. 3 para 10-12.

Principles 14.1

(a), (b), (c)
These Principles speak for themselves.

Principle 14.1

(d)
The "sanction" of 8% has to be interpreted with common sense.[535] It does not apply if an enterprise only marginally failed to comply. The meaning of "marginally" depends on the case in point. If an enterprise had to reduce its emissions with 20%, 0.5% could be marginal, if it happens only once. If its reduction obligation amounted to 5%, 0.25% is probably not marginal. This being said, enterprises would be well-advised to err on the safe side. For the avoidance of doubt: this does not negate the obligation to add the shortcoming to the next base period (Principle 14.1 (c)).

Principle 14.2

This Principle aims to avoid leniency that does not pay. If there is no realistic prospect that an enterprise can achieve the required reductions "as expeditiously as possible" leniency would mean that it is allowed to continue emitting unabated or insufficiently curbed GHGs till doomsday. If that would only be the fate of one or a very few enterprises globally, that might not be a reason for grave concern. Realistically, it will be the fate of not insignificant numbers of enterprises which cause a huge amount of GHGs. That means that there should not be any room for hopeless cases. That is also a lesson from insolvency law: providing money to enterprises that do not have a credible chance to survive may be attractive to banks if they have enough sureties, such enterprises leave a massacre to others.

Principle 15

This Principle is not self-explanatory. Historically, it is not backed by case law about causal contributions of defendants as minimal as the contributions of enterprises in the realm of climate change, although this is starting to change with more recent judicial decisions. It requires courts to apply traditional concepts in a new and different setting, i.e. significantly

535 See for the rationale Noah M. Sachs, Climate Change Triage, https://scholarship.richmond.edu/law-faculty-publications/1050/ p. 1006.

lower causal contributions (to the global problem). Because the law is a living instrument and courts are often keen to keep pace with the changing demands of society,[536] this Principle is not revolutionary. More importantly: it is a vital part of our Principles because it is necessary.

If the law would be toothless in a field of utmost importance to present and future generations, the environment and other living species, there is not the slightest chance to keep climate change below fatal thresholds. It would make it too easy for enterprises – and others – to lean backwards because they would not have legal obligations until they are calibrated by the legislator.

Not surprisingly, the minimal causal contribution defence was rejected by the Netherlands' Supreme Court in the Urgenda case:

> "…. the assertion that a country's own share in global greenhouse gas emissions is very small and that reducing emissions from one's own territory makes little difference on a global scale, [cannot] be accepted as a defence. Indeed, acceptance of these defences would mean that a country could easily evade its partial responsibility by pointing out other countries or its own small share. If, on the other hand, this defence is ruled out, each country can be effectively called to account for its share of emissions and the chance of all countries actually making their contribution will be greatest, in accordance with the principles laid down in the preamble to the UNFCCC cited above in 5.7.2.
> 5.7.8 Also important in this context is that … each reduction of greenhouse gas emissions has a positive effect on combating dangerous climate change, as every reduction means that more room remains in the carbon budget. The defence that a duty to reduce greenhouse gas emissions on the part of the individual states does not help because other countries will continue their emissions cannot be accepted for this reason either: no reduction is negligible."[537]

The IBA Model Statute for Proceedings Challenging Government Failure to Act on Climate Change[538] contains a similar provision:

> "[16.1] In Government-related climate change proceedings, it is not a defence for the Government to show that it is not the sole or substantial contributor to

536 See section 28.

537 ECLI:NL:HR:2019:2007 legal grounds 5.7.7 and 5.7.8.

538 https://www.ibanet.org/Climate-Change-Model-Statute.aspx. It only concerns action against States, but in this respect there is no reason for a different approach in relation to enterprises.

> GHG emissions, whether by allowing or increasing a source of or reducing a sink for GHGs.
>
> [16.2] In Government-related climate change proceedings, it is not a defence for the Government to show that it has only allowed or emitted a small quantity or volume of GHGs, has caused or permitted only a minor degree of harm, or is responsible for a small."

Preston emphasises that:

> "it will become increasingly difficult for courts to accept that the individual emissions of an entity are inconsequential when the Paris Agreement recognises that climate change mitigation is a global responsibility requiring 'the engagements of all levels of governments and various actors.'[539]
> "The [NSW Land and Environment] Court noted [in Gloucester Resources Ltd v Minister for Planning] that the total emissions from the proposed mine were only a small source of global emissions, however, this did not mean that they were insignificant: "It matters not that this aggregate of the Project's GHG emissions may represent a small fraction of the global total of GHG emissions. The global problem of climate change needs to be addressed by multiple local actions to mitigate emissions by sources and remove GHGs by sinks." Secondly, the global norm to take action supports a rejection of two common arguments raised in response to climate change litigation. The 'market substitution' and 'carbon leakage' arguments are commonly raised in defence of emissions intensive projects. The market substitution argument presumes that due to demand for a project, if the project is not approved in the country proposed, a similar project will inevitably be approved in another country to meet market demand. There will therefore be at least the same amount of GHG emissions caused."[540]

See for more details about the legal basis of this Principle the commentary to the EP.[541]

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539 Preston, The Impact p. 19 referring to the preamble.

540 Preston, The Impact p. 21 notes omitted with further elaboration on p. 22.

541 P. 153 ff. See also Michael Burger, Jessica Wentz and Radley Horton, The Law and Science of Climate Change Attribution, https://climate.law.columbia.edu/sites/default/files/content/docs/The%20Law%20and%20Science%20of%20Climate%20Change%20Attribution_Burger%2C%20Wentz%20%26%20Horton.pdf p. 202, Jaap Spier, There is no future without addressing climate change, Journal of Energy & Natural Resources Law, 2019 p. 22/23; The Principles on Climate Obligations of Enterprises, Unif. Law Review 2018 p. 6 and 7, also for reference to other sources; Clyde & Co Climate change: Liability risks, A rising tide of litigation, https://online.flippingbook.com/view/1043313/ p. 25 ff.

Principle 16

One can debate at length whether this Principle will be accepted by courts around the globe; time will tell. The gist of this Principle is – fully in line with the very core of the Paris Agreement and the almost universally adopted view – to keep global warming below fatal thresholds. This can only be achieved if the legal obligations, taken together, suffice to that effect. That, in turn, means that it is difficult to accept that insufficient measures could be lawful.

Drafting Principles is a challenge. A group of experts with different backgrounds from around the globe often have diverging views about the best or more promising solution and about the legal basis of specific obligations. Both the members of the Oslo Group and the Enterprises Group accepted this Principle[542] without much ado which is probably telling. The reason is not, of course, that it is unchallengeable or self-explanatory; it is neither of the two. But like many others all members are keen to work on solutions, not on creating obstacles. See for elaboration and references the commentary to the EP.[543]

Difficult and barely solvable problems will arise if, at some stage, the fatal threshold (according to a strongly emerging view 1.5°C) is passed or if according to the most recent scientific insights passing the threshold is no longer avoidable. By then, it is not unlikely that international politics will attune with this new "reality" and convert the well below 2 degrees emanating from the Paris Agreement to a higher figure. At that stage Principle 16 would get teeth if applied lock stock and barrel.

At some stage, which we will hopefully never reach, the law cannot avoid to accept reality, which does not necessarily equate to what is a reality to politicians. By way of example: assume by 2025 it has become clear that, say, "well below 2 degrees" is no longer within reach. By then politicians may be unable to agree on a new upper limit of less than 2.5 degrees because a few powerful States take the view that a lower threshold ruins the economy. For the reasons explained in section 22 it is quite likely that the new "upper limit" (in this example 2.5 degrees) is insufficiently ambitious for legal purposes, in particular if it is still possible to keep the increase of global temperature below, say, two degrees. See for elaboration section 27 and Principle 2.1.1 under a reality check.

542 In the Oslo Principles Principle 12.

543 P. 158 ff, also referring to the commentary to the OP.

Principle 17

Principle 23 second sentence of the Oslo Principles states that excessive hardship or extraordinary circumstances beyond the State's control, temporarily relieves the country from (part of) its reduction obligations.[544]

Principle 17 is the corollary of Oslo Principle 23, but it differs in two respects. If Principle 17 can successfully be invoked the enterprise is "exempted from its reduction obligation". Put differently: over the relevant period the obligation disappears. Secondly, the mere fact that an exceptional circumstance results in non-compliance is not necessarily a defence as the words "unless it can reasonably be expected to achieve the required reductions in full or in part" indicate. It could be argued that the words added in the update are redundant because if compliance is still possible, f.i. by an investment that replaces the destroyed solar panels, the "exceptional circumstance" does not prevent the enterprise from compliance. That is semantics.

Ever more areas are prone to intensifying natural catastrophes: floods, droughts and hurricanes. They can and in many instances will impact the financial means of enterprises. That may mean that they do not have the funds to achieve the required reductions or that the relevant equipment is damaged or destroyed. Whether this Principle can successfully be invoked depends on the circumstances of the relevant case. The following factors carry weight:

- Whether the risks were known at the time the enterprise was established, or, if later, whether the enterprise has had enough time to adopt adaptive measures;
- What sort of products or services are provided: luxury, indispensable, etcetera;
- Where the enterprise is based: a least developed, developing or developed country (factors such as employment matter; see section 30);
- Whether the enterprise is a global enterprise.

Prima facie this approach may look a bit strange, but we do not think it is. Take a manufacturer of luxury products with a huge margin of profit in a hurricane prone country with very low wages and other "niceties" for the manufacturer. The solar panels are destroyed by a hurricane. They can be replaced very soon which would enable the enterprise to comply with its obligations. In such a setting replacing can be reasonably required, even if it comes at a high cost.

If this Principle cannot be invoked the enterprise can fall back on Principle 13 or 14.

544 See commentary p. 79 (paraphrased).

Consideration of suppliers' GHG emissions

Principle 18

Principle 18 is a significantly elaborated version of Principle 17 of the EP.[545] The reason for the update is the increasingly worrying state of affairs world-wide[546] and the fortunate given that "by leveraging their significant buying power, many large corporations are able to reduce volumes of GHG emissions that are a multiple of their own operations at limited cost – especially in low-emission industries, such as services and consumer goods."[547] The current focus on efficiency and renewable energy disguises

> "the fact that for many organisations, the most significant climate impacts and dependencies are in their supply chains. Therefore, businesses that wish to ensure their own resilience to climate change, both in terms of preventing the worst and adapting to what is to come from existing emissions, need to understand and act upon these supply chains. Developing this understanding has never been easier and those that invest and act on this understanding will be rewarded both operationally and financially."[548]

Hence, it is important to focus on more than just the GHG emissions caused by enterprises and their products and services. Suppliers are at the other end of the chain and their emissions should also be taken into account to achieve the best possible results. This is all the more important as (some) fossil fuel companies are keen to increase the production of fossil fuels.[549]

The UN Guiding Principles put quite some emphasis on suppliers and more generally the supply chain and "business relationships".[550] Disclosure on human rights compliance

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545 See for legal basis p. 163 ff.

546 See section 7.

547 The Net-Zero Challenge, o.c. p. 13.

548 Cambridge Institute for Sustainability Leadership, 5 Megatrends revolutionising your supply chain, https://www.cisl.cam.ac.uk/education/learn-online/pdfs/5-megatrends-revolutionising-your-supply-chains/view; see also EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, o.c. p. 40; Science Based Targets, SBTi Criteria and Recommendations, April 2020, o.c. p. 9; emissions "under 5% of total combined scope 1 and 2 emissions are deemed immaterial" (p. 4). Targets "to actively source renewable electricity at a rate consistent with 1.5°C scenarios are an acceptable alternative to scope 2 emission reduction targets" (p. 9).

549 See f.i. The Economist, 9 February 2019, The truth about big oil and climate change, https://www.economist.com/leaders/2019/02/09/the-truth-about-big-oil-and-climate-change.

550 See Principles 13 (b), 17 (a), and 19 (b) (i). See in quite some detail Swiss Confederation, The Commodity Trading Sector, Guidance on Implementing the UN Guiding Principles on Business and Human Rights, o.c.; p. 23 offers a "general compliance clause" (box 12); see also European Commission, My business and

of suppliers is, however, open to significant improvement,[551] which seems to suggest that for the time being the issue does not yet get the attention it is due.

In the context of business responsibilities the Special Rapporteur on Human Rights and the Environment emphasises that "[b]usinesses must … work to influence other actors to respect human rights where relationships of leverage exist."[552] As a rule such a relationship of leverage exists with suppliers.

In case of the purchase of tropical wood the buyer has to ascertain and take into account whether the supplier complied with its obligations to offset the "emissions" caused by logging the relevant trees. See for the meaning of "emissions" in this context Principle 1, definition of Emissions and about the attribution of the "emissions" section 18.8. As a rule the buyer should refrain from the transaction if the relevant "emissions" are not offset. A decision of the Norges Bank, the world's largest sovereign fund, to divest from a consumer goods enterprise because of deforestation in the palm oil supply chain[553] highlights that this issue is gaining attraction by major investors too. It also emphasises that Principle 18 is not only about emissions stricto sensu but all kinds of misbehaviour to the detriment of the climate. It is important to emphasise that Principle 18.1 speaks about "compliance … with these Principles" which includes all obligations emanating therefrom.

The first paragraph of this Principle (18.1) is left unchanged compared to the EP; the subsequent paragraphs are much more detailed and tailored to a series of frequently occurring scenarios. For the remainder and for the legal basis we refer to the commentary to the EP.[554]

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human rights, o.c. p. 9; a circular of November 4, 2015 of the Securities and Exchange Board of India, https://ca2013.com/clarifications/sebi-circular-circfdcmd102015-dated-04112015/, Annexure II Principle 1 (1), 5 (4) and 6 (7) and WWF, Ceres, Calvert and CDP, Power Forward 3.0, https://c402277.ssl.cf1.rackcdn.com/publications/1049/files/original/Power_Forward_3.0_-_April_2017_-_Digital_Second_Final.pdf?1493325339 p. 4; the report offers a series of case studies. See also the commentary to the EP p. 160 ff. See for the consideration of supply chain impact under the Hong Kong ESG Reporting Guide: Maya de Souza, Chartered Secretaries, Climate change – not my problem?, http://csj.hkics.org.hk/site/2017/11/14/climate-change-not-my-problem/.

551 GRI, Shining a light on human rights, Corporate human rights performance disclosure in the mining, energy and financial sectors, https://www.globalreporting.org/resourcelibrary/Shining%20a%20Light%20on%20Human%20Rights%202016.pdf in particular p. 8, 9, 21 and 22.

552 Special Rapporteur on Human Rights and the Environment, Safe Climate, https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/SafeClimate.aspx p. 32.

553 Peru: Norges Bank Investment Management divests from Alicorp over the violation of indigenous rights and deforestation in the supply chain, https://www.business-humanrights.org/en/peru-norges-bank-investment-management-divests-from-alicorp-over-the-violation-of-indigenous-rights-and-deforestation-in-palm-oil-supply-chain. See also Safe Climate, o.c. p. 37.

554 P. 160 ff.

Unlike the Greenhouse Gas Protocol, Corporate Value Chain (Scope 3) Accounting and Reporting Standard,[555] we do not include factors such as employee commuting. These are emissions caused by the employees and they are covered by the Oslo Principles.

Principle 18.1

This principle requires enterprises to ascertain and take into account the GHG emissions of suppliers. The latter requirement ("take into account") leaves room to tailor the obligation to the circumstances of a particular case. But the obligation is not met by merely paying lip-service to it. "Take into account" means that the results of the ascertaining process have to be given serious and genuine weight.[556] If, for instance, the supplier's GHG emissions related to the products or services bought by the enterprise are *significantly higher* than those of its competitors, the buying enterprise would have to extensively justify why those products or services are nevertheless bought from the supplier in point. The *mere fact* that they are cheaper than similar products or services provided by others should not serve as a justification for their purchase. The cheaper price may in whole or in part be a reflection of the fact that the supplier has not internalised the costs of mitigating or compensating for its excessive GHG emissions in its costs of production.

Compliance by the tier one supplier means that compliance by the supplier's supplier (tier two supplier) needs to be ascertained and taken into account. Compliance further up the chain can be left to the tier two supplier, and so on.[557]

The obligation emanating from this principle is not unqualified. Exceptions apply if compliance would not be 'reasonably and feasibly possible'. This is a kind of cost-benefit test. When enterprises have "large numbers of entities in their value chains, it may be unreasonably difficult to conduct due diligence to adverse human rights impacts across

555 https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf p. 34.

556 See for a similar approach UN Guiding Principles on Business and Human Rights (The Ruggie Principles), o.c. under II.17 and II.19. These principles do not mean that the responsibility for huge GHG emissions by suppliers is shifted to buyers of their products and services; thus also OECD, Guidelines for Multinational Enterprises, under II.12 and the commentary under 43. We admit that our Principle is still rather open; that is precisely the criticism on the instruments quoted in the text under legal basis by Cody Sisco et al., Supply Chains, http://www.oecd.org/investment/mne/45534720.pdf and the OECD Guidelines, Supply Chains and the OECD Guidelines for Multinational Enterprises, for instance p. 9, 11, 12, 14, 16 and 24. European Commission, Study on due diligence requirements through the supply chain, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwja04zHk_zpAhVIzqQKHVYADI0QFjABegQIAhAB&url=https%3A%2F%2Fop.europa.eu%2Fen%2Fpublication-detail%2F-%2Fpublication%2F291b84d3-4c82-11ea-b8b7-01aa75ed71a1%2Flanguage-en&usg=AOvVaw3fvjSzzYX0zw F3GOiyy3jk p. 17.

557 See also commentary to the EP p. 162. See for a more inclusive approach The Commodity Trading Sector, o.c. p. 33.

them all." That similarly applies to conducting due diligence on climate impacts across all of an enterprise's suppliers. In such scenarios a more general action ascertaining the GHG emissions of a specific sector may suffice.[558] A grocery shop is not under an obligation to ascertain the GHG emissions of the supplier of a scale or a truck for the shop. It would also be overly demanding to burden small enterprises with difficult and often costly obligations in relation to for instance refrigerators, computers or desks that are bought to be used by the enterprise itself rather than for sale, unless the information is readily available at no or very little cost.[559]

"Materiality" also plays a role,[560] albeit that this concept is rather vague. It means, for practical purposes, that this Principle has to be applied with common sense.

Vital products for which no reasonable alternative source is available may justify selecting an even significantly non-complying supplier. In such a scenario the enterprise should use its leverage to put pressure on the supplier to change course.[561]

In the context of suppliers the Global Reporting Initiative (GRI) 308 elaborates on how enterprises could provide adequate disclosure. It mentions a series of important and relevant features.[562]

Principle 18.2

As a rule of thumb the use of excessively GHG emitting fossil fuels by the supplier requires selecting a different supplier. *Only* in cases where for instance there is no realistic alternative, or if the alternative is disproportionally more expensive, the selection of such a supplier can be justified. Hence, if an enterprise has the choice between an electricity supplier whose electricity is based on burning coal and a supplier whose electricity is based on renewables it has to opt for the latter supplier, even if the price per unit would be higher. It depends on the circumstances how much price difference can serve as a compelling justification. Relevant factors are the kind of products the enterprise puts on the market (luxury, non-luxury or indispensable), whether the enterprise is a domestic company or a global enterprise in a least developed or developing country, and its financial resources.

If the enterprise has no alternative choice to buying electricity generated by a coal-fired power plant it should explore options to generate electricity sustainably, f.i. by installing

558 Borrowed from UN Guiding Principles, o.c., Commentary to Principle II.17.
559 See for a similar approach UN Guiding Principles, o.c., Principle 17 (b).
560 Sisco et al., Supply Chains and the OECD Guidelines, o.c. p. 15, 20 and 21.
561 The Commodity Trading Sector, o.c. p. 43 and 44.
562 GRI Standards, GRI 308 https://www.globalreporting.org/standards/gri-standards-download-center/gri-308-supplier-environmental-assessment-2016/.

solar panels. If there is no such alternative the enterprise has to reduce its electricity consumption by as much as reasonably possible.

Other excessively emitting fossil fuels include shale gas[563] and oil from tar sands.[564]

If the supplier is based in a least developed country we have set the bar lower: a mere justification is required for selecting such a supplier.

Principle 18.3

Transport is a relevant source of GHG emissions; see section 12. Quite a few products are bought from far-away destinations which often requires unnecessary transport and the related emissions. This Principle requires to ascertain and take into account these emissions.

Principles 18.4 and 18.5

Principles 18.4 and 18.5 are a bit aspirational, arguably on the fringe of revolutionary. If this is the case, we hope the law will develop into this direction.

The rationale for these Principles is to make it attractive for countries to comply with their obligations, which unfortunately is bitterly needed. This rationale is fully in line with Oslo Principle 20 which was not challenged at any event we are aware of.

We realise that there are currently few countries that comply with their key reduction obligation mentioned in the Oslo Principles as amended in Principle 2.2. This means that justification in the short term will not be very difficult, unless alternative suppliers are available in complying countries.

A justification could (also) be that emissions for transport would increase if a supplier from or with a head office in a complying country would be selected. Another justification could be that the alternative products are significantly more expensive or of lesser quality. In addition, it could be questionable whether the alternative supplier, if selected, would be able to actually supply the required goods in a timely manner.

These Principles encompass measures taken by a country geared at removing one or more relevant legal requirements to the detriment of the climate and, by the same token,

563 Jillian Ambrose, Fracking causing rise in methane emissions, study finds, https://www.theguardian.com/environment/2019/aug/14/fracking-causing-rise-in-methane-emissions-study-finds and f.i. Renee Cho, Could 2020 Determine Fracking's Future, https://blogs.ei.columbia.edu/2020/01/28/2020-fracking-future/.

564 See John Liggio, Shao-Meng Li, Ralf M. Staebler, et al., Measured Canadian oil sands CO2 emissions are higher than estimates made using internationally recommended methods, https://www.nature.com/articles/s41467-019-09714-9.

society at large.[565] That may invoke retaliatory actions by the relevant country – in particular one major power does not shy away of taking such actions – which might be a justification for selecting a supplier in such a country.

Principle 18.6

Lobbying for measures irreconcilable with the imperative of keeping global warming below – in this update – 1.75°C is damaging to the world; there must be a strong disincentive to do so. Hence, selecting such a supplier requires a compelling justification. See also Principle 25 (d).

Advertising products and enticing consumers

Principles 19 and 20

These Principles are new. They are inspired by measures almost universally deemed necessary and accepted in relation to significantly dangerous products such as tobacco. The difference is that the causal link between fatal illness (lung cancer) and smoking is more direct (although in specific cases not necessarily a given), whilst it is more indirect in case of climate change. On the other hand the adverse consequences of climate change not "only" cause fatal injury to private persons, but bring about catastrophes around the globe. This carries all the more weight bearing in mind that, unlike smokers, the victims include the environment, future generations, and other living species who did not, or only marginally, contribute to climate change. For all these reasons the very core of tort law and, arguably, also human rights, serve as a sound legal underpinning of these obligations.

For the meaning of "excessive" we refer to the general commentary to Principles 9 and 10.

565 See f.i. Marianne Lavelle, Trump Moves to Limit Environmental Reviews, Erase Climate Change from NEPA Considerations, https://insideclimatenews.org/news/09012020/trump-nepa-environmental-review-changes-climate-change-infrastructure-pipelines?utm_source=InsideClimate+News&utm_campaign=0d98f490ed-&utm_medium=email&utm_term=0_29c928ffb5-0d98f490ed-327952769.

Principle 19.1

This Principle does not need further elaboration. This Principle includes products from deforestation; see section 18.8, the commentary to Principle 1 definition of Emissions and the commentary to Principle 22.1 (b).

Principle 19.2

This principle is inspired by a complaint to the (UK's) Advertising Standards Authorities about Ryanair's claim of having "the lowest carbon emissions of any major airline." The claim was considered misleading because "the evidence provided was insufficient to demonstrate that Ryanair was the lowest carbon-emitting airline" on the basis of the metric allegedly used by Ryanair.[566] Advertisements by some fossil fuel companies allegedly are another example:

> "While it is unclear how serious oil executives are about transforming their companies, there is little doubt about their efforts to transform their image. "Want to drive carbon neutral? With Shell, now you can" says one advertisement for the company."[567]

This Principle also covers the promotion of fossil fuels at unsafe levels.[568]

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566 ASA ruling on Ryanair, 5 February 2020, https://www.asa.org.uk/rulings/ryanair-ltd-cas-571089-p1w6b2.html. See for a ruling of the Dutch Reclame Code Commissie (Code of Advertising Practice Commission) about a claim by KLM that commercial airlines are currently allowed to fly with a maximum of 50% bio-fuels. On 16 July 2020 the Commission held that the claim was misleading because KLM did not mention that bio-fuels were only marginally used; see https://www.reclamecode.nl/uitspraken/vlog/gemotoriseerd-vervoer-2013-00267/119228/. We do not – and are unable to – express a view on the merits of these cases. See for a similar approach a circular of November 4, 2015 of the Securities and Exchange Board of India, https://ca2013.com/clarifications/sebi-circular-circfdcmd102015-dated-04112015/, Annexure II Principle 9 (4). See about the OECD complaint mechanism Anita Foerster and Ingrid Landau, A new tool to address corporate climate wrongdoing: OECD complaint against ANZ fossil fuel financing, Australian Environment Review, 2020, Vol. 35, No 1 p. 26 ff.

567 Nicholas Kusnetz, What Does Net Zero Emissions Mean for Big Oil? Not What You'd Think, https://insideclimatenews.org/news/15072020/oil-gas-climate-pledges-bp-shell-exxon#:~:text=The%20vast%20majority%20of%20the,and%20processing%20oil%20and%20gas, also for other examples.

568 See for a claim to counter such endeavours Dennis J. Herrera, city attorney of San Francisco et al. v BP PLC et al., https://www.sfcityattorney.org/2019/03/14/san-francisco-and-oakland-appeal-to-9th-circuit-hold-fossil-fuel-companies-accountable-in-state-court-for-costs-of-climate-change/. The case was referred to a federal court.

This Principle can usefully contribute to keeping global warming below fatal thresholds because it bans the opportunity to issue misleading claims which might entice consumers to buy products or services they would otherwise not have bought.[569]

Principle 20

Two examples may illustrate what is meant by this Principle. (Luxury) chocolate (bonbons) is a good example. Its carbon footprint is significant[570] and it is a luxury product. Experience shows that huge rebates, two for the price of one and similar deals are offered. This Principle requires a justification for such deals, which, in our example, will not be easy to provide.

We are inclined to believe that, f.i., putting an excessive sized beef steak (by its size a product with an excessive carbon footprint) on the "special price" menu of a restaurant falls under the umbrella of this Principle. We are not saying that restaurants are no longer allowed to offer such excessive quantities on demand, only that they should not entice consumers to buy such excessive quantities.

This Principle includes products from deforestation; see section 18.8, the commentary to Principle 1 definition of Emissions and the commentary to Principle 22.1 (b).

These examples are not covered under Principle 10 because making these products available does not emit GHGs.

Obligations of buyers of fossil fuels

Principle 21

This Principle is an elaboration of our approach on increase of production, discussed under Principle 2.1.1.

We have discussed at great length how to cope with the most GHG emitting fossil fuels. More precisely: whether we should focus on the suppliers or the buyers. There are many reasons to opt for buyers, the most important being the following.

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569 See for further examples of misleading advertising regarding carbon emissions or reductions, Brian J Preston Climate Change Litigation (Part 1) (2011) 5 Carbon and Climate Law 1, 10-14. See also: Joanna Setzer and Rebecca Byrnes, Global trends in climate change litigation, 2020 snapshot, Policy report July 2020, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjng4ClruvqAhXBqaQKHfFwCgEQFjAAegQIARAB&url=http%3A%2F%2Fwww.lse.ac.uk%2Fgranthaminstitute%2Fpublication%2Fglobal-trends-in-climate-change-litigation-2020-snapshot%2F&usg=AOvVaw1wNlArEUhL8Ub6FIvIyqxE. p. 21.

570 See World Resources Institute, How Much Rainforest Is in That Chocolate Bar, https://www.wri.org/blog/2015/08/how-much-rainforest-chocolate-bar.

First, it is a bit too easy to expect the fossil fuel industry to refrain from selling what the world at large desperately needs because it is unwilling to effectuate the transition to renewable energy at the pace needed to avoid passing fatal thresholds. Secondly, some – if not most – of the major fossil fuel companies are based in countries where courts will at best be reluctant to issue any meaningful restrictions on the sale of these products. Assuming that courts around the globe would be willing to issue relief to the effect that less coal, oil and, in the longer term, gas are allowed to be put on the market serious difficulties would arise. With a shortage of supply or an increase of demand the price of these products will skyrocket which would make them unaffordable to many developing countries. In addition, countries with significant political power may – and probably will – use this power to acquire as much market share as they can to accommodate their needs, leaving less powerful countries short of the energy they need.[571] For all these reasons, the better strategy is to focus on buyers.

To some extent the issue is already covered by other Principles, notably Principles 7 (if alternatives are available at no relevant additional costs), 8, 9 and indirectly by Principles 18 (18.2 specifically focusses on suppliers of energy from coal fired power plants) and 19.1. That means that we can confine ourselves to a few scenarios that might otherwise not be (fully) covered.

Principle 21.1

In light of the awful carbon footprint of coal, purchasing coal for the purpose of production requires a compelling justification. Such a justification could be an enterprise needs time for a transition to other fuels if no reasonable alternative source of energy is available. The time span should be as short as reasonably possible. In the meantime the enterprise has to comply with Principle 9.1.

A few other examples: in a least developed country the price of coal is significantly lower compared to alternative sources of energy. An enterprise in a least developed or developing country, only active on the domestic market, manufactures indispensable products. It cannot afford buying alternatives. This may justify buying coal if otherwise the relevant products would no longer be available to the local people. In this scenario the enterprise in point should explore alternatives, f.i. raising the price of its products or seeking subsidies from the government to make buying alternative sources of energy possible.

571 See also Noah M. Sachs, Climate Change Triage, o.c. p. 1007.

Principle 21.2

As explained under Principle 2.1.1 an increase of an enterprise's production justifies higher emissions, albeit only in subsequent base periods. The use of more coal is only allowed for the shortest possible transition period. The justification for this Principle is the awful carbon footprint of coal. If increasing production requires an increase in the purchasing of coal, that almost certainly means production was already based on coal. As a rule, the enterprise should not have the opportunity to switch to, say, oil for the increase of its production. It should move to renewables without further ado if that is possible in the given circumstances. The need to immediately switch to renewables in this particular instance is justified seeing the use of coal by the enterprise in the past.[572] If it is not possible, Principle 9.1 applies to the additional emissions.

Principle 21.3

According to this Principle an enterprise is only allowed to increase its purchasing of oil for the purpose of increasing production during the shortest period reasonably possible period to allow the materialisation of its transition to gas or renewable energy. It is less stringent compared to Principle 21.2 because the carbon footprint of oil is lower than the footprint of coal. That justifies two differences: the addition of the word "reasonably" and the possibility to switch to gas. In relation to the latter switch, the enterprise would be best advised to realise that gas, too, needs to be phased out in the foreseeable future. Hence a switch to renewable energy straightaway would not only be best for the climate but in the somewhat longer term also the cheapest option to avoid subsequent switches.

The reason for the approach adopted by this Principle compared to the general observations on "increase of production" under Principle 2.1.1 is that the use of oil for *increased* production purposes is a serious obstacle to keeping climate change below fatal thresholds. Not so much if that would only happen occasionally, but it is fair to assume that many enterprises may feel tempted to use oil for that purpose. At the same time we should be realistic. If a swift transition to renewable energy is not reasonably possible, the use of oil should be allowed if the relevant enterprise genuinely aims at a transition towards gas or renewable energy.

572 As this is an additional obligation, and not a primary reduction obligation it is justified to take past emissions into account.

Supermarket chains, major internet sellers and other major retailers

Principle 22

It should be reiterated that the current state of affairs requires a focus beyond the reduction of emissions because it will not suffice to keep climate change below fatal thresholds. By including supermarket chains, major internet sellers and major retailers we ultimately[573] reach buyers (consumers). Although it primarily is up to governments to determine the obligations of consumers, many governments fall short of doing so. Supermarket chains and major retailers are the low hanging fruit to fill part of that gap. It is also fair – which often equates: it is legally required – that supermarket chains have to bear part of the burden to come to grips with climate change.

Principle 22.1

(a) This Principle is confined to supermarket chains and other major retailers, which includes internet sales by major retailers.

It follows from Principles 9 and 10 that countervailing measures concerning the excessive emissions caused by manufacturing the relevant products and emissions caused by the products themselves have to be taken. If that has happened, the emissions are no longer excessive which means that Principle 22 does not come into play. The supermarket chain or retailer has to genuinely ascertain the assurances provided by its supplier that such measures have been taken.

This Principle adds a new feature. Even if the emissions caused by products and services are not excessive for the purpose of Principles 9-13, they can be excessive if compared to the products or services of similar and price-competitive alternatives.

Although soya or palm-oil from logged tropical woods does not emit GHGs such products are also covered by this Principle.[574] After all, there is a direct link between this kind of logging and the products and their adverse consequences are at least as detrimental to the climate as excessively emitting products.

We realise that the legal basis for this Principle is, arguably hugely, aspirational. It makes, however, a lot of sense to require a compelling justification for putting products

573 As explained in section 28 the law tends to keep pace with the changing demands of society.

574 See f.i. The Guardian, Tesco and M&S likely to have soya linked to deforestation in supply chain, https://www.theguardian.com/environment/2019/oct/05/tesco-m-and-s-supermarkets-likely-to-have-soya-linked-to-deforestation-supply-chains.

and services on the market that emit significantly higher amounts of GHGs than their price-competitive peers. It stimulates a race to the top which is bitterly needed to come to grips with the challenges posed by climate change.

The trick may lie in "peers". By way of example: supermarkets seem to believe that their own brands are "peers" of premium brands, a view which is regularly challenged by manufacturers of premium brands.[575] We are not in a position to take a stance in that debate, if there would be a universal truth in that debate which is not overly likely. This kind of questions can only be answered in relation to a specific case.

A compelling justification might be that the margin of profit on the – for the purpose of this Principle – excessively emitting product or service is not insignificantly higher than the margin on similar products that are sold (and have to be sold) at more or less the same price.[576] A close reader will observe that "not insignificantly" is more generous to the retailer than similar features in the context of other Principles. The reason is the aspirational character of this Principle.

(b) Next to the examples mentioned under (a), which apply here mutatis mutandis, a compelling justification could be that the supplier of alternative products is located at a greater distance which would cause even more emissions of and costs for transport.

As discussed in this commentary to the definition of "Emissions" (Principle 1), for the purpose of our Principles the loss of carbon sink resulting from the logging has to be regarded as "emissions"; see for the attribution of the emissions section 18.8. For the purpose of Principle the "Emissions" are deemed to be excessive if no countervailing measures were taken. This means that putting wood products on the market requires a compelling justification if no countervailing measures were taken for the logging.

Principle 22.2

This principle is inspired by an article in the Financial Times (FT) about the carbon footprint of Amazon, including the transport to buyers,[577] i.e. 44 million metric tonnes, according to the FT the same as Denmark.[578] Part of the reason is that ever more customers

575 They are rarely price-competitive, but for the purpose of our example we assume they are.

576 Several countries control or regulate the prices of specific products or services. Several manufacturers try to impose a minimum price for their products.

577 Thus we are not suggesting that the emissions caused by transport, effectuated by independent enterprises, are or have to be attributed to Amazon. See the commentary to the EP p. 32 ff and this commentary section 18.2 and under Principle 2.1.1.

578 Leila Abboud and Camilla Hodgson, Climate cost mount as retailers compete on fast delivery, 23 December 2019; the figure of 44 million metric tonnes is in line with Amazon's sustainability report: https://sustainability.aboutamazon.com/carbon-footprint. Denmark's emissions in 2017 were close to 50 million tonnes: https://stats.oecd.org/Index.aspx?DataSetCode=AIR_GHG.

opt for "one-day-delivery" which often requires deliveries separate from regular mail or delivery routes. Another reason is excessive packaging.

Countering this undesirable figure seems low hanging fruit. We have considered various options, most more stringent than the current text. The other principles already offer solutions to part of the problem. If the packaging is excessive Principle 10 comes into play.

One day delivery is often pointless. The difficulty is that the seller is rarely in a position to check whether it is or not. Take a non-perishable Christmas parcel ordered shortly before Christmas. The buyer wants to receive it before Christmas. Seen from his angle that is "necessary" in spite of the fact that he could have ordered it much earlier. In this specific case the answer ought to be: one-day-delivery is not allowed. But the principles are not about specific cases. Hence, we had to formulate an obligation that is workable for the relevant enterprises.

As to the unnecessary and by the same token often excessive one-day-delivery: Principle 9.1 also offers a solution, but only if it is sufficiently clear that there is no justification for such a delivery. In such a scenario, the seller or the transport company has to take countervailing measures to offset the excessive part. This may be an incentive to charge the additional cost to the buyer which may provide a disincentive to the buyer to opt for this mode of transport, or, at the very least, provide an incentive to order parcels timely in future cases. The difficulty with this approach is that it is not easy to assess the need for/usefulness of one day delivery, all the less so because the lion's share of those transactions will be managed automatically.

Principle 23: Outsourcing

The legal basis for this principle is highly aspirational. We can imagine domestic courts in developing countries will be reluctant to fully apply this principle.

This Principle is based on the idea of piercing the corporate veil. The difference is that "piercing" is about ignoring the corporate structure of a group of enterprises, whilst this Principle is about ignoring what happens outside a group of enterprises. The Principle aims at avoiding an enterprise easily escaping its obligations by outsourcing activities that emit GHGs. We have tried to balance the interests of developing and least developed countries and the climate. After all, introducing barriers to outsourcing – which may well become the new "normal" after the corona crisis – impairs countries which usually are the targets for outsourcing, often least developed and developing countries. We did not opt for a Principle saying that for the purpose of determining the reduction percentage the outsourcing has to be ignored altogether. The yardstick offered by this Principle is the higher of the reduction percentage of Principle 2.1.1 (i.e. of the "outsourcee") or Principle 5.1.

It can only be hoped that the outsourcing enterprise is prepared to provide financial or technical means to the outsourcee to achieve the reductions required. We realise that in many instances the leverage and power of the outsourcing enterprise is significantly greater than those of the outsourcee. That is one of the downsides of outsourcing anyway. It is, however, not an issue to be tackled by our Principles.

It may be difficult to prove "apparent aim". If, prima facie, the facts seem to suggest that outsourcing was effectuated only to avoid these obligations the enterprise to which the manufacturing has been outsourced has to prove that other reasons gave rise to the outsourcing by the outsourcing enterprise. In this respect it may matter whether or not the enterprise had already outsourced (part of) the manufacturing process or what competitors do. To quite some extent the outsourcee depends on facts about the reason for outsourcing to be submitted by the outsourcing enterprise. If the latter is unwilling to provide the same the court has to assess the available evidence.

A similar Principle for the transfer of production within the concern to countries with lower reduction obligations is redundant. As a rule the enterprises in point will be global enterprises. Hence, the percentages mentioned in Principle 23 already apply to the relevant concern-company (see Principle 5.1).

Different approaches would be possible: f.i. putting the reduction burden on the outsourcing enterprise or requiring that enterprise to take countervailing measures for the additional emissions caused by the outsourcing, whether or not by providing technical or financial means to the outsourcee. That would not be unfair. It is, however, not easy to reconcile with the approach explained in sections 18.1 and 18.2. In addition, the update already offers the option of offsetting in quite a few instances. For now the feasibility of wide-spread offsetting is limited. Because outsourcing (still) happens quite often some caution with expanding this feature is unavoidable.

Effective Climate Governance

Principles 24-26: general commentary

"Today, most companies are vulnerable to climate change-related risks in some way, even if they are not in the energy sector or other carbon-intensive parts of the world economy. Their boards have responsibilities to shareholders and

> other stakeholders to understand, measure, mitigate and report on those risks."[579]

Legal basis

The UN Guiding Principles on Business and Human Rights provide a series of Principles that support our Principles on governance.[580]

A UN Global Compact report reveals that:

> "results from two new studies — the UN Global Compact Progress Report 2019 and the UN Global Compact-Accenture Strategy CEO Study 2019 — show that business needs to be doing much more if we are to achieve the SDGs by 2030. While there have been bright spots of progress in a number of areas, advancement towards the SDGs has been slow or even reversed. Climate change, … [and] loss of biodiversity … present major existential threats to our future. The challenge posed to the global community: how can we grow with equity, while protecting our planet? The good news is that it is still possible to shift the world onto a 1.5°C trajectory …. However, this will require bold leadership to transform business models and economies so the SDGs are achieved, leaving no one behind."[581]

Under "Governance" the report continues as follows:

> "Establishing corporate governance that promotes the corporate purpose and its contribution to the SDGs is essential. The Board of Directors, tasked with key decisions such as endorsing strategic priorities and goals, selection and

579 Clyde & Co, Climate change: A burning issue for businesses and boardrooms, https://resilience.clydeco.com/videos/climate-change-a-burning-issue-for-businesses-and-boardrooms?autoplay=1 p. 1. See also Kern Alexander and Paul Fisher, Banking regulation and sustainability, in Beekhoven van den Boezem, Sustainability and financial markets, o.c. p. 18 with elaboration on the subsequent pages and Lise Smit et al., study on due diligence o.c., p. 357.

580 O.c.; see Principles 16, and 18-20 and in quite some detail Swiss Confederation, The Commodity Trading Sector, Guidance on Implementing the UN Guiding Principles on Business and Human Rights, https://www.seco.admin.ch/seco/en/home/Publikationen_Dienstleistungen/Publikationen_und_Formulare/Aussenwirtschafts/broschueren/Guidance_on_Implementing_the_UN_Guiding_Principles_on_Business_and_Human_Rights.html p. 19 ff. See also: UN Human Rights, Office of the High Commissioner, Mandatory Human Rights Due Diligence Regimes, Some Key Considerations, June 2020, https://www.ohchr.org/Documents/Issues/Business/MandatoryHR_Due_Diligence_Key_Considerations.pdf. See also Brian J. Preston, Legal imagination and climate change, Australian Environment Review, 2020, Vol. 35, No 1 p. 3.

581 SDG Ambition, Scaling Business Impact for the Decade of Action, https://www.unglobalcompact.org/library/5732 p. 6.

> compensation of executives, and building purpose driven culture, remains the primary group for directing corporate governance. As such, leading this transformation to a more sustainable and inclusive business model should be a regular agenda item for the Board and inform its decision points. Overseeing the integration of sustainability considerations and aligning with the SDGs are not distinct, but an integral part of existing Board responsibilities and committees. Specific mechanisms such as recruiting and incentivizing future-orientated, diverse leadership can further ensure the prioritization and adoption of corporate ambitions related to the SDGs. Companies should proactively embed sustainability into their oversight and internal control responsibilities."[582]

The Guidance Document to the Principles for Responsible Banking puts it as follows:

> "To be able to respond with the speed and scale necessary to address global challenges requires leadership, buy-in and active support of the Board of Directors, the CEO, and senior and middle management. It requires establishing a daily business culture and practice in which all employees understand their role in delivering the bank's purpose and integrate sustainability in their work and their decision-making. To deliver on its commitments under these Principles, a bank needs to put in place effective governance procedures pertaining to sustainability, including assigning clear roles and responsibilities, setting up effective management systems and allocating adequate resources.
> Principle 5: Requirements set out in the Framework Documents.
> In line with the Principles for Responsible Banking Framework Documents, banks are required to develop governance structures that enable and support effective implementation of the Principles. This includes having appropriate structures, policies and processes in place to manage its significant impacts and risks, and achieve its targets. Your bank will also be required to disclose measures it is implementing to foster a culture of responsible banking among its employees."[583]

582 O.c. p. 10.

583 UNEP Finance Initiative, Principles for Responsible Banking, A Guidance Document, https://www.unepfi.org/wordpress/wp-content/uploads/2019/09/PRB-Guidance-Document-Final-19092019.pdf p. 21.

There is no reason why things would be different for other enterprises, in spite of the fact that banks play a pivotal role in society. We could not agree more with the message of the quotations. The Principles on Governance align with these valuable ideas.

Business leaders emphasise the "Business Ambition for 1.5°C",[584] a very ambitious goal as may follow from the section 7. The Global Compact Report and other reports and the ambitions formulated by distinguished business leaders as such do not create legal obligations, but they are important, also from a legal angle. They point to a swiftly emerging view which will soon crystallise into a communis opinio of the business community which will, in turn, colour the interpretation of the law. All kinds of most laudable pledges, promises, and declarations come with responsibilities and obligations, as inter alia the Urgenda judgment of the Netherlands' Supreme Court illustrates, albeit in the context of the obligations of the Dutch State. They create an obligation to explain why the relevant enterprises are not going and/or are unable to honour their pledges. Such messages may also raise expectations by investors which cannot be ignored without deceiving these investors; see in more detail the section 22.10.

In the context of disclosure a Staff Notice of the Canadian Securities Regulators reveals:

> "A large majority of the users consulted agreed that issuers should provide disclosure regarding their governance and oversight of risks, including those related to climate change. Many users supported the TCFD Recommendations in this regard, which recommend disclosure on:
> – the board of directors' oversight of climate change-related risks and opportunities;
> – management's role in assessing and managing climate change-related risks and opportunities;
> – the process used by issuers to identify and assess climate change-related risks; and
> – how such processes are integrated into the issuer's overall risk management process."[585]

There is no reason to confine this to disclosure. The just mentioned majority view signals support for the governance issues emanating from Principles 24-26. That also goes for

584 UN Global Compact, Business Ambition for 1.5°C, https://www.unglobalcompact.org/take-action/events/climate-action-summit-2019/business-ambition/business-leaders-taking-action; see also EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, o.c. p. 38.

585 CSA, Staff Notice 51-354, https://www.osc.gov.on.ca/en/SecuritiesLaw_csa_20180405_51-354_disclosure-project.htm#N_1_1_1_53. par. 5.3. See also Cynthia Williams, o.c. p. 20 and 21.

emerging Codes of Governance,[586] such as the UK Corporate Governance Code[587] and for suggestions concerning a series of laws in Canada.[588] Even more so in Canada where the Supreme Court introduced the concept of "good corporate citizenship".[589] According to Sarra this could also "inform a judgment as to what constitutes "good" citizenship in the context of climate change when evaluating whether directors have fulfilled their fiduciary duty".[590] In the latter context, materiality clearly plays a role[591]; see also under Principle 18.1.

To assess whether reasonable care was exercised Canadian courts effectuate a proportionality test. The following questions played a role:

> "- Did the directors establish a pollution prevention system?
> - Was there supervision or inspection?
> - Was there an improvement in business methods?
> - Did the directors exhort those individuals controlled or influenced?
> - Did each director ensure that the corporate officers had been instructed to set up a system, sufficient within the terms and practices of the particular industry, of ensuring compliance with environmental laws?
> - Did the directors ensure that the officers of the corporation reported back periodically to the board of directors on the operation of the system?
> - Did the directors ensure that the officers had been instructed to report any substantial non-compliance to the board of directors in a timely manner?
> - Is there a system of ongoing environmental audit? …
> - Are there training programs in place, sufficient authority to act, and other indices of a proactive environmental policy?"[592]

586 See about the legal implications Jan Eijsbouts, Corporate Codes as Private Co-Regulatory Instruments in Corporate Governance and Responsibility and Their Enforcement, Indiana Journal of Global Legal Studies 24:1 p. 1 ff and section 22.9.

587 UK Corporate Governance Code, July 2018, https://www.frc.org.uk/getattachment/88bd8c45-50ea-4841-95b0-d2f4f48069a2/2018-UK-Corporate-Governance-Code-FINAL.pdf. See Principles 1C, D and 3 K.

588 See Sarra and Williams, Time to act, https://dx.doi.org/10.2139/ssrn.3335530 p. 24.

589 BCE Inc v 1976 Debentureholders, quoted by Sarra, o.c. p. 16.

590 O.c. p. 16.

591 Sarra, o.c. p. 28. See also, albeit cautiously by the use of terms such as "consciously disregards, or … wilfully blind", Sarah Barker, Ellie Mulholland and Ben Caldecott, Directors' liability and climate risk: navigating the step change in disclosure and governance expectations, in Beekhoven van den Boezem et al. (eds), Sustainability and Financial Markets, p. 238-240.

592 Sarra, o.c. p. 36. She adds that directors "should be aware of the standards of their industry and other industries that deal with similar environmental pollutants or risks" (p. 37).

On the basis of "environmental law jurisprudence" the following factors are subsequently added:

> "- Did the directors and officers undertake to identify potential transition risks and physical risks from climate change and climate change policies?
> …
> - Did the directors and officers establish a program or put appropriate strategies in place to manage the climate related risk identified, such as reduction of greenhouse gas emissions, climate mitigation and adaptation?....
> - Did the directors ensure that the officers had been instructed to report any substantial non-compliance to the board in a timely manner?"[593]

Lord Sales refers to a statement by the Business Round Table Group in the US on 19 August 2019 announcing "that corporations should no longer only advance the interests of shareholders, but should also 'protect the environment by embracing sustainable practices across our businesses'". In a typical understatement he labels the statement "pretty bland stuff, but perhaps .. an indication that business leaders are coming to recognise that some kind of action by corporations is called for."[594] His analysis is, in our view, not overly revolutionary, but he acknowledges that "the identity of the directors and their general mind-set and willingness to take into account climate change factors can make a significant difference to the practice of the companies on the ground." He subsequently begs the question whether "the imposition of a 'have regard' obligation on directors in relation to environmental protection could have an effect in feeding or supporting the imposition of a duty of care on companies in favour of third parties with respect to detrimental effects arising from their activities."[595] To that effect he strikes a parallel between English and Australian law referring to an opinion by Noel Hutley and Sebastien Hartford-Davis, Climate Change and Directors' Duties, 2016, which "cannot be rejected as coming from a "bleeding heart" or "greenie" source".[596] Lord Sales argues that "there seems to be force

593 Sarra, o.c. p. 41 and 42. On p. 42 it is suggested that ambitious reduction *targets* of GHG emissions and "improved efficiency and adoption of low carbon technologies" suffice. That may well be right, but a lot depends on the level of ambition compared to the obligation emanating from Principle 2.1.1 and whether the ambitions are translated into action.

594 Directors' duties and climate change: Keeping pace with environmental challenges, https://www.supremecourt.uk/docs/speech-190827.pdf.

595 O.c. p. 5.

596 See for the quotation Kirby, o.c. at 193. He draws a parallel with "manufacturers and suppliers to tobacco products, as the growing scientific consensus began to accumulate concerning the consequences of smoking tobacco or being otherwise exposed to that product." He also points to differences compared with climate change (o.c. at 193 and 194).

in the view, expressed in the 2016 Hutley Opinion, that well-documented corporate decisions, reflected in annual reports and disclosures, and a culture of seeking specialist advice on the environmental impacts of board decisions, are likely to protect directors from legal sanctions."[597] The latter clearly points to legal obligations; otherwise there would not be any room for "sanctions". For "global obligations" we are more pronounced in that we wonder whether legal advice will necessarily shield against liability. First, it matters which questions were posed. Secondly, the legal opinion has to be read with common sense. If it points to no, very limited, or "only" moral obligations of the enterprise, it will often[598] be manifestly mistaken and should not protect against claims.[599] See also under Principle 48.

The UK Corporate Governance Code necessitates boards carrying out "a robust assessment of the company's emerging and principal risks", defined as "events or circumstances that might threaten the company's business model, future performance, solvency or liquidity and reputation".[600] This will be quite a challenge without a proper understanding of the enterprise's obligations, if not for other reasons than assessing the liability risk. Lord Sales emphasises that present-day's demands on corporate governance are much greater than a century ago, which highlights the living-instrument feature of the law; see also section 28. With apparent support he refers to the 2019 update of the Hutley-report suggesting "that we are now observers of a profound and accelerating shift in the way that Australian regulators, firms and the public perceive climate risk" and that "these matters elevate the standard of care that will be expected of a reasonable director", which means that "the practical implications of those duties has to take account of the general environment of expectation created by regulators and in civil society."[601]

In a report commissioned by Global Compact, Freshfields Bruckhaus Deringer formulates the following policy commitment:

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597 O.c. p. 6.

598 Not per se; the enterprise in point may already have taken far-reaching steps to cope with climate change.

599 Admittedly, this looks like a bold statement, but it is fully in line with the EP and this update which is based on the submission that enterprises do have discernible legal obligations.

600 Lord Sales, o.c. p. 7 and 8. See also Norton Rose Fulbright, The time is now – climate risk a mandatory issue for all boards, https://www.nortonrosefulbright.com/en-au/knowledge/publications/c528fde6/the-time-is-now---climate-risk-a-mandatory-issue-for-all-boards and Technical Expert Group on Sustainable Finance, Climate-related Disclosures, https://ec.europa.eu/info/publications/sustainable-finance-technical-expert-group_en p. 21 and 23, Helen Winkelmann, Susan Glazebrook and Ellen France, o.c. p. 45-47 and extensively Janis Sarra, Fiduciary Obligations in Business and Investment: Implications of Climate Change, https://ccli.ouce.ox.ac.uk/wp-content/uploads/2018/08/Janis-Sarra_Fiduciary-Obligation-in-Business-and-Investment.pdf p. 6 ff.

601 O.c. p. 10.

> "Companies should have a human rights policy in place which identifies its human rights commitments and governance structure and its expectations for suppliers and business partners.
>
> The commitment should:
> – be approved at the most senior level of the business;
> – be approved by individuals with relevant internal and/or
> – external expertise;
> – stipulate the company's human rights expectations of staff,
> – business partners and other parties directly linked to its
> – operations, products or services;
> – trigger the development of internal procedures and systems
> – necessary to meet the commitment in practice;
> – be publicly available and communicated internally and
> – externally to all staff, business partners and other relevant
> – parties; and
> – be reflected in operational policies and procedures necessary to
> – embed it throughout the business."[602]

Kirby persuasively points to the risks to enterprises and "their officers" if they ignore climate change,[603] inter alia referring to an unpublished presentation by Summerhayes (executive board member of the Australian Prudential Regulation Authority (APRA)).[604] He concludes that it

> "would be unwise to wait for a future Royal Commission or litigation to unveil the neglect, indifference and carelessness of those in responsible positions of decision-making who are sleepwalking in a blindfold while potentially important problems are looming that may be found by later generations to have required prudential attention."[605]

602 Freshfields Bruckhaus Deringer, Business and Human Rights, Navigating the legal landscape, https://www.freshfields.com/en-us/our-thinking/campaigns/biz-human-rights/, p. 29, 30 and 32.

603 O.c. p. 194-196.

604 O.c. p. 195.

605 P. 196. On the same note: Amartya Sen, What is the role of legal and judicial reform in the development process? https://issat.dcaf.ch/Learn/Resource-Library/Policy-and-Research-Papers/What-is-the-role-of-legal-and-judicial-reform-in-the-development-process p. 4 and 5, referring to a quote from Leonardo Da Vinci: "Relying on authority involves only memory and no intellect."

We could not agree more, adding that we probably do not have to wait for the demise of future generations. More likely than not, courts will step in much earlier, as is also the gist of Kirby's brilliant article;[606] see in more detail section 29.

The Climate Wise Principles underscore the issues mentioned above albeit in soft language.[607] That goes in particular for Principle 3 "Lead in the identification, understanding and management of climate risk."

Shall or should?

Our Principles 24 and 25 speak of "should"; Principle 26 of "shall". The latter is self-explanatory, we think. As to the "should": apart from the question whether there would be a sufficiently sound legal basis for "shall", it might create practical difficulties. Take the legal obligations of enterprises. Can it be taken for granted that there is a sufficient amount of experts to answer relevant questions about the content of these obligations? There is little reason to believe that this is the case which is the reason for introducing the obligations mentioned in Principles 46 and 48.

How to assess the legal obligations?

The seemingly prevailing view among experts and others that global warming can be kept (well) below 2 degrees if the world reaches net zero emissions by 2050 may be right in highly theoretical scenarios, in reality it is almost certainly mistaken for the many reasons mentioned in the section 7 and under Principle 1, definition of Global Carbon Budget. That implies that a hard and fast rule ("shall" or must) creates practical difficulties. It is questionable whether the right experts are available. It is uncertain how the interpretation of "sufficient" in Principle 24 will develop and what they had to do under Principle 25.

That, however, does not mean that they can blindly rely on obviously mistaken expert opinions. Put differently:

> "directors and officers will not be held in breach of the duty of care …. if they act prudently and on a reasonably informed basis. The decisions they make

606 In the case of Clientearth v Enea SA the District Court of Poznan held that "[t]he responsibilities of the management board include reliable assessment of the economic effects of a planned investment, as well as an analysis of usefulness and appropriateness of a given investment in many other respects, including also in respect of modernity, environmental impact and also the appropriateness from the point of view of the state energy security"; thus the certified but not publicly available English translation of the not overly clear judgment of 27 August 2019, http://climatecasechart.com/non-us-case/clientearth-v-enea/.

607 O.c.

> must be reasonable business decisions in light of all the circumstances about which the directors or officers knew or ought to have known."[608]

Recent research suggests that few companies have climate targets, let alone that they take action to achieve these targets.[609]

If a law firm would provide a legal opinion to the enterprise/the board stating that enterprises in APQ countries or global enterprises do not have obligations in the realm of reductions and otherwise, they should realise that this is an opinion that stands little chance of getting accepted by courts, let alone that it will be in line with the likely development of the law. A board member who takes the time to read highly regarded newspapers or other highly respected news outlets once every month *is* aware of the urgent need for action to avert global catastrophe. That knowledge is irreconcilable with the idea that business as usual is the answer to this threat.

Things get more difficult if they seek the view of more than one reputable law firm which come up with similar views. There is no panacea to that problem. However, we strongly believe that a board that gets treated to this kind of clearly mistaken opinions must understand that a lot more has to be done. A solution could be to join forces with other enterprises and/or associations of enterprises and to seek in-depth research on the issue. Such research should reveal that so little time to come to grips with climate change is left that inaction or slow and incremental steps are a non-starter.[610]

Principle 24

The urgent need for this Principle is emphasised by a report of the Chartered Institute of Management Accountants.[611] The report also highlights that the obligation is workable:

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608 Sarra and Williams, Time to Act, o.c. p. 27.

609 Alliance for Corporate Transparency, 2019 Research Report, An analysis of the sustainability reports of 1000 companies pursuant to the EU Non-Financial Reporting Directive, https://allianceforcorporatetransparency.org/assets/2019_Research_Report%20_Alliance_for_Corporate_Transparency-7d9802a0c18c9f13017d686481bd2d6c6886fea6d9e9c7a5c3cfafea8a48b1c7.pdf.

610 Enterprises in APQ countries *only* active in jurisdictions with courts keen to harp on the tune of "this is a political issue" may escape the sword of the law if they do not have assets in other countries which could serve as a basis for jurisdiction elsewhere. Even such enterprises should realise that the tide may (will) turn in their own country. Relying on domestic courts is fraught with risk if the relevant country has entered into international agreements about the enforceability of foreign judgments.

611 CIMA, Accounting for climate change, https://www.cimaglobal.com/Documents/Thought_leadership_docs/cid_accounting_for_climate_change_feb10.pdf. See also Transition Pathway Initiative, Introducing the Transition Pathway Initiative, https://www.transitionpathwayinitiative.org/tpi/publications/6.pdf?type=Publication p. 11 level 3 and a letter of January 2019 from a series of asset managers and NGOs to BlackRock, https://shareaction.org/wp-content/uploads/2019/01/Letter-to-Larry-Fink-Jan19-3.pdf.

> "Climate change poses a major risk to the global economy – possibly shrinking its output by 20%, according to the 2006 Stern Report.[612] Given the likely effects on habitat, resource availability and consumption, every organisation will be affected.
>
> Tackling climate change is not just a question of 'doing the right thing'. Businesses have a duty to their customers, employees and crucially, their shareholders to deliver long-term value and to manage risk. ….
>
> Managing and mitigating climate change must be embedded in our decision making. When it comes to capital expenditure and investment decisions, for example, it is vital that we apply the principles of sustainable procurement and consider long-term implications – financial, environmental and social – rather than just short-term costs.
>
> Management accountants have a key role to play in driving sustainable strategic and operational decisions. But CIMA's research shows that even where finance teams are engaged in climate change related activities, it has often been on an ad hoc basis.
>
> This must change. Management accountants are equipped with tools and techniques that can ensure businesses understand the scale of the problem, come up with viable solutions and ensure they are properly implemented. They have a pivotal role in providing business intelligence to support strategy and influence decision making.
>
> Without the rigour and commercial acumen of the finance function, it may prove impossible to truly embed sustainability into normal business life. Failure for management accountants to get involved now, when key decisions are being taken in areas like carbon trading and compliance with new climate change related regulations, could result in far higher costs, lost opportunities or reduced competitiveness.
>
> CIMA and Accounting for Sustainability (A4S) have conducted an international survey of almost 900 finance and sustainability professionals. CIMA also carried out in-depth interviews with experts in leading companies. This has helped us understand best practice in this area as well as identify opportunities for the management accountant to become more involved. This report makes a compelling case for every organisation to ensure that its finance team is at the heart of its climate change strategy, whether that's complying with new

612 The situation has significantly deteriorated since; see Ruth DeFries et al., The missing economic risks in assessments of climate change impacts, Policy insight, September 2019, https://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2019/09/The-missing-economic-risks-in-assessments-of-climate-change-impacts-1.pdf.

> regulations, mitigating its environmental impact or adapting to new circumstances. Senior decision makers should understand the value that management accountants bring to the issue; accountants themselves should be clear about how to make the case for their involvement and what skills they can bring to bear."

A similar message was formulated by the World Federation of Exchanges (WFE). In the context of investors' desire "to understand the oversight and management of ESG-related risks and opportunities within the firm" it reads:

> "How the organisation has determined which issues are material for monitoring management and reporting purposes and what time frames these determinations apply to;
> How the board and/or board committees (e.g. audit, risk, or other committees) are informed about ESG related issues;
> How these are embedded in the organisation's strategy, including risk management, policies, budgeting, etc.; and
> How the board reviews progress against goals and targets."[613]

The WFE cannot be after meaningless statements. It belabours the obvious that it believes that the issues to be mentioned in the statements belong to the duties of the board.

This Principle is a slightly softened version of Principle 2 of the World Economic Forum, How to Set Up Effective Climate Governance on Corporate Boards, Guiding principles and questions.[614] In particular for relatively small enterprises it seems overly demanding to require that the board has such knowledge. Effective access suffices which presupposes that the board made use of that access. That seems in line with the WEF's Principle 1, though colloquially formulated. It apparently wants to say that boards have "identifying" obligations, no more, no less.

Quite possibly, the law may swiftly develop to the effect that there should be "a dedicated voice on the board for environmental issues" "to give environmental impact issues due

613 WFE ESG Guidance and Metrics, Revised June 2018, https://www.world-exchanges.org/storage/app/media/research/Studies_Reports/WFE%20ESG%20Guidance%20June%202018.pdf, p. 4.

614 http://www3.weforum.org/docs/WEF _Creating_effective_climate_governance_on_corporate_boards.pdf. See also Unesco Declaration of Ethical Principles in Relation to Climate Change (2017), https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiL2r3agrjqAhWPiqQKHZYZBbQQFjADegQIDBAG&url=https%3A%2F%2Fen.unesco.org%2Fthemes%2Fethics-science-and-technology%2Fethical-principles&usg=AOvVaw1V8KpqAevZtEWImlS2oDZM Principle 13 and a circular of November 4, 2015 of the Securities and Exchange Board of India, o.c., Annexure II Principle 5 (1) in the Indian context.

prominence in the decision-making process of the board *as a whole"*, as suggested by Lord Sales.[615]

Although "only" about banks, Principle 5 of UNEP Finance Initiative Principles for Responsible Banking is in line with this Principle. It reads:

> "GOVERNANCE AND CULTURE
>
> We will implement our commitment to these Principles through effective governance and a culture of responsible banking."

Without access to sufficient knowledge effective governance is unthinkable. The Prudential Authority of the Bank of England (PRA) "expects a firm's board to understand and assess the financial risks from climate change that affect the firm, and to be able to address and oversee these risks within the firm's overall business strategy".[616]

See for the challenge posed by "sufficient knowledge" under Principles 24-26: General commentary under how to assess the legal obligations?

Principle 25

(a) This obligation is the corollary of Principle 27. However, it goes beyond the obligation emanating from Principle 27. The need to assess risks "on an ongoing basis" is in line with the Commentary on UN Guiding Principle 18 on Business and Human Rights.[617]

This Principle is also supported by the Principles for Responsible Banking:

> "PRINCIPLE 6: TRANSPARENCY AND ACCOUNTABILITY

615 O.c. p. 15. This, he contends, would be "a natural progression [from appointing senior environmental officers at various tiers] from gradually stricter disclosure and reporting requirements also to increase the benchmark in terms of such role allocation". Ellie Mullholland contends that "as a foreseeable financial issue … climate change now enlivens directors' governance duties in the same way as any other issue presenting financial risks" (p. 19). "Although they differ across jurisdictions …. corporate laws generally reflect core fiduciary principles that directors have obligations of trust and loyalty, and must act with care, skill and diligence" (Appendix 1 to World Economic Forum's Guiding principles and questions, o.c. p. 19 with further elaboration). See also Veena Ramani, Appendix 2 to the same report p. 21.

616 Enhancing banks' and insurers' approaches to managing the financial risks from climate change, Supervisory Statement SS3/19 p. 4.

617 P. 20. See also European Commission, My business and human rights, o.c. p. 8 and 10; Principle II IIGCC's European Investor Expectations on Corporate Lobbying on Climate Change, https://www.iigcc.org/download/investor-expectations-on-corporate-lobbying/?wpdmdl=1830&refresh=5ea2a27fea6191587716735 and Sarra, o.c. p. 17, 41 and 42, see for a similar view, Freshfields Bruckhaus Deringer, Business and Human Rights, Navigating the legal landscape, https://www.freshfields.com/en-us/our-thinking/campaigns/biz-human-rights/, p. 6, 7, 8.

> We will periodically review our individual and collective implementation of these Principles and be transparent about and accountable for our positive and negative impacts and our contribution to society's goals."[618]

This Principle is embedded in French law.[619]

Depending on the circumstances the board has to assess whether enterprises in their value chain comply with these Principles. This position is fuelled by a case submitted to the Dutch Contact Point for the OECD about alleged contribution by a major Dutch bank to abuses by financed palm oil companies; this case was found admissible[620] (which does not mean that victory will be on the plaintiffs' side).

The Australian Prudential Regulation Authority seeks "to make sure that the effects on businesses from a changing climate – both direct and indirect – have been actively considered within entities' decision making." This includes quantification of "the likely impact of the physical, transitional and liability risks of climate change and accurately assess and appropriately price these risks."[621]

A cost-benefit analysis is a relevant factor in determining whether such an obligation exists, bearing in mind that "benefit" includes benefits to society at large. If the transactions are of limited importance (financially and otherwise) this obligation will rarely exist. The reason for making this point under the umbrella of this Principle is the myriad of cases involved ranging from financial services, insurance, and the value chain.

The liability risk should also be assessed.[622] By way of illustration of the risk: Sarra contends that "developments suggest that it is only a matter of time before some legal action is taken in Canada. Directors should therefore be proactive in addressing climate-relate risk".[623]

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618 O.c. See also IIGCC, Mercer and Carbon Trust, A Climate for Change, https://ethosfund.ch/sites/default/files/upload/publication/p171e_050818_A_Climate_for_Change_A_Trustees_Guide_to_Understanding_and_Addressing_Climate_Risk.pdf p. 9.

619 See Notre affaire à tous, Benchmark, De la vigilance climatique des multinationales, rapport général, https://notreaffaireatous.org/wp-content/uploads/2020/03/Rapport-General-Multinationales-NAAT-2020.02.01.pdf for further elaboration. Currently 10 of the 25 enterprises mentioned in the report still do not include climate change in their due diligence plans (p. 5).

620 Milieudefensie, Friends of the Earth groups complaint against ING Group admissible, declares OECD national Contact Point, https://en.milieudefensie.nl/news/friends-of-the-earth-groups-complaint-against-ing-group-admissible-declares-oecd-201cing-has-been-ignoring-abuses-in-the-palm-oil-sector-for-years201d. See also a letter of January 2019 from a series of asset managers and NGOs to BlackRock, o.c.

621 Australian Prudential Regulation Authority, Understanding and managing the financial risks of climate change, https://www.apra.gov.au/sites/default/files/2020-02/Understanding%20and%20managing%20the%20financial%20risks%20of%20climate%20change.pdf.

622 More cautious Sarra, o.c. p. 29; as to the question whether the risk can be ignored by directors and officers her answer is: "arguably not" (p. 29 with elaboration on the subsequent pages).

623 O.c. p. 30.

(b) The accounting assumptions and reporting procedures are so important to investors and financiers that they should be as accurate as possible. This requires robust testing which should be ensured at a board level. This obligation concerns material facts.[624]

(c) It speaks for itself that actions and responses should be proportionate. That has a different meaning for reductions compared to f.i. adaptation. The need to reduce GHG emissions is a global issue. In that respect it does not matter whether the enterprise will be less affected, f.i. because it manufactures solar panels. The board has to ensure that the enterprise complies with its obligations. Period.

Adaptation is a different story. If the enterprise is located in a drought prone area it matters whether it needs a lot of water. If so, adaptation measures must be taken, even if expensive as long as the costs are proportionate to the benefit. Depending on the circumstances it may be prepared to run the risk of low probability disasters if the cost of coping is high.

Materiality also matters in relation to the size of the enterprise. Measures that would be useful but unaffordable will often be disproportionate. See further the commentary to Principle 32.

(d) As a rule, a culture of lobbying[625] for measures irreconcilable with the need to keep global warming below 1.75°C can never be responsible. Lobbying for specific interests could be; see for elaboration below.

This obligation is a corollary of Principle 27. Sadly, lobbying for measures which are at odds with keeping global warming below fatal thresholds are no exception.[626] That illustrates why this Principle matters.

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624 Nick Anderson, IFRS standards and climate related disclosures, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiauaLA_bPqAhWExqQKHTD0CPIQFjAAegQIBhAB&url=https%3A%2F%2Fwww.ifrs.org%2Fnews-and-events%2F2019%2F11%2Fnick-anderson-ifrs-standards-and-climate-related-disclosures%2F&usg=AOvVaw0F_RXio7v1nfC9vTZvCrLz p. 7.

625 On the heels of Transparency International, the Responsible Lobbying Framework defines lobbying as "any direct or indirect communication with public officials, political decision-makers or representatives for the purposes of influencing public decision-making and carried out by or on behalf on an organised group. Lobbying can also include direct or indirect attempts to influence public opinion, outside of normal advertising and marketing activity, with the view to impacting public decision making", www.responsible-lobbying.org p. 2. It also includes lobbying by or on behalf of one or more enterprises.

626 See, f.i., Georgina Gustin, As Beef Comes Under Fire for Climate Impacts, the Industry Fights Back, https://insideclimatenews.org/news/17102019/climate-change-meat-beef-dairy-methane-emissions-california and The church of England, Pension funds challenge major European emitters on climate lobbying, https://www.churchofengland.org/more/media-centre/news/pension-funds-challenge-major-european-emitters-climate-lobbying. Some institutions keen to cast doubt about human induced climate change struggle to raise funds; see Nicholas Kusnetz, Heartland Launches Website of Contrarian Climate Science Amid Struggles With Funding and Controversy, https://insideclimatenews.org/news/12032020/heartland-instutute-climate-change-skeptic. Lobbying is not a theoretical issue; see f.i. InfluenceMap, Big Oil's Real Agenda on Climate Change, https://influencemap.org/evoke/446541/file_proxy; we do not express a view on the concrete allegations in the article. See for an example Brian Preston, Paul Martin and Amanda Kennedy, o.c. p. 47

Legal basis

Principle 5 of the UNEP FI Principles for Responsible Banking, quoted under Principle 24, strongly supports this Principle. The European Investor Expectations on Corporate Lobbying on Climate Change[627] expect enterprises to support and lobby for effective climate action:

> "that engage with policy makers directly or indirectly … taking positions on climate change related issues:
> ….
> Support and lobby for effective measures across all areas of public policy that aim to mitigate climate change risks and limit temperature rise to well below 2 degrees Celsius. This support should apply to all engagement conducted by the company in all geographic regions, and to policy engagement conducted indirectly via third party organisations acting on the company's behalf or with the company's financial support."[628]

There is a strongly emerging view that lobbying against taking effective climate mitigation action should not be allowed as the report Safe Climate by the Special Rapporteur on Human Rights and the Environment illustrates.[629] Even if this has not yet condensed into an opinio iuris we have little doubt this is going to happen soon. By way of illustration: at the COP in Madrid Commissioner Cadiz of the Philippines Commission on Human Rights disclosed its Commission's conclusions in a case submitted by Greenpeace South East Asia: it may be possible to hold companies *criminally* accountable "where they have been clearly proved to have engaged in acts of obstruction and wilful obfuscation." For the avoidance of doubt: we are not promoting criminal "liability".[630]

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and 48 and the Special Rapporteur on extreme poverty and human rights, o.c. p. 16. For an analysis of corporate lobbying positions on climate change and the underlying reasons see Daniel Witte, Business for Climate: A Qualitative Comparative Analysis of Policy Support from Transnational Companies (Global Environmental Politics, forthcoming).

627 https://www.iigcc.org/download/investor-expectations-on-corporate-lobbying/?wpdmdl=1830&refresh=5f01d439a97151593955385.

628 P. 2 under I.

629 O.c. p. 32. See also Responsible Lobbying Framework, o.c. and, also for a wealth of sources, OECD, Lobbyists, Governments and Public Trust, Vol. 2: Promoting integrity through self-regulation and Transparency International UK, Wise Counsel or Dark Arts, Principles and Guidance for Responsible Corporate Political Engagement, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjS4O6847DqAh WENOwKHctYDWgQFjAAegQIARAB&url=https%3A%2F%2Fwww.transparency.org.uk%2F publications%2Fwise-counsel-or-dark-arts-principles-and-guidance- for-responsible-corporate-political-engagement%2F&usg=AOvV aw1fQmwd1675XMNKFsxyty7w.

630 https://www.climateliabilitynews.org/2019/12/09/philippines-human-rights-climate-change-2/. See for details about this case http://climatecasechart.com/non-us-case/in-re-greenpeace-southeast-asia-et-al/.

A recently released Responsible Lobbying Framework, developed as part of a multi-stakeholder dialogue between NGOs and companies, argues that "[r]esponsible lobbying must consider the wider public interest, not only an organisation's needs narrowly defined. It should respect the interests and needs of people, communities and the environment. Organisations lobbying responsibly will be able to present a public interest case for their positions."[631]

We reiterate that lobbying irreconcilable with keeping global warming below – as this update suggests – 1.75°C is (no longer) allowed. This Principle, like all others, has to be read with common sense. For instance, lobbying for short term aid to overcome financial or other difficulties caused by a fire or natural disaster may be allowed, even if the climate would be best served if the activity would be phased out.[632] We would also overstate our case by saying that lobbying by, say, airlines for aid caused by corona crisis' sharp decline of flights is necessarily irreconcilable with this Principle. As long as the activity, though undesirable, is not in conflict with these Principles it is not easy to justify that it should necessarily bear the full consequences of Acts of God. Like many other activities: it is unrealistic to expect all enterprises, even if they offer hugely GHG emitting luxury products and services, or if the manufacturing caused major GHG emissions, to close their doors or to phase out their activities at the greatest possible pace. In accordance with the predominant view States and enterprises can confine themselves to measures to reduce their emissions to (net) zero by 2050. As explained in section 7 we wonder whether 2050 is not overly optimistic, but our Principles too are based on the idea that reaching (net) zero emissions cannot be and does not need to be effectuated overnight. For the avoidance of doubt, measures flowing from a series of Principles such as 7, 8, 9 and 10 have to be taken much earlier.

Complying with this Principle entails the advantage of being more credible when making promises about future behaviour.[633]

Strikingly, as per August 8, 2020 the Commission has not yet published its findings which, according to Cadiz, should have been made available eight months ago. See about lobbying also CIEL, A Crack in the Shell, https://www.ciel.org/reports/a-crack-in-the-shell/ and Suzanne Goldenberg, Exxon knew of climate change in 1981, email says – but it funded deniers for 27 more years, The Guardian, https://www.theguardian.com/environment/2015/jul/08/exxon-climate-change-1981-climate-denier-funding; we do not express a view on the alleged facts.

631 https://www.responsible-lobbying.org/the-framework.

632 To quite some extent Principle 9.2 offers a solution, assuming that the rebuilt factory can be regarded as a "new activity".

633 See f.i. the critical observations about BP's pledges, Dan Gearino, BP's Net-Zero Pledge: A Sign of a Growing Divide Between European and U.S. Oil Companies? Or Another Marketing Ploy? https://insideclimatenews.org/news/29022020/BP-net-zero-oil-companies-climate-change-clean-energy-api-shell?utm_source=InsideClimate+News&utm_campaign=658c3d5e1c-&utm_medium=email&utm_term=0_29c928ffb5-658c3d5e1c-327952769.

Principle 26

This Principle aligns with the swiftly emerging view that there is no room for executive incentives linked to profits generated from activities that violate climate obligations. Principle 6 of the World Economic Forum's Guidance Principles and Questions, though more cautiously formulated,[634] serve as an example. It reads:

> "Principle 6 – Incentivization
> The board should ensure that executive incentives are aligned to promote the long-term prosperity of the company. The board may want to consider including climate-related targets and indicators in their executive incentive schemes, where appropriate. In markets where it is commonplace to extend variable incentives to non-executive directors, a similar approach can be considered."

The second sentence is aimed at incentives. The commentary explains the challenges; "what are the benefits and how to assess the suitability (ex ante) and measure the effectiveness."[635]

Shell has decided to include an energy transition condition into the 2019 long-term incentive plan (i.e. it co-determines bonuses).[636]

In a letter to "investors" (the addressees are not disclosed) a series of NGOs emphasise the importance of the appointment of directors who do not have conflicts of interests in the realm of climate change, such as, they contend, board members of fossil fuel companies.[637] We second the position that conflicts of interests should be avoided as much as reasonably possible. We are not in a position to take a clearer stance because much will depend on the case in point and the possible alternative candidates.

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634 O.c. p. 15. The principle speaks of "should"; Principle 26 of shall. See also Carbon Tracker, Paying with Fire, https://carbontracker.org/reports/paying-with-fire/ p. 12 ff; https://preventablesurprises.com/issues-topics/executive-pay/blank-dysfunctional-executive-pay-post/ and a circular of November 4, 2015 of the Securities and Exchange Board of India, o.c., annexure II Principle 7 (1).

635 O.c. p. 15. We do not express a view on these incentives in general. Principle 26 is only about incentives irreconcilable with keeping global warming below fatal thresholds.

636 Responsible Investment Annual Briefing, o.c. See for a similar approach Frank Bold and CASS, Corporate Governance for a changing World, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2805497 p. 46. See for a similar view Edward Brans and Martijn Scheltema, Addressing climate (liability) risks in the financial sector in Frits-Joost Beekhoven van den Boezem et al. (eds), Sustainability and Financial Markets p. 101 referring to a report of the High Level Expert Group's Final Report on Sustainable Finance 2018.

637 Just Share et al., letter dated June 5, 2020, Call to vote against election/re-election of climate-conflicted directors at Standard Bank, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwi6o5rhvf7pAhVI4qQKHZ6AAiAQFjAAegQIARAB&url=https%3A%2F%2Fjustshare.org.za%2Fwp-content%2Fuploads%2F2020%2F06%2FCall-to-vote-against-climate-conflicted-directors-at-Standard-Bank_generic-letter.pdf&usg=AOvVaw1OpbPsmuHlpiK_NRSKCnz7.

Enterprise's Obligations of disclosure

Principles 27 to 34: Disclosure

> "As business leaders, we have an important role to play in ensuring transparency around climate-related risks and opportunities, and I encourage a united effort to improve climate governance and disclosure across sectors and regions."[638]

Legal basis

The law does not "tolerate decisions based on uninformed assumptions or that arise from a default from a failure to turn the directional mind to a relevant issue."[639]

Disclosure is seemingly perceived as the panacea to come to grips with climate change.[640] There is quite some consensus about the need to inquire the potentially adverse consequences of climate change on enterprises and to disclose material information. The widely admired TCFD report,[641] EU legislation,[642] a series of national laws, and listing

638 Bob Moritz, Global Chairman of PwC, Climate Governance Initiative, International Business Council 2018, http://www3.weforum.org/docs/WEF_Creating_effective_climate_governance_on_corporate_boards.pdf p. 6. See also Saïd Business School, Should FASB and IASB be responsible for setting standards for non-financial information, https://www.sbs.ox.ac.uk/sites/default/files/2018-10/Green%20Paper_0.pdf.

639 Commentary to the EP p. 168 footnote 464, referring to Sarah Barker and Kurt Winter.

640 Edward Brans and Martijn Scheltema seem to suggest that disclosure is a panacea to avoid litigation, Addressing climate (liability) risks in the financial sector, in Beekhoven van den Boezem et al., Sustainability and Financial Markets, o.c. p. 85. That view is mistaken. The only way to avoid litigation is taking sufficient substantive action.

641 https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf. By March 2019 the TCFD supporters include three-quarters of the world's globally systemic banks, 80% of global asset managers, the world's leading pension funds, insurers and the big four accounting firms and credit rating agencies: Mark Carney, A New Horizon, https://www.bankofengland.co.uk/-/media/boe/files/speech/2019/a-new-horizon-speech-by-mark-carney.pdf?la=en&hash=F63F8064E0408F038CABB1F29C58FB1A0CD0FE25. See for many examples of compliance with the Climate Disclosure Standards Board, TCFD Good Practice Handbook, https://www.cdsb.net/sites/default/files/tcfd_good_practice_handbook_web_a4.pdf. See also GRI and UN Global Compact, Integrating the SDGs into Corporate Reporting: a Practical Guide, https://sdghub.com/project/integrating-the-sdgs-into-corporate-reporting-a-practical-guide/ p. 24 and PRI, Implementing the Taskforce on Climate-related Financial Disclosures (TCFD) Recommendations, https://www.unpri.org/download?ac=4652. See for an analysis of compliance with the TCFD, CISL, Sailing from different harbours, G20 approach to implementing the recommendations of the Task Force on Climate-related Financial Disclosure, https://www.cisl.cam.ac.uk/resources/publication-pdfs/cisl-tcfd-report-2018.pdf.

642 See about the state of corporate sustainability disclosure under the EU Non-Financial Reporting Directive, Alliance for Corporate Transparency, 2018 Research Report, http://allianceforcorporatetransparency.org/assets/2018_Research_Report_Alliance_Corporate_Transparency-66d0af6a05f153119e7cffe6df2f11b094affe9aaf4b13ae14db04e395c54a84.pdf in particular p. 30 ff. See about Member State Implementation of the EU directive on Non-financial and Diversity Information, CSR and GRI, Member

requirements underscore this point.[643] Meaningful disclosure is strongly promoted by investors,[644] who increasingly indicate which information they need.[645]

This means that the legal basis of the disclosure Principles is sound even in countries without pertinent legal instruments about disclosure. The prevailing view condensed to legal obligations.[646]

The importance of disclosure

The importance of disclosure should not be underestimated. Awareness of the potential impact of climate change should bring business leaders to their senses and create an opportunity for investors to assess whether their investees act upon the disclosed information.

State Implementation of Directive 2014/95/EU, https://www.globalreporting.org/resourcelibrary/NFRpublication%20online_version.pdf.

643 See in more detail the commentary to the EP p. 166 ff. See about human rights due diligence in the Asean Mullen, Human Rights Disclosure, o.c. See also Principle 7 of the World Economic Forum's Guiding principles and questions, o.c. p. 16 and Ellie Mullholland, Annex 1 to this report p. 19 and EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf p. 21; CDP and the EU Action Plan on Sustainable Finance, https://6fefcbb86e61af1b2fc4-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/004/725/original/CDP_and_the_EU_Action_Plan_on_Sustainable_Finance_spreads.pdf?1570438792; Global Reporting Initiative and IRIS, Linking GRI and IRIS, How to use the IRIS metrics in the preparation of a sustainability report based on the GRI G4 Sustainability Reporting Guidelines, https://www.globalreporting.org/resourcelibrary/Linking-GRI-and-IRIS.pdf; Sarra and Williams, Time to Act, o.c. p. 82 ff and 96 ff and Annexure II to a circular of November 4, 2015 of the Securities and Exchange Board of India, o.c., Principle 1 and 6 (6). See also Marie Currie, Stewardship, o.c. and Winkelmann, Glazebrook and France, o.c. p. 49. According to Kern Alexander and Paul Fisher, o.c. "globally, over 400 initiatives and voluntary disclosure frameworks have been identified" p. 15. See for sources also Brans and Scheltema, o.c. p. 96 ff and Steven Huijink and Lars In 't Veld, Sustainability reporting, in Beekhoven van den Boezem et al., (eds), Sustainability and Financial Markets, o.c. p. 294 ff. See for a wealth of additional information on reporting provisions GRI and USB, Carrots and Sticks, Sustainability Reporting Policy: Global trends in disclosure as the ESG agenda goes mainstream, https://www.carrotsandsticks.net/media/zirbzabv/carrots-and-sticks-2020-interactive.pdf.

644 Global Investor Statement to Governments on Climate Change, https://www.iigcc.org/download/global-investor-statement-to-governments-on-climate-change/?wpdmdl=1826&refresh=5e81df2f6a27e1585569583.

645 Nick Anderson, IFRS Standards and climate-related disclosures, o.c.

646 Francois Villeroy de Galhau, Governor of the Banque de France, points to the enormous amount of regulation and emphasises the importance of clarification: Changement climatique: le secteur financier et le chemin vers les 2 degrés, https://www.banque-france.fr/intervention/changement-climatique-le-secteur-financier-et-le-chemin-vers-les-2-degres. See for concrete examples of how disclosure can be managed 2 degrees Investing Initiative, Investor Climate Disclosure, https://2degrees-investing.org/wp-content/uploads/2016/05/Investor-climate-disclosure-stitching-together-best-practices-May-2016.pdf and Winkelmann, Glazebrook and France, o.c. p. 48 and 49. See for elaboration the commentary to the EP p. 169 ff.

The bad news is that, so far, many enterprises do not provide meaningful information.[647] More importantly: they do not want to learn vital information which means that current disclosures fall short of revealing important issues. Without having a clear idea of the enterprise's legal obligations it is impossible for an enterprise to comply with its obligations. It also is impossible to assess whether an enterprise did comply, and to assess the liability risk related to non-compliance. The liability risk is by no means a phantom, as illustrated by a host of warnings issued by central bankers, (re)insurers, and leading academics.[648] In addition, a series of soft law instruments, endorsed and applauded by the corporate world, promote liability.[649]

Principle 27

> "Climate-related information is a critical contributor to efficiency directing capital to investments that drive solutions for climate change mitigation and adaptation."[650]

The then Governor of the Bank of England Mark Carney has mapped the issues relevant to disclosure.[651] They are an elaboration of this Principle. A Technical Supplement to the TCFD puts it as follows:

> "Organizations should include scenario analysis as part of their strategic planning and/or enterprise risk management processes by:
> – identifying and defining a range of scenarios, including a 2°C scenario, that provide a reasonable diversity of potential future climate states;
> – evaluating the potential resiliency of their strategic plans to the range of scenarios; and

647 Part of the story probably is that they are in the dark what they have to disclose; see ECCJ, A Human Rights Review of the EU Non-Financial Reporting Directive, https://corporatejustice.org/eccj_ccc_nfrd_report_2019_final_1.pdf.

648 See f.i. Sarra, o.c. p. 13 ff and Jaap Spier, Strategies to keep global warming below 2 degrees and to avoid devastating liability, https://custom.cvent.com/A7020F0F9A8247B2A6095E2EF0DC7D77/files/Event/5a2f15d64e534edb8f77813a1c7eb7de/cb1ae2a16cb54bb7a913403abf02e219.pdf.

649 See for examples Jaap Spier, Strategies to keep global warming below 2 degrees, o.c.

650 Technical Expert Group on Sustainable Finance, Report on Climate-related Disclosures, https://ec.europa.eu/info/publications/sustainable-finance-technical-expert-group_en p. 4 and 5.

651 A New Horizon, o.c. See about a comparative analysis of central banks' mandates and objectives in relation to climate risks Simon Dikau, Central Banks Mandates, Sustainability Objectives and the Promotion of Green Finance, https://www.soas.ac.uk/economics/research/workingpapers/file139494.pdf and in extenso Sarra and Williams, Time to Act, o.c. p. 31, 32 and 67.

- using this assessment, identify options for increasing the organization's strategic and business resiliency to plausible climate-related risks and opportunities through adjustments to strategic and financial plans.
- Over time, organizations can improve disclosure through documenting:
- management's assessment of the resiliency of its strategic plans to climate change;
- the range of scenarios used to inform management's assessment, including key inputs, assumptions, and analytical methods and outputs (including potential business impacts and management responses to them); and
- the sensitivity of the results to key assumptions."[652]

Barker, Mulholland and Caldecott mention "selected questions" directors "should ask along their five-step climate-risk reporting journey", notably:

- "Where do we want to go?" This includes: does the board have the relevant knowledge, information or understanding;
- "Route selection – Strategy, financial planning, capex and material risk management";
- "Dynamic navigation – Risk Management oversight";
- "When will we get there? Metrics and targets";
- "Communicating our path".[653]

This Principle is an elaborate version of Principle 18 EP.[654]

(a) "72 of 79 industries, representing 93% of capital market valuations, are vulnerable to material financial implications from climate change".[655] By way of example: an enterprise needs a lot of water for its manufacturing process. It is located in an area that is vulnerable to excessive drought. The enterprise should assess the relevant risk and its financial consequences. The disclosure should contain information about the basis for the assessment, in particular the climate change scenario that it has considered.[656]

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652 TCFD, Technical Supplement, o.c. p. 4. See also TCFD, Recommendations on Climate-related Financial Disclosures, o.c. p. 26 ff and Barker, Mulholland and Caldecott, o.c. p. 247 and 248.

653 O.c. p. 253 and 254.

654 See for elaboration, including the legal basis, the commentary to the EP p. 168 ff.

655 Cynthia A. Williams, Disclosure Information Concerning Climate Change: Liability Risks and Opportunities, https://digitalcommons.osgoode.yorku.ca/cgi/viewcontent.cgi?article=1207&context=reports p. 9.

656 See for a similar approach art. 173 III of the French Energy Transition Law. Barker, Mulholland, and Caldecott warn against boilerplate statements "not supported on reasonable grounds or not accompanied by adequate, specific disclosures on the limitations or uncertainties that materially impact on the achievement of the statement", o.c. p. 248.

(b) The Transition Pathway Initiative and the Reserve Bank of Australia take a view similar to this Principle.[657]

The impact of climate change on an enterprise may be significant. F.i., a recent study shows that at least 3.8 million U.S. homes lie in flood plains. They may be overvalued by US$ 34 billion.[658] The adverse consequences on enterprises may be significantly higher. Not only because many other natural events – droughts, torrential rain, hurricanes – come into play in relation to their premises, but also because they may jeopardise suppliers and clients. Quite possibly the impact is difficult to assess. Internal and external accountants cannot do more than making best estimates, with an emphasis on "best".[659]

We have added short-, medium- and long term because their impact may be very different. As a rule of thumb long term does not go beyond 2050, the year that the current debate has chosen for achieving (net) zero-reductions; see section 20. The assessment and the resulting disclosure should be based on the most recent publicly available information. A horizon extending beyond 2050 is required if the revenue-model is based on a longer term. We realise that it may be difficult to assess the climate change scenario that will eventuate in the longer term which justifies working on the basis of ballpark figures.[660]

The liability risk – understandably a red herring to many enterprises – needs also to be disclosed. That goes in particular, but not exclusively, for pending or threatening litigation.[661]

(c) A study by the Global Commission on Adaptation claims that investing 1.8 trillion dollars globally in five areas could generate 7.1 trillion dollars in total net benefits.[662] It seems likely that enterprises could also generate significant net benefits from investing in resilience. Even if the benefits are less obvious or significant, the options need to be evaluated; see also (e).

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657 See respectively o.c. p. 11 level 4 and Reserve Bank of Australia, Financial Stability Review October 2019 Box C Financial Stability Risks From Climate Change, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwj5_aWgrevqAhXFC-wKHaPuBxQQFjAAegQIAxAB&url=https%3A%2F%2Fwww.rba.gov.au%2Fpublications%2Ffsr%2F2019%2Foct%2Fbox-c-financial-stability-risks-from-climate-change.html&usg=AOvVaw0db5ZdWJXgis6i31qf3aGI; see also art. 173 III of the French Energy Transition Law and TCFD, Recommendations on Climate-related Financial Disclosures, o.c. p. 38.

658 Eric Roston, Americans Are Paying $34 Billion Too Much for Houses in Flood Plains, https://www.bloomberg.com/news/articles/2020-03-02/americans-are-paying-34-billion-too-much-for-houses-in-floodplains?srnd=green&utm_source=InsideClimate+News&utm_campaign=658c3d5e1c-&utm_medium=email&utm_term=0_29c928ffb5-658c3d5e1c-327952769. It is unclear which time frame is considered.

659 See also Williams, o.c. p. 17. Obviously, the risk should not be understated, nor should strategic preparedness be overstated; see Barker, Mulholland, and Caldecott, o.c. p. 247.

660 See also Williams, o.c. p. 16.

661 See also Williams, o.c. p. 17-19 and 32 ff.

662 Adapt now: A Global Call for Leadership on Climate Resilience, https://cdn.gca.org/assets/2019-09/GlobalCommission_Report_FINAL.pdf p. 12.

(d) See for the challenge posed by a long-term perspective under (b). See for countervailing measures the commentary to the definition in Principle 1 and Principle 13.1.

(e) is borrowed from the TCFD-report.[663] See in more detail under Principle 25 (c) and 32.

Principle 28

This Principle is explained in detail in the commentary to the EP and does not require further elaboration.[664]

Principle 29

At first glance, this Principle, almost literally borrowed from the EP,[665] appears to be broad and onerous. At closer look, we do not think it is. It only requires enterprises to disclose pertinent information about compliance with their legal obligations,[666] which includes relevant information about their emissions.[667] Disclosure on environmental matters relating to the business gives enterprises as well as the public and regulatory institutions the ability to measure aggregate progress, compare enterprises, and when done correctly, could give enterprises confidence that their counterparts and competitors are doing the same.[668]

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663 P. 20.

664 See the commentary to the EP p. 181 ff.

665 The commentary to this Principle is largely borrowed from the commentary on Principle 20 EP, commentary p. 183 ff.

666 See for a somewhat comparable approach World Business Council for Sustainable Development (WBCSD) and WRI, The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition), March 2004, www.ghgprotocol.org/sites/default/files/ghgp/standards/ghg-protocol-revised.pdf. There is, however, a major difference between just-mentioned "Standard" and Principle 29. The former is voluntary and based on self-imposed goals. See also Shanna Cleveland, Rob Schuwerk and Chris Weber, in Mark Folton (ed.), Carbon Asset Risk: From Rhetoric to Action, http://2degrees-investing.org/wp-content/uploads/2017/04/Carbon-asset-risk-from-rhetoric-to-action-2015.pdf p. 23 and Securities and Exchange Board of India, Format for Business Responsibility Report, https://sseinitiative.org/wp-content/uploads/2016/03/SEBI-format-for-Business-Responsibility-Report-2015.pdf p. 1.

667 We agree with the OECD, Divestment and Stranded Assets, www.oecd.org/sd-roundtable/papersandpublications/Divestment%20and%20Stranded%20Assets%20in%20the%20Low-carbon%20Economy%2032nd%20OECD%20RTSD.pdf p. 19 that disclosure of emissions *as such* is useful. We would like to add, however, that what particularly matters is performance relative to a baseline and the GHG efficiency of the enterprise and/or its products and/or services.

668 Todd Stern, The Future of the Paris Climate Regime, https://www.brookings.edu/on-the-record/the-future-of-the-paris-climate-regime/ in the context of states. This is already imbedded in French law, see: Notre affaire à tous, Benchmark, De la vigilance climatique des multinationales, rapport général, https://notreaffaireatous.org/wp-content/uploads/2020/03/Rapport-General-Multinationales-NAAT-2020.02.01.pdf.

The Principle is in line with GRI 307 which reads:

> "1.1 The reporting organization shall report its management approach for environmental compliance using GRI 103."[669]

and GRI 101:

> "The reported information shall reflect the positive and negative aspects of the reporting organization's performance to enable a reasoned assessment of overall performance."[670]

This Principle also aligns with a call on governments by 101 investors representing US$ 4.2 trillion in assets under management

> "to develop, implement, and enforce mandatory human rights due diligence requirements for companies headquartered or operating within their own jurisdictions or, where appropriate, to further strengthen these regulatory regimes where they already exist.
> Companies have long-engaged with the concept of due diligence through investigative processes that aim to identify financial risks associated with business transactions. Human rights due diligence is a continuation of those established risk management processes that takes the lens of risk to people, recognizing that where there are the most severe (i.e. salient) risks to human

669 Global Sustainability Standards Board GRI Standards GRI 307: Environmental Compliance, https://www.globalreporting.org/standards/media/1014/gri-307-environmental-compliance-2016.pdf. The subsequent article (Disclosure 307-1) provides a further elaboration requiring, inter alia, fines and other sanctions in relation to non-compliance. GRI Standards, GRI 302: Energy, o.c. elaborates considerably on energy consumption, including the use of non-renewables and renewables (Disclosure 302-1), the energy intensity (Disclosure 302-3), reduction of energy consumption (Disclosure 302-4) and reductions in energy requirements of sold products (Disclosure 302-5).

670 GRI Standards, GRI 101: Foundation, www.globalreporting.org/standards/media/1036/gri-101-foundation-2016.pdf p. 13. See in considerable detail GRI Standards 305: Emissions https://www.globalreporting.org/standards/media/1012/gri-305-emissions-2016.pdf, in particular Disclosure 305-1, the recommendations under 2.2.2-2.2.4, the Guidance for Disclosure 305-1, Disclosure 305-2 for Scope 2 GHG emissions, 305-3 for Scope 3 emissions and 305-4 for GHG emissions intensity. Disclosure 305-5 is about Reduction of GHG emissions and includes a series of GHGs. See for a link between the GRI and CDP: GRI, GSSB and CDP, Linking GRI and CDP, How the GRI Sustainability Reporting Standards and CDP's 2017 climate change questions aligned? 2017, https://www.globalreporting.org/standards/resource-download-center/linking-gri-and-cdp-how-are-gri-standards-and-cdp-climate-change-questions-aligned/?g=040e6a32-8fa0-412f-bd7c-53e53657b3b2. See for a link between the GRI and SEBI Business Responsibility Report Framework: GRI, GSSB and Bombay Stock Exchange, Linking the GRI Standards and the SEBI BRR Framework, February 2017, https://www.globalreporting.org/standards/resource-download-center/linking-the-gri-standards-and-the-sebi-brr-framework/.

> rights, there are material risks to business, including reputational harm, financial loss, and legal liabilities.
> The UN Guiding Principles on Business and Human Rights, the authoritative global framework on business and human rights, defines human rights due diligence as an ongoing and iterative process to identify, prevent, mitigate, and account for how a company addresses the most severe risks to people in connection to its business. The core steps of human rights due diligence include: (1) assessing the actual and potential human rights impacts that may be caused by a business or to which it may contribute or be directly linked through its business relationships; (2) integrating and acting upon those findings; (3) tracking the effectiveness of those actions; and (4) publicly communicating the company's human rights policies, practices, and outcomes."[671]

The call is silent on climate change. Because climate change impairs the enjoyment of a series of human rights[672] it is also relevant in the context of the update. The importance of disclosure is emphasised by Steve Waygood, Chief Responsible Investment Officer at Aviva Investors:

> "Aviva Investors is proud to support this statement encouraging Governments to require companies to undertake human rights due diligence. The Corporate Human Rights Benchmark shows that a large number of high impact companies are failing to report on any human rights due diligence at all, despite detailed guidance produced by the United Nations almost a decade ago. A purely voluntary approach has clearly failed, creating risks for individuals, companies, and investors and harming the long term societal mandate of markets. It is important that Governments introduce meaningful mandatory human rights due diligence regimes, particularly for large companies in high impact sectors. Without compulsion, it is clear that corporate laggards will continue to free-ride on the rights of others".[673]

This Principle requires enterprises to disclose what they see as their legal obligations to reduce GHG emissions as well as information on their performance regarding these

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671 Investor Alliance for Human Rights, The Investor Case for Human Rights Due Diligence, https://investorsforhumanrights.org/sites/default/files/attachments/2020-04/The%20Investor%20Case%20for%20mHRDD%20-%20FINAL_0.pdf.

672 See section 22.3.

673 Quoted in Investor Alliance for Human Rights, Due Diligence, https://investorsforhumanrights.org/news/investor-case-for-mhrdd.

obligations.[674] Enterprises must comply with their legal obligations. Under the Hong Kong ESG reporting guide "a company needs to decide whether to comply and report… or explain why not", including "compliance with laws and regulations".[675]

We have attempted to formulate concrete obligations that are based on our interpretation of the law as it stands, or at the very least the direction in which it will likely develop, but do not deny that our principles are not the final word, at least not as long as they are not adopted by international and/or national courts.

Our Principles are based on a series of assumptions. Alternative interpretations of the law are, of course, possible; see in more detail section 25. Nevertheless, we stand firm in our belief that enterprises do have obligations concerning the reduction of GHG emissions from their activities and a series of other obligations mapped in the EP and this update, although they may differ from those we have discerned. If enterprises are uncertain on what their concrete reduction obligations are, they can seek expert advice or a declaratory judgment from a competent court; see under Principles 24 to 26 How to assess legal obligations and Principle 48. At any rate enterprises have to explain why they believe that their obligations emanating from their disclosure are in line with the state of the law.

See for an extensive and useful elaboration on management approach to disclosure concerning suppliers GRI Standards, GRI 308.[676]

Principle 30

This Principle and the commentary thereto are almost entirely borrowed from Principle 21 EP and the commentary thereto.[677]

There is a fast-emerging trend to impose the kind of obligations that are set out in this principle on enterprises.[678] It is open to debate whether the law has already progressed to

674 This is in line with the view espoused by the EU High-Level Expert Group on Sustainable Finance, Sustainable European Economy, https://ec.europa.eu/info/sides/info/files/170713-sustainable-finance-report_en.pdf p. 18 and 20. See also Kyoto Protocol art. 7 para 2.

675 Maya de Souza, Chartered Secretaries, Climate change – not my problem?, http://csj.hkics.org.hk/site/2017/11/14/climate-change-not-my-problem/.

676 https://www.globalreporting.org/standards/gri-standards-download-center/gri-308-supplier-environmental-assessment-2016/.

677 P. 185 ff.

678 For much more detail, see Stephen Wiel and James E. McMahon, Governments should implement energy-efficiency standards and labels – cautiously, Energy Policy 31 (13), October 2003, https://doi.org/10.1016/S0301-4215(02)00199-4, p. 1403 ff; Howard Geller et al., Polices [read: policies] for increasing energy efficiency: Thirty years of experience in OECD countries, Energy Policy 34 (5), March 2006, https://doi.org/10.1016/j.enpol.2005.11.010, p. 556 ff and Olivier De Schutter, Trade in the Service of Climate Change Mitigation: the Question of Linkage, in Anna Grear and Conor Gearty (eds), Choosing a Future: The Social and Legal Aspects of Climate Change, p. 92 ff with further references to international instruments. He observes that developing countries have expressed "a range of concerns about ecolabelling"; these countries

the stage of a universally recognised obligation to compare the enterprise's products and services to those of its competitors. In this respect, this principle is largely aspirational.

This Principle focuses on information about the GHG emissions connected to products and services, such as, but not limited to, GHG emissions from both manufacturing and use.[679] In some instances, the emissions caused by use may be limited due to measures taken in the manufacturing process. In turn, the manufacturing process usually causes relatively significant GHG emissions. In other cases, disposal of products brings about significant GHG emissions.

We realise that this Principle is, unavoidably, somewhat ambiguous in relation to the meaning of "products" and "other enterprises". However, more pertinent "rules" are impossible or would be unworkable. A few examples may illustrate this point. X manufactures cars, ranging from "middle-class" to "luxury" motor vehicles for the very rich. These cars cannot be lumped together. Both kinds of cars have to be compared to similar cars. Even that comparison entails some arbitrariness: there are middle-class cars of all kinds. The bottom line is that most products or services cannot be easily compared, even if one would compare products or services within sub-groups of similar products or services. If *genuinely* impossible or not reasonably feasible an enterprise may refrain from providing this kind of information.

As to "other enterprises": we mean peers. The insights from competition law, which faces similar questions, may provide guidance to determine what can be regarded as a comparable enterprise.

As a rule of thumb, the products or services of enterprises in APQ countries are to be compared to those of enterprises in other APQ countries. However, logical sense has to be used: enterprises are not necessarily comparable across all APQ countries.[680] In that light, this principle, too, has to be applied and interpreted in such a way that it is workable and practical.

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point to historical injustices and, in turn, their present relatively high GHG emissions. According to De Schutter, ecolabelling will also affect "small-scale-producers, especially small-scale farmers, who are the least equipped to comply with requirements imposed and who cannot easily meet the upfront costs of acquiring labels". He also mentions other difficulties: the lack of a "multinational body that can act as standard-setter" and the measurement of "the carbon footprint of a product using a life-cycle assessment" (p. 94). The EC rightly emphasises the need to address misleading marketing related to the environmental impacts of products: Communication COM(2011) 681 final, p. 9. See for an elaborate standard: Greenhouse Gas Protocol, Corporate Value Chain (Scope 3) Accounting and Reporting Standard, https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf; a circular of November 4, 2015 of the Securities and Exchange Board of India, https://ca2013.com/clarifications/sebi-circular-circfdcmd102015-dated-04112015/ annexure II Principle 2(2) and 9 (3) and Trébulle, o.c. p. 24/5.

679 This requirement is in line with ISO 26000 par. 6.2.2.2; see for further references Katinka D. Jesse and Eric V. Koppe, Business Enterprises and the Environment, Dovenschmidt Quarterly 4, December 2013 p. 184.

680 For instance a product manufactured by both a Canadian and South-African enterprise.

It must be emphasised that the information provided has to be correct.[681]

Principle 31.1

This Principle is borrowed from the Paris Agreement art. 4.13 and Decisions 1/CP21 under III.92(f).[682] The EP contained a similar Principle. The update adds a reference to Principles 33 and 34.

It is no luxury. The current situation is said to be "a severe cacophony in companies' reporting practices, which leads to a lack of concise, consistent, comparable information to investors and other shareholders."[683]

Accurate, consistent and complete requires an assessment on an ongoing basis, as mentioned in Principle 25 (a). This is in line with the Hong Kong corporate governance code, which requires information on "how often the risk management and internal control systems are reviewed, and if a review has not been conducted during a year, an explanation of why not".[684]

An Australian case, albeit in the context of States, underscores this Principle. The Australian government allegedly deceived investors by not informing them about the climate risk related to its bonds.[685]

Principle 31.2

This Principle is borrowed from Decisions, 1/CP21 under II.27, referring to the TCFD. It adds plausibility, being distinctive and challenging conventional wisdom and simplistic assumptions about the future.[686]

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681 See f.i. Sarra, o.c. p. 31. In her view directors and officers "have a duty to diligently investigate their company's business and marketing practices" (idem).

682 See also Carbon Tracker, Reporting for a Secure Climate, https://carbontransfer.wpengine.com/reports/reporting-for-a-secure-climate-a-model-disclosure-for-upstream-oil-and-gas/ p. 6; Network for Greening the Financial System, A call for action, o.c. recommendation 5 p. 5 and 6 and E3G et al., Accelerating Progress & Reaching Scale, https://shareaction.org/wp-content/uploads/2019/02/CSOstatement.pdf p. 11.

683 E3G, Accelerating Progress, o.c. p. 11.

684 Maya de Souza, Chartered Secretaries, Climate change – not my problem?, http://csj.hkics.org.hk/site/2017/11/14/climate-change-not-my-problem/.

685 Adam Morton, 'World-first' legal case: student accuses Australia of misleading investors on climate risk, https://www.theguardian.com/law/2020/jul/22/world-first-legal-case-student-accuses-australia-of-misleading-investors-on-climate-risk.

686 Cynthia A. Williams, Disclosure Information Concerning Climate Change, o.c. p. 9 and 10 and about consistency p. 24. See also TCFD, Recommendations on Climate-related Financial Disclosures, o.c. p. 29.

Principle 32

Disclosure should be proportionate, that speaks for itself. The outcome of the proportionality test will depend on the relevant circumstances, including the size of the enterprise and whether it is based in a developing or developed country.[687]

Only material facts and circumstances have to be disclosed.[688] The authoritative GRI standards put it this way:

> "In financial reporting materiality is commonly thought of as a threshold for influencing the economic decisions of those using the organization's financial statements, investors in particular."[689]

This Principle is borrowed from art. 13.3 of the Paris Agreement.

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687 This is in line with the view of the European Commission which posits that: "[t]he disclosure requirements for non-financial information apply to certain large companies with more than 500 employees, as the cost of obliging small and medium-sized enterprises to apply them could outweigh the benefits": Communication 2017/C 215/01 p. 2.

688 See in more detail E. Lynn Grayson and Patricia L. Boye-Williams, SEC Disclosure Obligations: Increasing Scrutiny on Environmental Liabilities and Climate Change Impacts, in Lawrence P. Schnapf (ed.), Environmental Issues in Business Transactions, ABA Book Publishing, 2011, http://www.eli.org/sites/default/files/docs/seminars/09.07.11webinar/GraysonExcerpt.pdf?q=pdf/seminars/09.07.11webinar/GraysonExcerpt.pdf, p. 451 ff; Global Environmental Management Initiative, Quick Guide: Materiality, http://gemi.org/wp-content/uploads/2015/09/GEMI-MaterialityQuickGuide-2015.pdf, in particular p. 3, 4, 7 and the tables attached to the report; CDP et al., Statement of Common Principles of Materiality of the Corporate Reporting Dialogue, March 2016, https://corporatereportingdialogue.com/wp-content/uploads/2016/03/Statement-of-Common-Principles-of-Materiality1.pdf, with a series of definitions used by other institutions on p. 5-8; TCFD, Recommendations on Climate-related Financial Disclosures, o.c. p. 33; Sarra, o.c. p. 28 and 29 and Sisco et al., Supply Chains and the OECD Guidelines on Multinational Enterprises p. 20 and 21. See also 2 Degrees Investing Initiative and Generation Foundation, All Swans Are Black in the Dark: How the Short-term Focus of Financial Analysis Does Not Shed Light on Long Term Risks, February 2017, http://www.tragedyofthehorizon.com/All-Swans-Are-Black-in-the-Dark.pdf, p. 15. See also Daniel Esty and Todd Court, Corporate Sustainability Metrics, What Investors Need and Don't Get, Journal of Environmental Investment, fall 2017 under Materiality, https://corporate-sustainability.org/wp-content/uploads/Corporate-Sustainability-Metrics.pdf p. 25-26; Cynthia A. Williams, Disclosure of information concerning climate change: liability risks and opportunities, https://digitalcommons.osgoode.yorku.ca/cgi/viewcontent.cgi?article=1207&context=reports p. 14 and UNEP Finance Initiative, Fiduciary Duty in the 21st Century, https://www.unepfi.org/fileadmin/documents/fiduciary_duty_21st_century.pdf p. 19.

689 GRI Standards, GRI 101: Foundation, o.c. p. 10; "material topic" is defined as a "topic that reflects a reporting organization's significant economic, environmental and social impacts, or that substantively influences the assessments and decisions of stakeholders" (p. 27).

Principle 33

Opinions diverge on whether fossil fuel assets can already be labelled as stranded. We believe that they *should* be stranded as soon as possible, but that does not mean that they *will* be. The world's demand for fossil fuels is still rising[690] and it is uncertain when and to which extent that will change. For now, at the very least fossil fuel companies should assess the risk that the transition towards renewable energy poses to them.[691]

Carbon Tracker, the author intellectualis of the stranded asset-feature, has published extensively about this issue. It emphasises focusing on the carbon budget of fossil fuel enterprises. It notes that a focus on scope 1 and 2 only means that "total emissions remain at 85% of present-day values under flat production".[692] That given means indeed that solutions for the remaining 85% have to be sought. Carbon Tracker takes the view that scope 3 is the problem of the fossil fuel companies which means that production of fossil fuels has to be phased out soon. We are on the same page as to the desirability of such phasing out. For the reasons explained in sections 18.3 and 18.4 we opt for a different solution; see Principle 21. What matters is the result. If Carbon Tracker's approach falls

690 At the time of finalisation of the update the demand has dropped due to the corona crisis. It is unclear how things will proceed.

691 See in more detail, also for references, the commentary to the EP p. 187 ff. See also Oekom, Corporate Responsibility Review 2017, https://yoursri.com/media-new/download/oekom_cr_review_e_2017.pdf p. 33 ff; KPMG, Are you ready for climate related risk management?, https://assets.kpmg/content/dam/kpmg/uk/pdf/2017/10/tfcd-impact-oil-gas-companies.pdf and IUCN World Declaration on the Environmental Rule of Law under III (d). See about the inter-related issue of "contract disclosure" (long-term contracts between States and fossil fuel companies), Oxfam, Contract Disclosure Survey 2018, https://s3.amazonaws.com/oxfam-us/www/static/media/files/Contract_Disclosure_Survey_2018.pdf. The report contains valuable information about government laws, regulation, practice and a host of concrete examples; 2 Investing initiative, Financial Risk and the Transition to a Low-carbon economy, http://unepinquiry.org/wp-content/uploads/2015/10/2dii_risk_transition_low-carbon_workingpaper_jul2015.pdf p. 15 "Only … around one fifth to one fourth of today's proven fossil fuel reserves can be burned unabated (e.g. without some form of GHG emissions capture/carbon capture and storage, CCS) in a 2 C economy". See also Carbon Tracker, Reporting for a Secure Climate, o.c.; EarthRights International, Environmental Impact Assessment in the Mekong Region, Materials and Commentary, https://earthrights.org/wp-content/uploads/eia_manual_final_0.pdf; Simon Dietz, Carlota Garcia-Manas et al., Transition Pathway Initiative, Carbon Performance Assessment in Oil and Gas: Discussion Paper, https://www.transitionpathwayinitiative.org/tpi/publications/27.pdf?type=Publication, and Carbon Tracker and PRI, Transition risk for oil and gas in a low carbon world, https://carbontracker.org/reports/2-degrees-of-separation-transition-risk-for-oil-and-gas-in-a-low-carbon-world-2/; Alexander Pfeiffer et al., Committed emissions from existing and planned power plants and asset stranding required to meet the Paris Agreement, 2018 Environ. Res. Lett. 13 054019, https://iopscience.iop.org/article/10.1088/1748-9326/aabc5f/meta. As already mentioned the demand for fossil fuels has dropped due to the corona crisis; major fossil fuel giants have depreciated the value of their assets; see as pars pro toto BP's press release https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-second-quarter-2020-results.pdfand more generally Nicholas Kusnetz, Big Oil Took a Big Hit from the Coronavirus, Earnings Reports Show, https://insideclimatenews.org/news/31072020/big-oil-coronavirus-losses.

692 Carbon Tracker, Balancing the budget, o.c. p. 23.

on more fertile ground and if that means that fossil fuels will indeed be phased out in a timely fashion, we would support and promote Carbon Tracker's proposed trajectory. That would mean that the assets are unavoidably going to strand.

For the remainder we refer to the commentary on Principle 23 EP.[693]

Principle 34

This Principle is the logical sequel of Principle 25 (d).

Environmental impact assessments of new facilities

Principle 35

> "In environmental impact assessment and in the determination of an application for approval, undue weight is given to quantifiable over unquantifiable data. … Consuming uses of the environment yield quantifiable benefits …. Environmental externalities lack market value or are undervalued and thus quantified net market benefits of consumption will generally outweigh the non-market environmental burdens."[694]

This Principle is borrowed from the EP (Principle 24).[695]

The International Court of Justice (ICJ) has emphasised that conducting Environmental Impact Assessments (EIAs) is an obligation under international law applying to all activities that have the potential to cause a significant adverse impact in a transboundary context. They have to be assessed against international standards.[696] This obligation is vested on States, but it is barely revolutionary to translate it into an obligation for enterprises too.[697]

The IBA's Model Statute convincingly contends:[698]

693 P. 187 ff.

694 Brian J. Preston, The effectiveness of the law in providing access to environmental justice: an introduction, in Paul Martin et al. (eds), The Search for Environmental Justice p. 25 and 26.

695 See for additional references the commentary thereto p. 192 ff.

696 Costa Rica v. Nicaragua, https://www.icj-cij.org/en/case/150. See also UNFCCC art. 4 para 1 (f). See about the role of attribution science Michael Burger, Jessica Wentz and Radley Horton, The Law and Science, o.c. p. 146 ff.

697 See also Special Rapporteur on the issue of human rights obligations relating to the employment of a safe, clean, healthy and sustainable environment, Framework Principle 8, https://documents-dds-ny.un.org/doc/UNDOC/GEN/G18/017/42/PDF/G1801742.pdf?OpenElement.

698 O.c. p. 22/23; footnotes omitted.

"EIA is a widely applied planning and risk management process used to identify and evaluate the likely environmental consequences of initiatives such as proposed government policies, programmes and projects before a final decision is made to proceed with these. EIA is not only integral to the principle of transparency, but also to the environmental principles of prevention and precaution, by enabling decision-makers to anticipate and consider the environmental consequences, benefits and risks of such proposed initiatives in advance, and to help make wise decisions as to whether these initiatives should be modified or otherwise dealt with before they are implemented.

Various multilateral environmental agreements incorporate EIA obligations, and the International Court of Justice has held that it is a requirement under international law to undertake EIA where there is a risk that a proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource. The ILA Draft Principles relating to Climate Change and the Oslo Principles on Global Climate Change Obligations both endorse the use of EIA. The IBA recommended in its 2014 report that all states incorporate obligations to conduct EIA and or strategic impact assessment into national (and, where appropriate, provincial, state and regional) legislation for significant projects with potential climate change or transboundary impact, and that states be encouraged to include a detailed discussion of GHG emissions in all EIAs of public projects.

Notably, almost all nations with solid environmental regulatory frameworks contain some type of EIA at the national and/or state levels. In these instances, there is unlikely to be a need for new legislation, but since the Paris Agreement and the 2018 report of John Knox, the UN Special Rapporteur on Human Rights and the Environment, titled Framework Principles On Human Rights and the Environment prepared for the UN Human Rights Council (UNHRC), it may be appropriate for national and subnational governments to consider making specific references in EIA legislation and policies to ensure climate change considerations are incorporated into EIA analysis, including possible human rights impacts and the ways in which these can be avoided or mitigated. The commentary on Framework Principle 8 of that report is of particular relevance:

'21. To protect against interference with the full enjoyment of human rights, the assessment of environmental impacts should also examine the possible effects of the environmental impacts of proposed projects and policies on the enjoyment of all relevant rights, including the rights to life, health, food, water, housing and culture. …'"

This translates to an obligation of enterprises to conduct impact assessments and to evaluate the climate change consequences.[699]

A recent judgment of the Court of Appeal of England and Wales also illustrates this point. In the case Friends of the Earth v. Secretary of State for Transport et al.[700] about a new runway for Heathrow airport the Court of Appeal emphasised that "the Paris Agreement was so obviously material that it had to be taken into account".[701] That, however,

699 See also High Country Conservation Advocates v US Forest Service, http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2020/20200302_docket-18-1374_opinion.pdf?utm_source=Climate+Case+Chart&utm_campaign=2f0b95976a-EMAIL_CAMPAIGN_2020_03_04_07_37&utm_medium=email&utm_term=0_a721b41b2d-2f0b95976a-109024685&mc_cid=2f0b95976a&mc_eid=4908f9cf7b; Aqui Alliance v U.S. Bureau of Reclamation, (California Federal Court), http://climatecasechart.com/case/aqualliance-v-us-bureau-reclamation/; Wildearth Guardians et al. v. Ryan Zinke (US District Court for the District of Montana Billings Division), http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2019/20190211_docket-117-cv-00080_findings-and-recommendations-1.pdf; The Trustees of the Groundwork Trust v Acting Director-General: Department of Water and Sanitation et al. (Water Tribunal, 21 July 2020), https://cer.org.za/wp-content/uploads/2020/07/Appeal-Decision-of-the-Water-Tribunal-groundWork-vs-Acting-DG-Water-and-ACWA-Khanyisa-Power-July-2020.pdf in the context of a water licence; IACtHR, Advisory opinion concerning the environment and human rights requested by Columbia, https://www.corteidh.or.cr/docs/opiniones/seriea_23_ing.pdf. See also Nairobi Statement of the 1st Africa Colloquium on Environmental Rule of Law under 1, https://wedocs.unep.org/bitstream/handle/20.500.11822/17287/Global%20Major%20Groups%20and%20Stakeholders%20on%20the%20environmental%20rule%20of%20law.pdf?sequence=2&isAllowed=y and UNESCO, Declaration of Ethical Principles in Relation to Climate Change (2017), https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiNndvlwbbqAhVPnaQKHStQBTEQFjABegQIBhAB&url=https%3A%2F%2Fen.unesco.org%2Fthemes%2Fethics-science-and-technology%2Fethical-principles&usg=AOvVaw1V8KpqAevZtEWImlS2oDZM Principle 9 and Maria Socorro Manquiat and Andy Raine, Strengthening National Legal Frameworks to Implement the Paris Agreement, Vol. 12, CCLR 1/2018 p. 20 and 21 and Jaap Spier, The "Strongest" Climate Ruling Yet: The Dutch Supreme Court's Urgenda judgment, NILR 2020 vol. 67, issue 2 (p. 319 ff) under 15.1.

700 https://www.judiciary.uk/wp-content/uploads/2020/02/Heathrow-judgment-on-planning-issues-27-February-2020.pdf; the Supreme Court granted permission for appeal on May 7, 2020, https://www.supremecourt.uk/news/permission-to-appeal-decisions-07-may-2020.html. See about other cases IBA, Model Statute, o.c. p. 14; the Supreme Court of Argentina in Salas, Dino and others v Salta Province (CSJN (Arg) S1144, 26 March 2009, http://www.saij.gob.ar/corte-suprema-justicia-nacion-federal-ciudad-autonoma-buenos-aires-salas-dino-otros-salta-provincia-estado-nacionalamparo-fa09000029-2009-03-26/123456789-920-0009-0ots-eupmocsollaf (in Spanish) about permits for logging in tribal areas); California Court of Appeal in Cleveland National Forest Foundation v San Diego Association of Governments, https://caselaw.findlaw.com/ca-supreme-court/1867838.html. In the context of a new runway at Dublin airport the Irish High Court seems sympathetic to this kind of arguments, but denied a claim for lack of standing. It observes, inter alia, that "a right to an environment that is consistent with the human dignity and well-being of citizens at large is an essential condition for the fulfilment of all human rights. It is an existential right that is enjoyed universally …. It is not so Utopian a right that can never be enforced. Once concretised into specific duties and obligations, its enforcement is entirely practicable" (Friends of the Irish Environment CGL et al. v Fingal County Council et al.), http://climatecasechart.com/non-us-case/friends-irish-environment-clg-v-fingal-county-council/#:~:text=Fingal%20County%20Council,-Filing%20Date%3A%202017&text=Summary%3A,to%20construct%20a%20new%20runway. The first case is borrowed from Preston, Recent climate litigation, o.c. p. 11 and 12; he also discusses the Irish case.

701 Under 237.

does not mean that the Secretary of State "was obliged to act in accordance with the Paris Agreement or to reach any particular outcome",[702] although the Court adds that it was impossible to conclude that it was "highly likely" that the decision challenged "would not have been substantially different" if the Paris Agreement was taken into account,[703] adding that "[t]he nature and degree of that public interest hardly needs to be set out here".[704]

In a case about a new coal mine the New South Wales (NSW) Land and Environment Court (Justice Preston) rules, inter alia:[705]

> "I find that the negative impacts of the Project, including the planning impacts on the existing, approved and likely preferred land uses, the visual impacts, the amenity impacts of noise and dust that cause social impacts, other social impacts, and climate change impacts, outweigh the economic and other public benefits of the Project. Balancing all relevant matters, I find that the Project is contrary to the public interest and that the development application for the Project should be determined by refusal of consent to the application."[706]
>
> "In short, an open cut coal mine in this part of the Gloucester valley would be in the wrong place at the wrong time. Wrong place because an open cut coal mine in this scenic and cultural landscape, proximate to many people's homes and farms, will cause significant planning, amenity, visual and social impacts. Wrong time because the GHG emissions of the coal mine and its coal product will increase global total concentrations of GHGs at a time when what is now urgently needed, in order to meet generally agreed climate targets, is a rapid and deep decrease in GHG emissions. These dire consequences should be avoided. The Project should be refused."[707]

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702 Under 238 and 246. See also under 282 and 285.

703 Under 276.

704 Under 277. The word "necessarily" under 285 seems to suggest a preference of the Court of Appeal.

705 The ground-breaking judgment Gloucester v. Minister of Planning (2019) 234 LGERA 257; [2019] NSWLEC 7, https://www.caselaw.nsw.gov.au/decision/5c59012ce4b02a5a800be47f and, about that judgement, a case note by Rob Fowler, Case-note: Gloucester Resources Limited v. Minsiter for Planning, https://www.iucn.org/news/world-commission-environmental-law/201907/case-note-gloucester-resources-limited-v-minister-planning and Lesley Hughes, "The Rocky Hill Decision: a watershed for climate action? (2019) Journal of Energy & Natural Resources Law 1. See for a Kenyan example Save Lamu et al. v National Environmental Authority and Amu Power Co. Ltd., http://climatecasechart.com/non-us-case/save-lamu-et-al-v-national-environmental-management-authority-and-amu-power-co-ltd/.

706 At 688.

707 At 699.

A judgment of the Supreme Court of Hawai'i[708] and the High Court of Pretoria[709] also rendered judgments in line with this Principle. The Supreme Court of Hawai'i reiterates that it recognised the right to a clean and healthful environment.[710] Further down it interprets the relevant legislation as a "requirement to reduce reliance on fossil fuels and to consider [GHG] emissions",[711] i.e. "the hidden and long term costs of reliance on fossil fuels."[712] The court "should ensure that agency …. [made] its findings reasonably clear. The parties and the court should not be left to guess … the precise finding of the agency."[713]

The Australian Panel of Experts of Environmental Law (APEEL) proposes the adoption of a "high environmental quality principle":[714]

> "APEEL proposes the adoption of a high environmental quality principle. This principle requires all decisions and actions to aim for an optimal level of environmental protection and biodiversity conservation and could be framed as follows: 'In the implementation of this Act, all decisions and actions shall achieve a high level of environmental protection and biodiversity conservation, consistent with what is technically feasible in the particular circumstances'. In a similar form, this principle has been applied already in judicial decisions and opinions in the EU. Defined carefully, APEEL believes it could provide a strong alternative to the current ESD-related approach of integrating economic, social and environmental considerations, which has often resulted in prioritising economic over environmental and social concerns."

708 Hawai'i Electric Light Company, https://cases.justia.com/hawaii/supreme-court/2019-scot-17-0000630.pdf?ts=1557514880. See also Citizens for a Healthy Community et al. v US Bureau of Land Management et al., US District Court for the District of Colorado, http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2019/20190327_docket-117-cv-02519_memorandum-opinion-and-order.pdf p. 14 ff.

709 Earth life Africa v. the Minister of environmental affairs et. al. (Thabametsi) 8 March 2017, https://elaw.org/system/files/attachments/publicresource/za.earthlife.Earthlife.6.march_.2017.pdf and about that case and what happened subsequently, Louis J. Kotzé and Anél du Plessis, Putting Africa on the Stand: A Bird's Eye View of Climate Change Litigation on the Continent, https://core.ac.uk/download/pdf/227471221.pdf p. 17 ff.

710 P. 46.

711 P. 49.

712 P.50.

713 P. 51.

714 Australian Panel of Experts of Environmental Law, The Foundations of Environmental Law, https://static1.squarespace.com/static/56401dfde4b090fd5510d622/t/58e5f852d1758eb801c117d8/1491466330447/APEEL_Foundations_for_environmental_law.pdf p. 45. See also Suzan Glazebrook, Human Rights and the Environment, in Paul Martin et al. (eds), The Search for Environmental Justice p. 85 ff.

The sources quoted above emphasise that this Principle is embedded in the law as it stands.[715]

The information to be provided under (a) to (c) should mention the calculation methods and the assumptions on which the assessment is based and why this method and these assumptions were adopted. See for elaboration this commentary under Principle 31.2.

Principles 36 to 44: Obligations of financiers and investors: General commentary

As illustrated above the challenges posed by climate change are daunting. It is unrealistic to bet on adequate solutions garnished in the political arena or to expect that States are going to reduce GHG emissions to the extent necessary; see section 7.

There are two intertwined reasons for putting specific emphasis on the financial sector. First, healthy banks and insurers are vital to society. Banks offer indispensable services. Financial stability will be jeopardised if they make the wrong decisions on a major scale. The financial crisis, the resulting recession and the colossal state debt largely caused by irresponsible behaviour of the financial sector,[716] has shown the utmost importance of sound and reliable banks.

Hundreds of millions of people are dependent on pensions which highlights that investors play a major role; others are dependent on self-arranged pensions, in which scenario the funds will often be held by banks, investment funds, or insurers. Wrong choices by these entities majorly impact pensions. That implies that financial institutions should err on the safe side when making relevant decisions because turning a blind eye to the potential impact of climate change could have a relevant adverse impact on the consequences of such decisions.[717]

Secondly, this branch of the corporate world[718] is in a perfect position to stimulate and, if necessary, pressurise enterprises to meet their legal obligations.

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715 See for a different stance Environmental Court Valdivia, 20 August 2019 (Grez et al. v. Environmental Evaluation Service Chile), http://climatecasechart.com/non-us-case/grez-et-al-v-environmental-evaluation-service-of-chile/.

716 The corona crisis has added astronomical amounts of state debt. There is at least some reason to believe that this crisis was not properly handled; see Toby Helm, Emma-Graham-Harrison and Robin McKie, How did Britain get its corona virus response so wrong, https://www.theguardian.com/world/2020/apr/18/how-did-britain-get-its-response-to-coronavirus-so-wrong?CMP=Share_iOSApp_Other. It seemingly is not much different in quite a few other countries.

717 See in more detail the commentary to the EP p. 202 and 203.

718 As discussed under Obligations of investors: general commentary pension funds are not enterprises for the purpose of our Principles. They are, however, explicitly covered by the definition of "investor".

The commentary to the EP explains how financiers and investors should cope with uncertainties, in particular how to choose relevant climate scenarios to predict which natural catastrophes will occur, when and where.[719] To a not insignificant extent others – enterprises, and governments – are confronted with the same challenge. As a rule the financial sector is of greater importance to society than most enterprises.

The commentary to the EP extensively discusses a series of general topics, in particular the overarching rationale and why business as usual is not an option. We refer to that discussion.[720]

Ascertain and take into account

Both Principles 36 and 37 speak of "ascertain and take into account". For the meaning of these features we refer to the commentary on the EP.[721]

Obligations of financiers

Principle 36

> "Banks are accountable to their employees, investors and society as a whole."[722]

We could not agree more, adding that banks also have a responsibility towards their clients which is self-explanatory. Reality, however, is allegedly different:

> "Despite borrowing short and lending long, banks have a tendency to exhibit relatively short-term behaviour when it comes to risk management".[723]

719 P. 202 ff.
720 P. 198 ff.
721 P. 203-205.
722 UNEP Finance Initiative, Principles for Responsible Banking, A Guidance Document, o.c. p. 25.
723 Kern Alexander and Paul Fisher, Banking regulation and sustainability, in Beekhoven van den Boezem, Sustainability and financial markets, o.c. p. 9. However, under pressure from customers, investors, regulators and others they "are already moving to recognise these risks and support the transition to a more sustainable economy" (p. 10). See about the relevant risks p. 11 and 12.

The meaning of financier

This Principle focusses on financing projects irrespective of whether the financier is a bank or not.[724] The reference to Principle 1 means: non-commercial entities like pension funds are also included if they consider financing projects. Private persons acting in that capacity are not included because they are by all standards not "enterprises". For the purpose of financing projects they often have to rely on banks or similar institutions. In that scenario the private person finances the project; the bank serves as a kind of intermediary. Strictly speaking the latter service does fall under Principle 36. Even in such scenarios banks cannot simply act as mere manus ministra.

The meaning of project

A "project" falls under this Principle if the construction and operation emit a relevant amount of emissions. The meaning of "relevant" has to be determined in the case in point. It may change as time progresses.[725]

Legal basis

See for the (emerging) legal basis of this Principle the commentary to the EP.[726] The UNEP FI Principles for Responsible Banking[727] strongly support this Principle, in particular Principles 1-4 reading:

> "PRINCIPLE 1: ALIGNMENT
> We will align our business strategy to be consistent with and contribute to individuals' needs and society's goals, as expressed in the Sustainable Development Goals, the Paris Climate Agreement and relevant national and regional frameworks.
> PRINCIPLE 2:IMPACT AND TARGET SETTING

724 That matters. Sarra describes "a shift in the nature of the debt market", o.c. p. 73. Our Principle aims to encompass all means of financing.

725 See for another approach to size-relevant projects: Equator Principles, version July 2020, https://equator-principles.com/wp-content/uploads/2020/01/The-Equator-Principles-July-2020.pdf under Scope p. 5.

726 P. 198 ff and 207; see also Investor Alliance for Human Rights, Toolkit on the Investor Responsibility to Respect for Human Rights (concept note), https://investorsforhumanrights.org/sites/default/files/attachments/2019-09/Investor%20Toolkit%20-%20Concept%20Note.pdf p. 1; art. 173 V of the French Energy Transition Law in the context of disclosure; Sarra and Williams, Time to Act p. 46 and 59 and Sarra, o.c. p. 72 and 73. See also Mainstreaming Climate Action within Financial Institutions, Five Voluntary Principles, https://www.worldbank.org/content/dam/Worldbank/document/Climate/5Principles.pdf.

727 https://www.unepfi.org/banking/bankingprinciples/.

> We will continuously increase our positive impacts while reducing the negative impacts on, and managing the risks to, people and environment resulting from our activities, products and services. To this end, we will set and publish targets where we can have the most significant impacts.
> PRINCIPLE 3: CLIENTS AND CUSTOMERS
> We will work responsibly with our clients and our customers to encourage sustainable practices and enable economic activities that create shared prosperity for current and future generations.
> PRINCIPLE 4: STAKEHOLDERS
> We will proactively and responsibly consult, engage and partner with relevant stakeholders to achieve society's goals."

The same goes for the Equator Principles with 104 financial institutions and 38 countries as members.[728] The Preamble puts it as follows:

> "when financing Projects:
> – we will fulfill our responsibility to respect Human Rights in line with the *United Nations Guiding Principles on Business and Human Rights* (UNGPs) by carrying out human rights due diligence;
> – we support the objectives of the *2015 Paris Agreement* and recognise that EPFIs have a role to play in improving the availability of climate-related information, such as the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) when assessing the potential transition and physical risks of Projects financed under the Equator Principles;"

and

> "…. The Equator Principles are intended to serve as a common baseline and framework for financial institutions to identify, assess and manage environmental and social risks when financing Projects. We commit to implementing the Equator Principles through our internal environmental and social policies, procedures and standards for financing Projects".[729]

728 https://equator-principles.com/members-reporting/.
729 Version July 2020, p. 3.

Differentiating between projects?

The UNEP FI Principles for Responsible Banking differentiate between different projects:

> "Project-Related Corporate Loans where all of the following three criteria are met:
> i. The majority of the loan is related to a Project over which the client has Effective Operational Control (either direct or indirect).
> ii. The total aggregate loan amount and the EPFI's individual commitment (before syndication or sell down) are each at least US$50 million.
> iii. The loan tenor is at least two years."[730]

The idea to differentiate makes sense. We dare question whether the criteria enumerated under i.-iii. are not too narrow in that they leave a series of projects unaffected. The Equator Principles are more stringent than Principle 36; they require a lot of paperwork. Seen from that angle it is understandable to narrow the scope of the Equator Principles.

Our Principle is more general and its application is significantly less costly. Hence, it should cover a wider range of projects. All the more so because the aggregate of loans determines the impact on the climate and the financial stability of the financier. That being said a "de minimis non curat praetor" approach is inevitable to make Principle 36 workable. Further guidance on this point would be hugely arbitrary; instead, it should be referred to the interpretation in a case in point.

The Equator Principles shift the assessment-burden to clients.[731] That may well be the easiest and for the financier certainly the cheapest modus operandi. Financiers can execute their obligation under our Principle 36 (a) and (b) in the same way.

Equator Principle 7 contains an assessment provision for category A ("Projects with potential significant adverse environmental .. risks and/or impacts that are diverse, irreversible or unprecedented") and, as appropriate, for category B projects ("Projects with potential limited adverse environmental … risks and/or impacts that are few in number … largely reversible and readily addressed through mitigation measures"),[732] to be executed by an independent consultant. In light of the wider scope of our Principle this would be over-demanding in many instances. Cost and efficiency permitting it can a valuable tool for more significant projects.

Annex A provides a series of specific obligations concerning climate change including:

730 O.c. p. 5.
731 Principle 2.
732 Definitions borrowed from Principle 1 (version July 2020).

> "Climate Change Risk Assessment
> The Climate Change Risk Assessment should address the following questions at a high level:
> – What are the current and anticipated climate risks (transition and/or physical as defined by the TCFD) of the Project's operations?
> – Does the client have plans, processes, policies and systems in place to manage these risks? i.e. to mitigate, transfer, accept or control.
>
> This assessment should also consider the Project's compatibility with the host country's national climate commitments, as appropriate."[733]

Stress tests by central banks underscore the importance of this Principle. They ascertain the resilience of the financial system.[734] Because this resilience depends on the sum of the activities undertaken by financiers, they indirectly have an impact on single transactions.

– Ascertain and take into account requires a genuine effort. This goes beyond ticking the box.[735] As a rule of thumb financing a new or an expanding an existing coal-fired power plant is not allowed; see also Principle 9.1. In less extreme cases the financier has to assess the GHG emissions and whether they are compatible with these Principles. F.i., if the project is to build a new factory for luxury vehicles the financier has to assess whether countervailing measures will be taken to offset the excessive emissions, if any; see Principle 9.1 in conjunction with Principle 9.6.
  This Principle is in line with the Principles for Responsible Banking, in particular Principles 1 and 2.[736]
– By risks posed to the project by climate change we mean f.i. the construction of houses in an area prone to flooding. By the liability risk we refer to the liability emanating from non-compliance with these Principles,[737] which could impact the recipient's ability

733 O.c. p. 4.

734 See Bank of England, Staff Working Paper No. 603, https://www.bankofengland.co.uk/working-paper/2016/lets-talk-about-the-weather-the-impact-of-climate-change-on-central-banks p. 19 ff and European Banking Authority, Guidelines on institutions' stress testing, https://eba.europa.eu/sites/default/documents/files/documents/10180/2282644/2b604bc8-fd08-4b17-ac4a-cdd5e662b802/Guidelines%20on%20institutions%20stress%20testing%20(EBA-GL-2018-04).pdf and https://www.imf.org/external/pubs/ft/fandd/2019/12/pdf/climate-change-central-banks-and-financial-risk-grippa.pdf.

735 See in more detail the commentary to the EP p. 203-205.

736 See also Guidance Document, o.c. p. 3.

737 Cynthia Williams puts it as follows: "Environmental liabilities arise when an issuer's operations have, will, or may negatively impact the environment. The most common example would be liabilities arising from past, ongoing, or potentially future legal obligations to make expenditures "due to the manufacture, use, release or threatened release of a particular substance". A potential environmental liability and the corresponding legal obligations are typically contingent on some form of law, regulation, or policy that is not yet in force", o.c. p. 18 and 19; footnotes with extensive references omitted. See also IIGCC, Mercer and Carbon Trust, A Climate for Change p. 10.

to repay the loans. This is in line with Principle 47.2 and also with the Principles for Responsible Banking, in particular Principles 2 and 3.
This Principle is no unnecessary luxury. "The mortgage market is not factoring the overall risk into its loan underwriting and is not quantifying the amount of potential losses should a wide swath of borrowers walk away from damaged or destroyed homes."[738]

– This Principle requires investigation of the soundness of relevant credit ratings and how they were established; see Principle 47.1. This Principle aligns with the Principles for Responsible Banking 1 and 4.

Principles 37 to 44: Obligations of investors: general commentary

> "To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society."[739]
> "… our legal duty as an institutional investor is to secure our members a better and safer future – not only financially but also by investing in a more sustainable world."[740]

Introduction

The Principles 37 to 44 are an elaborate version of the Principles offered by the EP. We have added a definition of Investor; see Principle 1.

The commentary to the EP goes into considerable detail about a series of key features concerning the role of investors. We refer to that discussion,[741] in particular the need to focus on the long term, whether investments that align with the need to keep climate change below fatal thresholds are reconcilable with an adequate return on capital and the

738 CNBC, The mortgage industry isn't ready for a foreclosure crisis created by climate change, https://www.cnbc.com/2019/01/16/potential-for-foreclosure-crisis-because-of-climate-change-is-real.html.

739 Letter of BlackRock, dated January 12, 2018, https://sustainiaworld.com/blackrock-ceo-larry-fink-letter-to-ceos-words-or-action/.

740 Peter Damgard Jensen, ceo Danish Pension Fund PKA and chair of Institutional Investors Group on Climate Change, in Yearbook of Global Climate Action 2018, https://unfccc.int/sites/default/files/resource/GCA_Yearbook2018.pdf p. vi.

741 P. 208 ff. See for practical solutions PRI, A practical guide to ESG integration for equity investing, https://www.unpri.org/download?ac=10.

legal basis. Putting emphasis on the role of investors is important because "they have a systematic influence over financial markets and the behaviour of companies within them."[742]

Legal basis

A report by UN Global Compact, UNEP Finance Initiative, and PRI maps the differences between common and civil law countries:[743]

> "In the common law jurisdictions covered by this report – Australia, Canada, South Africa, the UK, the US – fiduciary duties are the key source limits of the discretion of investment decision-makers, aside from any specific constraints imposed contractually or by regulation. These duties are articulated in statute and decided in the courts: some rules are open to re-interpretation over time or when applied to new facts. In the US, for example, the decision-maker's duty is to exercise reasonable care, skill, and caution in pursuing an overall investment strategy that incorporates risk and return objectives reasonably suitable to the trust.
>
> In countries where civil law applies – Brazil, Germany, Japan – any obligations equivalent to 'fiduciary duties' will be set-out in statutory provisions regulating the conduct of investment decision-makers and in the governmental and other guidelines that assist in the interpretation of these provisions. The content of each of these statutory provisions differs slightly between jurisdictions and depending on the type of institutional investor, but common themes include:
>
> – Duty to act conscientiously in the interests of beneficiaries – this duty is expressed in different terms, with jurisdictions using terms such as "good and conscientious manager" (Japan) or "professionally" (Germany).
> – Duty to seek profitability.
> – Recognition of the portfolio approach to modern investment, either in express terms or implicitly in the form of requirements to ensure adequate diversification.
>
> …

742 Investor Alliance for Human Rights, Investor Toolkit on Human Rights, https://investorsforhumanrights.org/investor-toolkit-human-rights, summary p. 3 in relation to, in particular, institutional investors. The same goes for other investors, we think.

743 Fiduciary Duty in the 21st Century, o.c.. See also Keith L. Johnson, Introduction to Institutional Investor Fiduciary Duties (iisd), https://www.reinhartlaw.com/wp-content/uploads/2016/01/Introduction-to-Institutional-Investor-Fiduciary-Duties.pdf.

In all jurisdictions, the rules that affect investment decision-making take the form both of specific laws (about the types of assets that are permitted for certain types of investment, and the extent to which the assets of a fund may be invested in specific asset classes or be exposed to specific issuers or categories of issuers, for example) and general duties that must be fulfilled (such as duties to ensure investments are adequately diversified).

TREATMENT OF ESG ISSUES

In none of the jurisdictions do the rules exhaustively prescribe how investors should go about integrating ESG opportunities and risks in their investment practices and processes, and on the timeframes over which they define their investment goals. In most cases, it is left to investors to determine the approach that will enable them to meet their legal obligations in the particular circumstances. When evaluating whether or not an institutional investor has delivered on its fiduciary duties, courts will look at the evaluation and integration process of ESG issues into the investment decision-making.

EVOLUTION OF FIDUCIARY DUTY

Over the past decade, there has been relatively little change in the law relating to fiduciary duty.

FIDUCIARY DUTY IN THE 21ST CENTURY

However, there has been a significant increase in ESG disclosure requirements for asset owners and investment managers and in the use of soft law instruments such as stewardship codes that encourage investors to engage with the companies in which they are invested. Many of the interviewees for this project commented that while the law may not change quickly, there is likely to be increased use of disclosure requirements and soft law measures to encourage investors to pay greater attention to ESG issues in their investment practices and processes.

In addition, the economic and market environment in which the law is applied has changed dramatically. Factors such as globalisation, population growth and natural resource scarcity, the internet and social media, and changing community and stakeholder norms all contribute to the evolution in the relevance of ESG factors to investment risk and return. This necessarily changes the standards of conduct required of fiduciaries to satisfy their duties under the law."

"The concept of fiduciary duty is organic, not static. It will continue to evolve as society changes, not least in response to the urgent need for us to move towards an environmentally, economically and socially sustainable financial

> system." Paul Watchman (Honorary Professor, School of Law, University of Glasgow)".[744]

The report adds:

> "On performance, the evidence from the academic and practitioner literature is seen by most interviewees as being robust enough to argue that, at a minimum, fiduciaries should consider these issues as part of their investment process. There is, however, an important difference in practitioners' perceptions of corporate governance issues and social and environmental issues."[745]

Principle 37.1 is more strongly formulated. It requires that climate change – one of the ESGs – is ascertained and taken into account.[746]

Importantly, the just quoted report contends that interviewees noted as one of the reasons why they "are not embracing responsible investment" (sic) is lack of "knowledge and understanding of ESG issues – both in terms of how ESG issues might affect investment performance and of how ESG integration and responsible investment might be implemented within the organisation."[747] Our Principles and the update will hopefully answer many of these questions. We agree with "the lawyers interviewed" that hindsight bias is to be avoided: it is indeed not so much the result that counts, but rather the decision-making process.[748] After all, the result will be influenced by a myriad of often coincidental factors, as the corona-virus illustrates.

The IGCC Global Stewardship Principles define stewardship in the context of investments as follows:

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744 P. 12 and 13. On p. 16 the report says that "asset owners and advisers often point to fiduciary duty as reason why they cannot integrate ESG issues into their investment processes or engage with companies on these issues. The fiduciary duties are discussed at greater length in the context of the relevant countries" p. 25 ff.

745 P. 14. On p. 15 the report reveals that "many investors have yet to integrate them [ESGs] into their investment processes", with an "explanation" for this stance further down.

746 We strongly second the view that a vision for investors duties "needs to set a progressive standard for how investors must consult on, assess and interpret the best interests of their clients and beneficiaries, while also increasingly linking the protection of these interests to the assessment and management of the impact of mainstream investments on communities and the environment", E3G et al., Accelerating Progress, o.c. p. 14.

747 P. 16. A communication of the EU Commission notes that "evidence suggests that international investors and asset managers still do not systematically consider sustainability factors and risks in the investment process", Action Plan: Financing Sustainable Growth, COM(2018)97 final, https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-97-F1-EN-MAIN-PART-1.PDF p. 8.

748 P. 16.

> "Stewardship can be defined in general terms as the responsible management of something entrusted to one's care. This suggests a fiduciary duty of care on the part of those agents entrusted with management responsibility to act on behalf of the end beneficiaries. In an investment context, institutional investors are the agents acting on behalf of beneficiaries, who are often long-term savers or members of pension funds. … At an investor level, stewardship is about preserving and enhancing long-term value as part of a responsible investment approach. This includes the consideration of wider ethical, environmental and social factors as core components of fiduciary duty. In a broader context, stewardship enhances overall financial market stability and economic growth."[749]

The International Corporate Governance Network's (ICGN) Principles promote long-term value creation and integration of environmental, social and governance into stewardship:

> "Principle 6: Investors should promote the long-term performance and sustainable success of companies and should integrate material environmental, social and governance (ESG) factors in stewardship activities."[750]

These Principles provide a toolkit to materialise such stewardship.[751]

See for the legal basis the commentary to the EP.[752]

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749 Quoted in Inflection point, Mapping of global responsible investment best practices, https://www.regjeringen.no/contentassets/7fb88d969ba34ea6a0cd9225b28711a9/ipcm-report-to-mof-5-january-20182.pdf p. 32.

750 http://icgn.flpbks.com/icgn_global_governance_principles/ICGN_Global_Governance_Principles.pdf.

751 In line with the recommendations of the EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf p. 20. Taking "the SDGs" into account will be a major challenge; they go way beyond climate change, although quite a few are interwoven with climate change; see f.i. Making Finance Work for People and Planet, https://investorsforhumanrights.org/sites/default/files/attachments/2019-03/IAHR_Making%20Finance%20Work%20for%20People%20and%20Planet_FINAL.pdf. See about the at times conflicting SDGs section 30. A report of Business and Human Rights Resource Centre, Fast & Fair, Renewable Energy Investments, https://www.business-humanrights.org/en/fast-fair-renewable-energy-a-practical-guide-for-investors contends that quite a few human rights violations occurred in the renewable energy sector. If the allegations are justified that may create a challenge for investors.

752 P. 218 ff. See also Sarra and Williams, Time to Act, p. 37 and 43 and Benjamin J. Richardson, Do the Fiduciary Duties of Pension Funds Hinder Socially Responsible Investment, https://ssrn.com/abstract=970236. Richardson's article of 2007 contains valuable information, but the law has progressed since; CIEL, Fiduciary Duty, Divestment, and Fossil Fuels in an Era of Climate Risk, https://www.ciel.org/wp-content/uploads/2016/12/Trillion-Dollar-Transformation-CIEL.pdf and global witness, EU investor due diligence, https://www.globalwitness.org/en/campaigns/land-deals/eu-investor-due-diligence/; see also Investor Alliance for Human Rights, Making Finance work for people and planet, https://www.business-humanrights.org/sites/default/files/documents/IAHR_Making%20Finance%20Work%20for%20People%20and%20Planet_FINAL.pdf. See extensively also Sarra, o.c. p. 47 ff: Canadian pension funds and trusts "have an obligation to make investment decisions that create sustainable pension funds, addressing intergenerational pressures

Many investors are enterprises. For the reasons mentioned in section 22.3 they have to apply human rights.[753] The same goes for asset managers and a host advisors.

Stress tests of insurers' investments underscore the importance of Principles 37 to 44.[754] The obligation of the insurance sector to assess the climate risks of their investments cannot be properly executed without complying with these Principles. Pension funds and other investors have an obligation towards their investees.

Principle 37

This Principle is about investments in all kinds of equity, in particular bonds and shares. This includes so-called "private equity"[755] and bonds or similar features *issued by States*.[756] Sweden's Central Bank is taking the lead in discarding bonds issued by States which GHGs it felt are too high.[757]

The requirement to ascertain and take into account whether a State complies with its obligations in the face of climate change is confined to its reduction obligations as reformulated in Principle 2.2 (see Principle 37.3).[758]

… and to look ahead to future generations of beneficiaries." They "can take climate change into account", o.c. p. 47 and for a description of the system in the respective Canadian provinces p. 48 ff. Sarra concludes that investors are required "to undertake a careful and thorough evaluation of climate change risk prior to making decisions, and to act on information generated by that process, including a rationale for their decisions" (p. 62). See for a Dutch perspective, referring to a host of sources (historical data, codes of conduct and case law) René Maatman and Esther Huijzer, 15 years of the prudent person rule: pension funds, ESG factors and sustainable investing, in Beekhoven van den Boezem et al. (eds), Sustainability and Financial Markets, o.c. p. 256 ff (pages 276- 280 also pay attention to the UK and the US).

753 See also Investor Alliance for Human Rights, Investor Toolkit on Human Rights, https://investorsforhumanrights.org/investor-toolkit-human-rights p. 4.

754 See f.i. California Department of Insurance, First-in-the-nation stress test conducted to determine climate-related risk to insurance industry investments, http://www.insurance.ca.gov/0400-news/0100-press-releases/2018/release051-18.cfm.

755 It is important to emphasise this point because it follows from a PRI report that such investments lag behind in integrating ESG factors: PRI, Incorporating responsible investment requirements into private equity funds, https://www.unpri.org/download?ac=271 p. 10. See for a "toolkit": M.J. Hudson, ESG Toolkit for Private Equity, https://www.mjhudson.com/esg-a-guide-to-implementing-in-your-pe-portfolio/.

756 The latter are explicitly included by PRI, PRI, Developing an Asset Owner Climate Change Strategy, https://www.unpri.org/download?ac=1885 p. 31.

757 Reuters, Sweden's central bank dumps Australian bonds over high emissions, https://www.theguardian.com/environment/2019/nov/15/swedens-central-bank-dumps-australian-bonds-over-high-emissions.

758 A lot of information is readily available; see f.i. Climate Change Performance Index, https://www.climate-change-performance-index.org/. See for a more general perspective Priscilla Boiardi, Measuring and Managing the Impact of Sustainable Investments – A Two Axes Mapping, https://www.sipotra.it/wp-content/uploads/2020/06/MEASURING-AND-MANAGING-THE-IMPACT-OF-SUSTAINABLE-INVESTMENTS-A-TWO-AXES-MAPPING.pdf.

This Principle focusses on all activities executed by enterprises. Investors would be well advised to acknowledge the most recent insights. F.i., investing in farming requires special attention,[759] like many other activities.[760]

See in more detail, also about the legal underpinning, the commentary to the EP.[761]

Principle 37.1

"Take into account" means that genuine weight must be given to the outcome of the ascertaining process.

It follows from Principle 38 that the mere fact that an entity does not comply with its obligations does not mean that investment or keeping such investments is a non-starter.[762]

A report commissioned by WWF, Ceres, Calvert and CDP suggests that investors "consider weighting their investment strategies towards companies that are setting and meeting ambitious targets, including 100 percent renewable energy and science-based greenhouse gas targets."[763] That is a valuable suggestion; see under Principles 9 and 10. According to this report 48% of 2016 Fortune 500 "have a greenhouse target, a renewable energy target, an energy efficiency target, or some combination thereof. The largest companies continue to take the lead" with 63%.[764] That is promising, although a lot depends on the respective targets. Others have argued that disclosing "greenhouse gas performance" "enables …. investors, shareholders and others to decide on an informed basis whether or not to invest in or finance a company."[765] Such information is certainly useful to compare products and enterprises.

759 FAIRR, Factory Farming: Assessing Investment Risks, https://www.fairr.org/article/factory-farming-assessing-investment-risks/.

760 In the same sense Sonia Hierzig, Investors need to hold all sectors to account on climate change, – not just the fossil fuel industry, https://www.business-humanrights.org/en/investors-need-to-hold-all-sectors-to-account-on-climate-change-%E2%80%93-not-just-the-fossil-fuel-industry%E2%80%AF.

761 P. 227 ff.

762 The American Investment Council's Guidelines for Responsible Investment require consideration of inter alia environmental issues "associated with target companies" (Principle 1): https://www.investmentcouncil.org/guidelines-for-responsible-investing/. See also Invest Europe, Professional Standards Handbook, https://www.investeurope.eu/industry-standards/professional-standards/ and a letter of January 2019 from a series of asset managers and NGOs to BlackRock, o.c. seeking "that portfolio companies demonstrate in sufficient detail and with clear milestones and implementation timeline show they will align business strategy … with the Paris Goals".

763 O.c., p. 5 and about Science Based Targets p. 22.

764 O.c. p. 12. The subsequent case studies provide more information.

765 Brans and Scheltema, o.c. p. 98.

Climate Wise, a University of Cambridge Institute for Sustainability Leadership initiative, offers a Transition risk framework for how to manage risks, which is important in the context of this Principle.[766]

According to Global Witness investors "failed to identify environmental, social and governance … risks in their investment chains before they were publicly exposed – demonstrating the inadequacy of their risk management."[767] Leaving aside whether the allegation can be made on the basis of a few case studies, our Principles, particularly on disclosure, provide enough basis for identification of the climate risks. If the information is vague or ambiguous, investors should ask relevant questions.

For compliance with our Principles we refer to section 25 and the commentary to Principle 29.

Principle 37.2

This Principle requires investigating the soundness of relevant credit ratings and auditor reports and how they were established; see Principles 46.1 and 47.1.[768]

This may be easier said than done. As a rule, investors cannot be expected to make the assessments themselves, if not for other reasons because they would need the cooperation of the relevant enterprises. In addition, such exercises would often be expensive, which problem could be solved in part if investors would join forces. If the relevant reports and ratings clearly fall short of providing vital or reliable information, investors have several options:

– To use their voting rights to appoint accountants better fit for the job; see Principle 41.1;

766 ClimateWise, Transition risk framework, https://www.cisl.cam.ac.uk/resources/publication-pdfs/cisl-climate-wise-transition-risk-framework-report.pdf. See also Martin Currie, Stewardship, Annual report 2019, https://www.martincurrie.com/~/media/corporate/documents/stewardshipar2019.pdf.

767 Indecent Exposure: How EU investors and their subsidiaries are helping to bankroll human rights abuses and environmental destruction, https://www.globalwitness.org/en/campaigns/land-deals/indecent-exposure/ p. 2.

768 See Financial Stability Board, Credit Rating Agencies Reducing Reliance and Strengthening Oversight, https://www.fsb.org/wp-content/uploads/r_130829d.pdf p. 1 and 2 and in extenso Financial Stability Board, Principles for Reducing Reliance on CRA Ratings, https://www.fsb.org/wp-content/uploads/r_101027.pdf. See also for valuable suggestions Inflection point, Mapping of global responsible investment best practices, https://www.regjeringen.no/contentassets/7fb88d969ba34ea6a0cd9225b28711a9/ipcm-report-to-mof-5-january-20182.pdf emphasising the role of "political consensus and public policy" in the context of best practices (p. 30); the report points to the PA and SDGs which "have provided both further impetus and a conceptual framework" (p. 31). See also EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, o.c. p. 55.

- To put pressure on supervisory institutions and politicians to require auditors and credit rating agencies to meet their obligations, which may include setting clear and workable standards and overseeing whether they are properly applied;
- To forcefully promote the enterprises in point to ensure that their auditors and credit rating agencies properly assess their documents;
- To refrain from investing in the relevant enterprises. As explained in the commentary to the EP this may be a challenge in the near future because the number of (fully) complying enterprises is limited.[769]

Principle 37.3

This Principle is self-explanatory.

Principle 38

It follows from Principle 37 that there is no hard and fast rule about the investment choices of investors. There may be sound reasons to opt for investments in non-compliers, especially in the short term.[770] If, for instance, investors would be obliged to refrain from buying bonds issued by the many non-complying countries, or shares or other equity issued by non-complying enterprises, there would almost certainly not be enough viable alternatives, let alone that they would end up in a sufficiently diversified portfolio.[771] This factor is not a licence to refrain from taking action. Regard must be had to the possibility to focus on the best in class[772] among non-compliers or to divest from the worst in class.[773]

Divestment may mean that especially shares but also bonds will end up in the "wrong hands", e.g. investors that are only interested in short term profits and cannot be encouraged to take a different stance, if necessary by means of litigation. For now some investors, such as hedge funds, do not have any incentive to pressurise the relevant entities to curb their

769 P. 232 ff.

770 I.e. due to lack of sufficiently return generating alternatives; see the commentary to Principles 26 and 27 of the EP.

771 "Many financiers and governments" allegedly take the view that "divesting is financially irresponsible"; see Richardson, Fossil Fuel Divestment, o.c. p. 1686 and 1687.

772 See UN PRI, Principles for Responsible Investment, A Practical Guide to ESG Integration for Equity Investing, https://www.unpri.org/listed-equity/a-practical-guide-to-esg-integration-for-equity-investing/10.article p. 39 and PRI, Developing an Asset Owner Climate Change Strategy, https://www.unpri.org/download?ac=1885 p. 30.

773 See for a similar submission IIGCC, Climate Change Investment Solutions, www.iigcc.org/files/publication-files/Climate-Change-Investlment-Solutions-Guide_IIGCC_2015.pdf p. 13 and US SIF, Incorporating Sustainable Responsible and Impact Investing, o.c. p. 5.

emissions or to refrain from investing in projects or assets that will become stranded in the more distant future because of a short-term oriented strategy.

If investors would be under an obligation to divest from non-complying entities, the investors that ignore the obligation could buy the relevant equity at bottom prices which would often guarantee a high yield. Once again the latter group of investors would have little incentive to promote compliance by the investees with the Oslo Principles as amended in Principle 2.2 and with this update. For the purpose of the update, hedge funds are investors,[774] but that leaves untouched that not all of them will comply with Principles 37 to 44 or can easily be forced to do so.

A justification for a short-term focus in relation to *part of the investments* of f.i. a pension fund could be that it needs sufficient returns to pay present day's pensions. In addition, climate change is – though urgent and impactful – not the only pressing sustainability issue of our time, as the Millennium Development Goals and their successor the Sustainable Development Goals[775] emphasise. So is, for instance, the alleviation – and preferably eradication – of poverty, Sustainable Development Goal 1.[776] In this respect, a justification for investment in a non-complying enterprise could be that a particular enterprise creates many jobs or pays higher-than-average wages in developing countries, thereby contributing to the alleviation or eradication of poverty in the country in point; see also section 30.

Whether these and similar examples can serve as a sufficiently sound justification for investing in non-compliers has to be judged on the basis of the merits of the case in point. It also matters whether it would have been fair (in light of Principle 3.1 (a)-(h) or Principle 4.1) if the country in which an enterprise is operating *could* have applied Principle 3.1 or 4.1 even if it does not make use of the flexibility offered by these principles.[777]

The Investor Alliance for Human Rights goes a step beyond this Principle contending in the context of responsible divestment "that, in situations where an enterprise lacks the leverage to prevent or mitigate adverse impacts …. the enterprise should consider ending the relationship."[778]

774 See the definition in Principle 1.

775 http://www.un.org/sustainabledevelopment/blog/2015/12/sustainable-development-goals-kick-off-with-start-of-new-year/.

776 http://www.un.org/sustainabledevelopment/poverty/.

777 As already explained before this update offers some room for self-determination; see Principles 3.3.1 and 4.3.1.

778 Investor Toolkit on Human Rights, p. 13 referring to the UN Guiding Principles on Human Rights.

Principle 39

This Principle is the logical consequence of Principles 9 and 18.2.[779] Ever more major investors stop financing new coal-power plants.[780] The Irish Fossil Fuel Divestment Act 2018 supports this Principle.[781]

This Principle does not say that investment in coal-fired power plants is a non-starter at any rate. It requires, however, a compelling justification which will not be easy to provide. In light of the unavoidable energy transition which must be achieved at great pace, investments in other fuels are also risk-laden; see under Principle 33. The same basically applies to investments in enterprises active in the realm of tar-sands or fracking; see under Principle 18.4.

For now we wonder whether it would be justified to restrict investment in f.i. fossil fuel enterprises active in the field of oil or gas. First, it is up to debate whether these already are "excessively emitting fossil fuels", although it seems a safe bet that oil will become soon as the carbon budget gets ever closer to depletion. Even if, at some stage, a relevant fossil fuel produced by an investment-target would be or have become "excessive" as meant in this Principle, investment in the best enterprises in class would not necessarily be mistaken, if the investor complies with Principle 40. One of the reasons for that stance is that otherwise less scrupulous investors could buy the equity; they would buy it at bottom prices and would not have any incentive to promote restricting the production of oil and gas.[782]

Compared to the EP this Principle adds "or in other excessively GHG emitting enterprises". That addition is self-explanatory. It should be borne in mind that emissions are no longer excessive if appropriate countervailing measures have been taken.[783] As to the required compelling justification the above applies mutatis mutandis.

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779 See for elaboration the Commentary to the EP p. 235 ff and about the state of transition in coal mining, electricity and oil and gas sectors: Transition Pathway Initiative, https://www.transitionpathwayinitiative.org/tpi/publications/22.pdf?type=Publication. See about the macroeconomic impact of stranded fossil fuel assets J-F. Mercure, H. Politt, J.E. Vinualez et al., macroeconomic impact of stranded fossil-fuel assets, https://www.repository.cam.ac.uk/bitstream/handle/1810/277284/StrandedAssets_v16_with_Methods.pdf?sequence=1&isAllowed=y.

780 F.i. Standard Chartered, HSBC Holdings, Société Générale, Deutsche Bank, and Standard Chartered to pull plug on financing for coal plants, Business Day 26 September 2018, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjYg6D19bXqAhVEDewKHYNp DBoQFjABegQIAxAB&url=https%3A%2F%2Fwww.businesslive.co.za%2Fbd%2Fcompanies%2Ffinancial-services%2F2018-09-26-standard-chartered-to-pull-plug-on-financing-for-coal-plants%2F&usg=AOvVaw0WfObg2zi--NS_ANlQMiOw; IEEFA, Over 100 Global Financial Institutions Are Exiting Coal, With More to Come, http://ieefa.org/wp-content/uploads/2019/02/IEEFA-Report_100-and-counting_Coal-Exit_Feb-2019.pdf.

781 http://www.irishstatutebook.ie/eli/2018/act/29/enacted/en/pdf.

782 See also commentary to the EP p. 236/7.

783 See Principles 9 and 10.

Principle 40

This Principle is explained in the commentary to the EP.[784]

We have added "forcefully" which means that investors have to use every possible opportunity to promote compliance. In that respect one should bear in mind that many major investors often have informal contacts with the people at the wheel in enterprises and that they also have excellent contacts in the top of governments. That leaves untouched, of course, that they should also raise the issue at formal occasions such as annual meetings of shareholders; see also Principle 41.2.

Principle 41.1

This Principle is the corollary of Principle 46. It is inspired by ShareAction.[785] It requires inquiring whether the prospective auditors have a keen understanding of the climate change issues required for assessing the annual accounts and other relevant documents. If auditors are unwilling or unable to provide the relevant information they should not be appointed.

Many auditors probably have relevant knowledge about the issues mentioned under (a), which does not necessarily mean that they will comply with this obligation. There is, however, reason to believe that few accountants have a relevant understanding of the legal obligations of enterprises and their boards (b). If they do (a not overly likely scenario), they are reluctant to use it; see under Principle 46. Hence, there may not be enough accountants with the relevant knowledge. This begs the question what investors should do in such scenarios. We cannot think of any better solutions than putting pressure on regulators to enact appropriate rules and putting intense pressure on accountants to do a better job pointing to the liability risk enterprises and accountants themselves run if they do not change course. See for elaboration under Principle 46.2.

784 See p. 237 ff and for further elaboration Investor Toolkit on Human Rights, o.c. p. 12.

785 Briefings of May 2019, Votes that matter: Investors should call time on poor climate governance as Exxon swerves engagement, https://shareaction.org/wp-content/uploads/2019/05/Votes-that-matter-Investors-should-call-time-on-poor-climate-governance-as-Exxon-swerves-engagement.pdf. A series of fund managers and NGO's informed Black Rock that they "would like to see BlackRock publicly to state that auditors of such companies [most directly impacted by climate change] must demonstrate 'climate fluency' and that they are robustly testing management's key accounting assumptions and risk management and reporting procedures", letter of 11 January 2019, https://shareaction.org/wp-content/uploads/2019/01/Letter-to-Larry-Fink-Jan19-3.pdf.

Principle 41.2

This Principle has much in common with the Climate Policy Recommendation of the Institutional Shareholder Services (ISS):

> "Climate Policy Recommendation:
> – Vote for shareholder proposals seeking information on the financial, physical, or regulatory risks it faces related to climate change- on its operations and investments, or on how the company identifies, measures, and manage such risks.
> – Vote for shareholder proposals calling for the reduction of GHG emissions.
> – Vote for shareholder proposals seeking reports on responses to regulatory and public pressures surrounding climate change, and for disclosure of research that aided in setting company policies around climate change.
> – Vote for shareholder proposals requesting a report/disclosure of goals on GHG emissions from company operations and/or products."[786]

UBS' voting policy may serve as an inspiring example:

> "We believe an active voting policy is crucial and that voting is a vital component of our overall approach.
> Our strategy pursues a policy with companies around the world that we believe need to adapt their business, strategy, and corporate governance in order to reduce climate risks and meet globally agreed climate change goals. Our commitment is applied to all investment strategies managed by UBS and is an integral part of our stewardship approach.
> We will support proposals at shareholder general meetings that require an issuer to report to shareholders, at reasonable cost and excluding proprietary information, information concerning its potential liability from operations that contribute to global warming, its goals in reducing these emissions, their policy on climate risks with specific reduction targets where such targets are not overly restrictive.
> For those companies showing no sign of progress, remedial action may be taken. This may include a vote against the chairman of the companies or the

786 ISS, United States, Climate Proxy Voting Guidelines, 2020 Policy Recommendations, https://www.issgovernance.com/file/policy/active/specialty/Climate-US-Voting-Guidelines.pdf p. 59 and the International Climate Proxy Voting Guidelines, https://www.issgovernance.com/file/policy/active/specialty/Climate-International-Voting-Guidelines.pdf p. 35.

> introduction of a resolution to disclose climate change risks formulated for the annual meeting to shareholders. This action can be taken at any point during the engagement process."[787]

Regular meetings with investees may be valuable in any case to learn of their progress on vital issues. The same goes for asking feedback on information provided to them by or on behalf of the investor.[788] UBS maintains a comprehensive database of its meetings with companies and subsequent voting decisions. It plans bi-annual follow up and monitors progress.[789]

Principle 42

This Principle is the corollary of Principle 25 (b).[790]

Principles 43.1 and 43.2

These Principles are self-explanatory.[791] They are no less important. A 2017 survey by Eaton Vance "of over 1.000 financial advisors found that while only 21 percent said responsible investing is currently important to their practices, 70 percent reported that their clients have requested responsible investment strategies."[792] Other research reveals that "only 6% of asset owners include ESG-related reporting in their asset management contracts."[793] This explains why Principles 43.1 and 43.2 are no luxury.

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787 Our approach to company engagement, o.c. p. 2.

788 FTSE-Russell, Stewardship, Transition and engagement Program for Change (2018), https://www.ftserussell.com/research/2018-step-change-report-ftse-russell-stewardship-transition-and-engagement-program p. 15.

789 Idem o.c. p. 3.

790 See for the UBS' approach, Our approach to company engagement, https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiB1bWS1I3qAhUKCuwKHXGbDfIQFjAAegQIAhAB&url=https%3A%2F%2Fwww.ubs.com%2Fuk%2Fen%2Fasset-management%2Finstitutional-investors%2Finvestment-capabilities%2Fpassive-etfs%2Findex-funds%2Fclimate-aware-solution%2F_jcr_content%2Fmainpar%2Ftoplevelgrid_358970364%2Fcol1%2Flinklist%2Flink_1217557741.1531898180.file%2FbGluay9wYXRoPS9jb250ZW50L2RhbS9hc3NldHMvYW0vdWsvaW5zdGl0dXRpb25hbC1pbnZlc3RvcnMvZG9jL291ci1hcHByb2 FjaC10by1lbmdhZ2VtZW50LnBkZg%3D%3D%2Four-approach-to-engagement.pdf&usg=AOvVaw0vb2rjStURB iv6STl1Tz3R p. 2 and EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, o.c. p. 23 and p. 69.

791 See also Sarra and Williams, Time to Act, p. 41 and 66 and Fiduciary duty in the 21st Century, o.c. p. 21.

792 US SIF, Incorporating Sustainable, Responsible and Impact Investing into Your Practice, A Roadmap for Financial Advisors 2018, https://www.ussif.org/store_product.asp?prodid=35# p. 4.

793 See Share Action et al., NGO recommendations for the EU Sustainable Finance Action Plan, https://shareaction.org/wp-content/uploads/2017/12/RecommendationsSustainableFinanceActionPlan.pdf p. 5.

The issues mentioned in Principles 37 to 42 are so important that investors cannot escape their obligations by outsourcing their responsibilities; therefore the investment manager has to assume these obligations.[794]

Besides the obligations of investors,

> "asset managers should be required to ask their institutional clients whether there are any sustainability governance or broader ethical concerns that the clients wish to have considered and reflected in the investment mandate. To ensure these preferences are properly reflected, asset managers should also seek informed consent from their clients on the strategy that they adopt for them."[795]

A US SIF (Forum for Sustainable and Responsible Investment) report suggests to review and update agreements between advisor and client annually.[796]

Principles 43.3 and 43.4

The disclosure requirements of these principles are a corollary of the issues discussed under Principles 37 to 42. This obligation comes close to what is advocated in the OECD Guidelines for Pension Fund Governance:[797]

> "The governing body should disclose relevant information to all parties involved (notably pension plan members and beneficiaries, the supervisory board- where relevant – (….), and supervisory authorities, etc.) in a clear, accurate, and timely fashion. The specific information that (….) beneficiaries should receive is described in the OECD Guidelines for the Protection of the Rights of Members and Beneficiaries. In the case of pension funds that support personal pension arrangements, certain information (e.g. costs and investment returns) may also need to be disclosed to the public at large via appropriate mechanisms (e.g. websites and printed media). The governing body may also be required to

794 See f.i. Sarra, o.c. p. 68 and E3G, Accelerating Progress, o.c. p. 14. This obligation includes compliance with human rights; see Investor Toolkit on human rights, o.c. p. 6.

795 EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, o.c. p. 74; see about investment consultants p. 82. See also Aberdeen Standard Investments, Asset managers and ESG integration 51 Questions to Ask, https://www.aberdeenstandard.com/en-us/us/institutional/insights-thinking-aloud/article-page/the-elements-of-esg under 42 and Sarra, o.c. p. 51 and 52 (Ontario Pension Benefit Act).

796 O.c. p. 13 also for other valuable suggestions.

797 OECD, Guidelines for Pension Fund Governance, https://www.oecd.org/daf/fin/private-pensions/34799965.pdf. See for further references the commentary to the EP footnote 753. See also art. 173 VI of the French Energy Transition Law.

> disclose publicly if, and if so how, environmental, social, and governance considerations are taken into account in the investment policy. Two useful references in this regard are the OECD Guidelines for Multinational Enterprises and the OECD Principles of Corporate Governance."[798]

The ICGN Global Stewardship Principles put it as follows:

> "Enhancing transparency, disclosure and reporting
> Principle 7: Investors should publicly disclose their stewardship policies and activities and report to beneficiaries or clients on how they have been implemented so as to be fully accountable for the effective delivery of their duties."[799]

The UK Stewardship Code of September 2012 (not a legally binding instrument)[800] entails similar obligations in relation to "institutional investors".[801] It observes that:

> "[d]isclosures under the Code should improve the functioning of the market for investment mandates. Asset owners should be better equipped to evaluate asset managers, and asset managers should be better informed, enabling them to tailor their services to meet asset owners' requirements."[802]

These sources mostly concern pension funds, but there is no sound reason to exclude other investors.

Investors may be relieved from the obligations under Principles 43.3 and 43.4 if disclosure of this information would have an adverse impact on the fund, as may be the case in relation to the investment strategy and portfolio of hedge funds.

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798 Annotation under 11 (Disclosure). See for further reference the commentary to the EP p. 240.

799 https://www.icgn.org/sites/default/files/ICGNGlobalStewardshipPrinciples.pdf.

800 https://www.frc.org.uk/getattachment/d67933f9-ca38-4233-b603-3d24b2f62c5f/UK-Stewardship-Code-(September-2012).pdf; this follows from inter alia p. 2 under 2.

801 Its scope is wider than our Principle and includes "asset owners, … insurance funds, investment trusts and other collective vehicles" (see p. 1 under 6). See for a similar approach Institute of Directors South Africa, Code for Responsible Investing in South Africa, https://cdn.ymaws.com/www.iodsa.co.za/resource/resmgr/crisa/crisa_19_july_2011.pdf Principle 5 (supported by the Financial Services Board and the Johannesburg Stock Exchange).

802 P. 2 under 4. See for the Ontario (Canada) standards UNEP FI and PRI, Fiduciary Duty, o.c. p. 39. The same goes for art. 135 para 4 of the Dutch Pension Code (Pensioenwet).

Principle 44

See for elaboration under Principle 32.

Principles 45 to 48: Obligations of insurers, re-insurers, accountants, credit rating agents and attorneys: General commentary

> "… the future will be the past. That is, climate change is a tragedy of the horizon which imposes a cost on future generations that the current one has no direct incentive to fix. The catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors. Once climate change becomes a clear and present danger to financial stability it may already be too late to stabilise the atmosphere at two degrees."[803]

Mark Carney hits the mark. This requires action at the widest possible scale. The rationale behind Principles 45 to 48 is for a large part the same as the common thread throughout the Principles and this update: all entities in a position to contribute to a solution to come to grips with climate change have to take bold and swift action. Principles 45 to 48 cover the obligations of insurers, reinsurers, accountants, credit rating agents, and attorneys. They have an overarching rationale and legal basis. As already mentioned in section 7 we are running out of time to avoid passing fatal thresholds. It is literally all hands on deck. Only combined efforts will suffice.

The addressees of Principles 45 to 48 provide services. To the extent they also emit GHGs they are covered under the relevant Principles; if they use electricity, as many of them do, they have to comply with Principle 18.[804] There is, however, no justification to focus only on the carbon footprint of these entities.

In our view it is not overly revolutionary to contend that enterprises[805] in a position to majorly influence the behaviour of the corporate world and investors are under an obligation to do so; see in more detail section 22. This leaves untouched what their precise obligations are. That question will be addressed below in relation to the relevant Principles.

803 Mark Carney, A Transition in Thinking and Action, https://www.bis.org/review/r180420b.pdf p. 2.

804 The very greater part of their energy consumption will probably flow from electricity, which emissions are to be attributed to the supplier; see section 18.5.

805 All addressees of Principles 45 to 48 are enterprises as defined in Principle 1.

Principle 45: Insurers and re-insurers

Introduction

Edi Schmid, Chairman of the Swiss Re Institute and Group Chief Underwriting Officer notes that the

> "costs of natural catastrophes have been rising for years. And most are not covered by insurance… As a result, millions of houses and businesses face a large and widening protection gap. … about two thirds of yearly catastrophe losses were not insured between 2009 and 2018."

He adds that some of the climate change related losses "*may* become uninsurable in the future" (emphasis added).

His "solution" is "strong collaboration between insurers, their reinsurance partners, as well as clients and partners from industry and the public sector. It is about working together to make our world more resilient." Further down, he rightly observes (paraphrased) that historic data are of little avail in relation to climate change, although he bets on developing "more robust and effective modelling tools that capture climate patterns".[806]

To us, it seems very unlikely that insurance coverage will be available at affordable premiums if ever more serious natural catastrophes unfold, which will happen even in the most optimistic scenarios. Hence, at best the insurance gap will widen even further.[807] That, arguably, also reinforces the submission that (re)insurers are under an obligation to do their part to avert global catastrophe. They owe that to society and to their clients who may still (be brought to) believe that climate change losses are insurable. They definitely owe a (fiduciary and/or contractual) obligation towards their clients to ensure to the maximum extent possible staying financially healthy to meet their obligations of all kinds to the extent insured entities (or people) suffer losses covered by them. In that respect it matters how long their obligations last.

Another Swiss Re publication seems to suggest that "[r]isks are normally covered for 12 months".[808] If that is right,[809] the message emphasises that current insureds are at the

806 Edi Schmid, Averting a collision course with climate change, https://www.swissre.com/risk-knowledge/risk-perspectives-blog/averting-collision-course-with-climate-change.html.

807 See also Adam Tooze, Why central banks need to step up on global warming, https://foreignpolicy.com/2019/07/20/why-central-banks-need-to-step-up-on-global-warming/ and Jaap Spier, Private law as crowbar, o.c. p. 67/8.

808 Swiss Re, Natural catastrophes and climate change, https://reports.swissre.com/2016/financial-report/responsibility/natural-catastrophes-and-climate-change.html.

809 It may well be the rule for f.i. property insurance.

mercy of (re)insurers as to future coverage, a rather uncomfortable assurance. If true, this may indeed reduce the financial risk of the relevant (re)insurer. Time will tell whether Swiss Re's assumption was overly optimistic or not. One could imagine that some courts will try to "create" coverage (the insurance industry has some experience with such judicial creativity). One of the avenues to that effect could be to rule that (re)insurers have deluded their clients to create the impression that specific climate change losses are insurable. It could – perhaps – be argued that this is irreconcilable with terminating coverage if it starts raining claims.

It is far from clear that Swiss Re's assumption about the "12 months" is entirely right. As to liability insurance, it depends, *inter alia*, on the coverage (act committed, loss occurrence or claims made).[810]

Liability insurance

This principle is instigated by the emerging view that climate change losses should be compensated by the relevant tortfeasors. In our assessment it is quite possible that liability for such losses will become reality. At some stage far-reaching liability may – and probably will – explode in our face.[811] The UK Prudential Regulation Authority (PRA) puts it as follows:

> "… in the context of previous challenges to the insurance industry from liability-related claims such as asbestos, pollution and health, the PRA views liability risks to be an important area for further consideration"[812]

and

> "The potential for liability risks to arise from climate change is already evident"[813]

concluding that

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810 See Keeton & Widiss, Insurance Law p. 587 ff.

811 See f.i. Jaap Spier, Strategies to keep global warming below 2 degrees and to avoid devastating liability, prepared for PRI in Person Conference, San Francisco 2018, https://custom.cvent.com/A7020F0F9A8247B2A6095E2EF0DC7D77/files/Event/5a2f15d64e534edb8f77813a1c7eb7de/cb1ae2a16cb54bb7a913403abf02e219.pdf. See for a more general perspective Sarra and Williams, Time to Act, p. 54 and 55. A report by the Bank of England Prudential Regulation Authority points to questions in a survey "about the impact of climate change on the liability risk" (Policy Statement PS11/19 under 2.35).

812 The impact of climate change, o.c. p. 57.

813 The impact of climate change on the UK insurance sector, https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/publication/impact-of-climate-change-on-the-uk-insurance-sector.pdf p. 58.

> "5.37 Some experts argue that the industry is seriously underestimating the potential for society to look for 'who is to blame', that even existing court decisions are not clear-cut and that in the context of a ten to twenty year view, climate change cases may well begin to succeed. Discussions with legal experts suggested legal action based on a 'failure to mitigate' may succeed in a developing country with possibly more activist courts within the next decade, particularly as evidence relating to both the 'forseeable' nature of risks, and attribution of climate change to carbon-intensive activities, continues to strengthen. Claims based on a 'failure to adapt' or 'failure to disclose' do not appear to face the same legal or evidentiary barriers, and may conceivably be formulated under prevailing statutory and common laws."[814]

The materialisation of this risk is not going to happen overnight. The key question is: is it indeed going to happen and, if so, when and to what extent? That is anybody's guess.[815]

The emerging view that climate change should be given genuine weight in stress tests for the insurance industry[816] underscores the obligation emanating from this Principle.[817] The Governor of the Banque de France, Francois Villeroy de Galhau, elaborates on this point:

> "we should develop forward-looking carbon stress tests for … insurance companies … – what I call "the video of risks". It is obviously a complex and difficult task, but it is essential. Today we are able to perform sensitivity analyses to ascertain the size of probable losses for financial institutions' portfolios under a range of economic scenarios. But one of our duties in the NGFS will be to carry out additional work on two key issues: (i) how to translate climate change scenarios into economic scenarios that can be used in our stress testing frameworks, and (ii) assessing the impact of shocks on the probability of default over a much longer horizon than the usual one of one year."[818]

The California Department of Insurance puts it as follows:

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814 O.c. p. 64 and 65.

815 Prudential Regulation Authority, The impact of climate change, o.c. p. 57.

816 See Bank of England, Bank of England consults on its proposals for stress testing the financial stability implications of climate change, https://www.bankofengland.co.uk/news/2019/december/boe-consults-on-proposals-for-stress-testing-the-financial-stability-implications-of-climate-change.

817 EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, o.c. p. 72.

818 Francois Villeroy de Galhau, Green Finance – a new frontier for the 21st century, https://www.bis.org/review/r180419b.pdf p. 2.

> "Litigation based on the impacts of climate change poses multiple risks to insurers. In particular, lawsuits seeking to impose damages on fossil fuel companies and major greenhouse gas emitters for sea-level rise, flood, wildfire, extreme weather, and other events could result in hundreds of billions of dollars in liabilities."[819]

The California Department rightly emphasises that the insurance industry should return to a pro-active approach in loss prevention.[820]

If the unavoidable uncertainties would make it impossible to assess the risks – a likely scenario – insurers must err on the safe side.[821]

(Re)insurers would be ill-advised to bet on claims made-policies. They may work, but that cannot be taken for granted if they continue to cover liability for climate losses. If a (re)insurer is aware of a sufficiently serious risk of liability and willingly decides to cover that risk it is not overly likely that he can collect premiums and discontinue coverage when the claims arise (or courts grant damages).[822] For now one can debate at length whether liability for climate losses is a sufficiently credible risk because of its complexity and the great many possible defences.[823] That only means that, for the time being, just mentioned risk is smaller; it still exists. *If* it materialises[824] it may bring the relevant (re)insurers to their knees. In addition, far reaching liability will affect the assets (investments) of (re)insurers. The assets of insurers are significant,[825] but they have been created – and are

819 California Department of Insurance, Trial by Fire, https://www.law.berkeley.edu/wp-content/uploads/2018/09/Trial-by-Fire-September-2018.pdf p. 33 and 34.

820 O.c. p. 55 ff.

821 Strikingly, Munich Re "will continue to insure all types of companies, taking into account an assessment of all risk aspects". This explicitly includes "coal-related businesses": Reuters, Munich Re sticks with coal underwriting despite investor pressure, https://www.reuters.com/article/us-munich-re-group-coal/munich-re-sticks-with-coal-underwriting-despite-investor-pressure-idUSKBN1JW1MY.

822 See f.i. Thomas McGarity, Sidney Shapiro, Karen Sokol and David Flores, Climate Justice, State Courts and the Fight for Equity, http://www.progressivereform.org/ClimateJustice.cfm p. 32.

823 See about defences Ina Ebert, Climate Change and Liability Insurance, in Helmut Koziol and Ulrich Magnus (eds), Essays in honour of Jaap Spier, p. 79 ff. Seen from a purely doctrinal angle her arguments certainly have a merit. But she is mistaken to believe that the law equates legal doctrine, even if it were the same around the globe. Over the centuries courts have tried to do justice and to interpret the law in line with the changing demands of society. Many climate cases decided around the globe illustrate this point. It would be wrong to label these judges as zealous activists. They do apply the law in a way that makes perfect sense and their interpretation is quite possible in light of a swiftly prevailing view, also fuelled by a series of statements and declarations by leading politicians; see in more detail sections 22.10 and 28. That is not to say that their interpretation cannot be challenged, but that unavoidably goes for any interpretations in novel cases which raise new questions.

824 There already is litigation about climate losses, although so far with limited success. The odds are against those who believe that litigation is a non-starter. See Jaap Spier, Strategies to keep global warming below 2 degrees and to avoid devastating liability, o.c.

825 See Statista, Largest insurance companies worldwide in 2018, by total assets, https://www.statista.com/statistics/270998/worlds-largest-insurance-companies-by-total-assets/.

often required by law – to meet their obligations under *all* insurance contracts, such as property, retirement benefits, life insurance.

The fears enumerated above illustrate the desirability of this Principle. It also entails another important advantage. Enterprises and their boards of directors may well change course if they realise that their liability is not, or no longer covered by insurance.[826] And that, if the worst comes to the worst, there is a fair chance that (re)insurers are unable to honour their financial commitments.

It is glaringly obvious that our stance also entails disadvantages. It may leave vulnerable or poor victims uncompensated.[827] In an ideal world, States should step in to provide solace to this group of victims. Micro-insurance[828] or insurance tailored at specific, well and narrowly defined losses, may also be the answer for small losses suffered by poor people in developing countries. These are interesting topics in their own right.

This principle is limited to *liability* insurance. The reason for this limitation is that the scope of liability is incalculable; it depends on too many uncertainties. That in itself is sufficient reason to be cautious.

Other insurance coverage

This principle leaves other modes of insurance (f.i. property) untouched.[829] First and foremost: these losses are difficult to calculate, but the uncertainties are of a different magnitude. Secondly and more importantly, coverage can be terminated much more easily: past losses are known; they do not depend on the development of the law. If losses are no longer insurable, insurers can refrain from future coverage; see for a caveat above under introduction. It is to be left to insurance regulators to deal with the niceties of this challenge. That being said, it would be useful if these regulators, or the insurance industry, would issue warnings that it cannot be taken for granted that property losses caused by climate

826 McGarity et al., o.c. p. 33 and 34.

827 That point is rightly emphasised by McGarity et al., p. 32.

828 See f.i. Michael Faure, in Michael Faure and Andri Wibisana (eds), Regulating disasters, climate change and environmental harm, p. 269 and 270.

829 A Lloyd's report shows the significant insurance gap: A world at risk, https://www.lloyds.com/news-and-risk-insight/risk-reports/library/understanding-risk/a-world-at-risk. See also The Geneva Association, Understanding and Addressing Global Insurance Protection Gaps, https://www.genevaassociation.org/sites/default/files/research-topics-document-type/pdf_public/understanding_and_addressing_global_insurance_protection_gaps.pdf p. 9 ff and California Department of Insurance, Trial by Fire, o.c. p. 1. See also Adam Morton, Climate crisis will make insurance unaffordable for people who need it most, https://www.theguardian.com/australia-news/2020/apr/28/climate-crisis-will-make-insurance-unaffordable-for-people-who-need-it-most.

change will be insurable in the future.[830] That could contribute to a willingness to accept even costly and inconvenient measures to come to grips with climate change.

Principle 45.2

This Principle speaks for itself. The rationale is that non-compliance exposes the relevant enterprises and their boards to liability.

Coal-fired power plants rarely comply with their obligations; see Principle 9.1. Swiss Re no longer provides insurance or reinsurance to enterprises with more than 30% exposure to thermal coal; Allianz has stopped insuring coal-fired power stations and coal mines.[831]

Principles 46 to 48: Obligations of accountants, credit rating agencies and attorneys: General commentary

Accountants, credit rating agencies and attorneys play an important role in present-day society. Enterprises and investors often need to rely on their expertise. They can majorly contribute to keep climate change below 1.75°C if they properly fulfil their contractual and fiduciary obligations. Principles 46 to 48 deal with their obligations.[832]

Clyde & Co puts it as follows:

> "As the nature and extent of climate risk to businesses becomes better understood, it is possible that lawyers, accountants and other professional advisers may face litigation for failure to provide strategic advice and recommendations which consider and integrate climate risk. Even financial advisers and auditors could be vulnerable to lawsuits if they are seen to have failed in their duty of care when carrying out due diligence prior to investments being made, or when audits are conducted."[833]

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830 See also Sandra Batten (Bank of England), Climate change and the macro-economy: a critical view, Staff Working Paper no. 706, https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2018/climate-change-and-the-macro-economy-a-critical-review.pdf p. 1; the subsequent pages discuss the (potential) impact of climate change. See about the challenges also Guy Debelle, Climate Change and the Economy, https://www.rba.gov.au/speeches/2019/sp-dg-2019-03-12.html.

831 Julia Pyper, Swiss Re Stops Insuring Businesses With High Exposure to Thermal Coal, https://www.greentechmedia.com/articles/read/swiss-re-stops-insuring-businesses-with-30-percent-exposure-to-thermal-coal. According to this article Allianz also "stopped insuring …. single coal-fired power plants and coal mines."

832 See f.i. Clyde & Co, Climate change: Liability risk for business, directors and officers, The coming wave of litigation, https://online.flippingbook.com/view/648937/.

833 Liability risks, o.c. p. 79 referring to a claim by ClientEarth.

Principle 46: Accountants

> "When risks are unknown or ill-defined, the market cannot allocate resources in an efficient and profitable way."[834]

Auditors have an important role towards their clients, investors and society at large.[835] The quote from the Global Chairman of PwC under Principles 27 to 34 illustrates that they firmly agree with this observation. Our approach has been reinforced in discussions with leading accountants.

They can only do a proper job if they have a clue about material elements for drafting reliable auditing reports. This requires due diligence to make at least a genuine effort to research the content of the relevant elements.[836]

To us, it belabours the obvious that this means that they have to figure out inter alia the legal obligations of enterprises, for the purpose of auditing the annual and other reports of enterprises they have to audit. Without a keen understanding of these obligations they cannot assess whether the relevant enterprises comply with their obligations, let alone the potential liability that comes with non-compliance.[837] There is reason to believe that many accountants currently do not have clue how to incorporate climate risk in their assessment.[838]

Figuring out the legal obligations of their auditees may be a challenge, but that does not relieve them from this obligation. F.i. they could seek expert opinions,[839] which does not mean that they can blindly rely on them.[840] See for elaboration section 22.12 and under Principle 48.

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834 Mark Carney, A Transition, o.c. p. 3.

835 See for the obligations towards third parties f.i. Hoge Raad (Netherlands' Supreme Court) 17 May 2019, ECLI:NL:HR:2019:744.

836 That, we believe, is also the key message of a letter from the NBA (Royal Dutch Professional Organisation of Accountants), Klimaat is financieel (Climate is financial), https://www.nba.nl/globalassets/projecten/kennis-delen-pmls/klimaat/publieke-managementletter-klimaat-januari-2020.pdf p. 7 and the recommendation on p. 17. See also EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, o.c. p. 58. See about the obligations of auditors from a comparative angle Helmut Koziol and Walter Doralt (eds), Abschlussprüfer, Haftung und Versicherung; all but one of the reports are in German.

837 See for elaboration under Principles 25 legal basis and 45 liability insurance.

838 NBA, Klimaat is financieel, o.c. p. 12.

839 For now we quite firmly believe that they are not under an obligation to provide these opinions to third parties. Even if there would be a legal basis for such an obligation, the consequences would be undesirable. It would mean that the opinions would become widely available at no cost to those who would ask for the opinions.

840 At any rate not if they are obviously mistaken. That will often be the case if they contend without much ado that the enterprise in point has no (relevant) obligations or that it complies with its obligations concerning climate change. There unavoidably is a grey zone, f.i. if the opinions beg many questions but are not *clearly* mistaken.

We would overstate our case by saying that auditors must apply the update; see section 25. They may arrive at the conclusion that it is mistaken in one, more or even all respects in which case they have to explain the alternative basis of their assessments.

As to the liability risk – a core element of auditing – we do not deny that it is not easy to determine the liability consequences of non-compliance. After all, that realm of the law is still in its infancy, although ever more central bankers, and experts believe that non-compliance creates a liability risk. At the very least they should make a best effort to determine the scope of the relevant risks. This view aligns with pressure by European investors managing assets worth more than 1 trillion GBP "to take urgent action on climate-related risks".[841]

Complying with this Principle entails the advantage that the board of enterprises will be encouraged to give genuine weight to the consequences of climate change on their activities.

Principle 47: Credit rating agencies

For credit rating agencies the arguments developed under Principle 46 apply mutatis mutandis. Of course their different role and responsibilities must be taken into account. The key issue is: they have to ascertain a proper basis for their ratings. That implies: they have to assess (compliance with) the relevant obligations and the liability risk if and to the extent they are not met. "CRAs should systematically integrate relevant ESG factors ... by ensuring that their ratings methodologies are fit for purpose, publicly available and fully integrate relevant ESG factors."[842]

See about compliance with our Principles under Principle 46.

841 Nasdaq, Exclusive, Big four auditors face investor calls for tougher climate scrutiny, https://www.nasdaq.com/articles/exclusive-big-four-auditors-face-investor-calls-for-tougher-climate-scrutiny-2019-11-29.

842 EU High-Level Expert Group on Sustainable Finance, Financing a Sustainable European Economy, o.c. p. 78. See for the desirability of this Principle IIGCC, Aligning Europe's financial system with the Paris Agreement, https://www.iigcc.org/resource/aligning-europes-financial-system-with-the-paris-agreement/ p. 6. A report by E3G et al., Accelerating Progress and Reaching Scale, aims at "specifying sustainability-related disclosure requirements for credit rating agencies, in terms of their ratings and methodologies in their creation" and "rating outlooks", https://shareaction.org/wp-content/uploads/2019/02/CSOstatement.pdf p. 7; we second that view. See more generally Nordic Credit Rating, Rating Principles, https://nordiccreditrating.com/pdf/Nordic%20Credit%20Rating%20-%20Rating%20Principles.pdf.

Principle 48: Attorneys

> "… many areas of legal practice now require knowledge and skills relevant to climate change. Climate change issues may be as relevant in small scale or mundane disputes as in mass liability claims."[843]

Enterprises increasingly seek legal opinions about their obligations in the face of climate change (the enterprises may formulate the questions differently because many of them do not want to admit that they (may) have such obligations).[844] That is in line with UN Guiding Principles 16 and 17 on Business and Human Rights, although not specifically about climate change. Bar Associations increasingly label climate change as an important issue for attorneys. The American Bar Association adopted a resolution urging

> "lawyers to engage in pro bono activities to aid efforts to reduce greenhouse gas emissions and adapt to climate change and to advise their clients of the risks and opportunities that climate change provides."[845]

Before (under Principles 24 to 26) we referred to the Hutley opinion and the submission that seeking legal advice may shield against liability. That, in turn, creates a responsibility for lawyers to issue state of the art opinions, which seems to belabour the obvious anyway. Complying with this obligation may be a challenge. Not every mistake or misinterpretation of "the law" will amount to negligence; see in more detail section 22.12. Opinions along the lines of "we do not have a clue because the law is unsettled" or complying with "the law" will usually suffice,[846] though completely true, will rarely be up to the standard. If lawyers do not have a clue about the issue in point, they should refer their clients to experts with a keen understanding of the relevant issue.

Lawyers' legal obligations concerning climate change is an emerging topic. It is discussed at length by Brian Preston. He contends that:

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843 Brian J. Preston, Implementing a climate conscious approach in daily legal practice, with further references, also and extensively about lawyers' ethical duties (under 3), https://www.monash.edu/__data/assets/pdf_file/0010/381979/Preston-Implementing-a-climate-conscious-approach-in-daily-legal-practice-Legal-Ethics-10.12.15.pdf for an earlier and more concise version.

844 The UN Human Rights Working Group on Business and Human Rights refers to "anecdotal records suggest[ing] that many companies do not have the necessary expertise to implement effective human rights due diligence, but that the right expertise can also be difficult to find externally", o.c. p. 6. The latter (the difficulty to find "the right expertise" externally) is probably mistaken in the realm of human rights law in general, but it may well be true in relation to climate change.

845 Resolution 111, o.c. first page.

846 The surprising position of the EU Commission, My business and human rights, o.c. p. 3 and 4, although in relation to human rights law in general.

> "[r]ecognising that addressing climate change depends on responses on a small scale, and that any legal action which involves climate change issues will impact on climate change policy, gives rise to a responsibility on lawyers to be aware of climate change issues in daily legal practice. It calls for a climate conscious approach rather than a climate blind approach. A climate blind approach is where the outcome of the legal problem or dispute will have some impact on climate change issues, but legal advice is given or the dispute is litigated or resolved without any attention to climate change issues. A climate conscious approach requires an active awareness of the reality of climate change and how it interacts with daily legal problems. A climate conscious approach demands, first, actively identifying the intersections between the issues of the legal problem or dispute and climate change issues and, secondly, giving advice and litigating or resolving the legal problem or dispute in ways that meaningfully address the climate change issues."[847]

If attorneys are fully involved in f.i. establishing a new factory they face a myriad of questions that require investigation, such as: is the land fit for the intended purpose and will it still be fit in at least the period of depreciation of the project (f.i. the risk of droughts if the manufacturing process requires a lot of water etcetera). Are the GHG emissions to be caused by the manufacturing process and the products or services in line with the enterprise's legal obligations? If they are involved in mergers and acquisitions they have to investigate the same risks. In addition they have to assess the liability risks of past and present emissions and of the products and services.[848]

Preston refers to a resolution issued by the American Bar Association which "urges lawyers … [to] advise their clients of the risks and opportunities that climate change provides."[849] The resolution "urges a greater role for lawyers in addressing climate change" compared with the 2008-resolution.[850] He also refers to a roundtable comment by the former Australian High Court Judge Kenneth Haye to the same effect.

Michael Kirby goes a step further. In his view an arbitral tribunal would have to raise *unargued* or unexpected environmental or public policy concerns of their own initiative if the parties have "agreed to a settlement and have requested an award to give effect to their agreement".[851]

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847 Implementing, o.c.; see also Kim Bouwer, The Unsexy Future of Climate Change Litigation, Journal of Environmental Law, 2018, 30, 483-506.

848 Preston, Implementing o.c.

849 Resolution 111, o.c. adopted August 12-13, 2019 p. 1.

850 As previous footnote, p. 2.

851 O.c. at 192.

It will depend on the relevant legal system whether attorneys have an obligation towards the world at large, solely their client or a more or less restricted additional group of entities.[852] See also the commentary to Principles 24 to 26.

Principle 49: Exceptions for hard cases

The law as enshrined in laws, treaties and – in common law countries – precedent may be fair in most instances, but there are unexpected and unforeseen scenarios and cases where strict application of "the law" is unfair. That also goes for our Principles. We have discussed and contemplated a series of cases and scenarios, but no doubt we have not been perspicacious enough. Practitioners from the bench and the bar know from experience that time and again unanticipated cases pop up. They are often hard cases – hard in several respects. First, because strict application of "the law" would end up in an inequitable result. Secondly, because fiddling with "the law" may do justice in the case in point but may open a Pandora's box, thus undermining the essence of the rule in point.

There is no panacea for this universal problem. So we confine ourselves to a few general observations.

We hope that our Principles will fall on fertile ground and that they will be endorsed and applied by enterprises, investors, academia and, need would be, by courts. But we realise at the same time that there is and should be an escape if equity clearly requires so in a specific case. We emphasise "clearly". If each single case would have to be judged on its own merits, the law would be(come) unpredictable. That would do a lot of damage to society, particularly in the context of climate change. It is essential that key players know what they must do and why; without this knowledge they are effectively unable to take the necessary measures. Justice tailored to the needs of each single case sacrifices legal certainty and predictability in a specific case. Hence, we hope that our Principles will be widely

852 See f.i. Hoge Raad 17 January 2020, ECLI:NL:HR:2020:61. An attorney has first and foremost to serve the interests of his client. That leaves untouched that he may also have obligations towards third "parties" if he realises, or should have realised, that his service towards his clients has an unacceptably adverse impact on the formers' interests. We are inclined to believe that this "rule" implies that attorneys have obligations towards third parties if they realise or should have realised that third parties rely on their information, f.i. in case of legal opinions incorporated in documents such as prospectuses in relation to mergers and acquisitions or financial instruments such as (green) bonds. The law may develop into creating obligations towards third parties in case of legal opinions about an enterprise's obligations in the face of climate change. If the opinion is mistaken by all reasonable standards, in that the relevant attorney could not reasonably have thought the opinion to be right, the attorney may have violated his obligations towards third parties, for practical purposes society, which could open the floodgates. In such a scenario the law of torts and damages has to answer the question whether and, if so, to what extent, victims can claim compensation for their losses caused by climate change. For the time being such indeterminate liability of lawyers is not overly likely, but things may change sooner than they may expect.

applied until others have come up with a more appealing and legally sound set of principles and/or superior courts have developed case law that provides enough certainty to enterprises and investors on how to act in the face of climate change.

All this said, we believe that our Principles, like all other realms of the law, should be applied with common sense. There are instances where strict application does not make sense and would be contrary to the spirit of the drafters.

The great majority of our Principles provide some – and at times quite some – flexibility. This flexibility, however, may not suffice in specific cases. In such a scenario this Principle brings solace. The yardstick, however, is strict: "manifestly unreasonable". Hence, if interpretation does not offer a solution because that would be downright against what the text says, only exceptional circumstances justify not applying it.

This Principle speaks of "unforeseen and unexpected". As a rule, Principle 49 cannot be invoked if the Principles deliberately have opted for a specific "rule". In exceptional cases this Principle can even be invoked if the consequences of the "rule" were acknowledged. Under Principle 1, definition of "enterprise", we discussed the case of a charity offering hospital services at bottom prices or even less if it has funds of its own. The low price makes these services affordable to the less privileged. If the hospital would have to comply with, say, Principle 2.1, it would either have to close its doors or to increase the price which would make the services unaffordable to poor people. The more attractive solution to this problem would be to argue that it does not carry out a commercial activity; see the commentary to the definition. Alternatively, Principle 49 could offer solace in spite of the fact that the adverse consequences of the definition of enterprises were acknowledged.

The EP did not contain a specific Principle on hard cases, but the commentary acknowledges that there should be an exception for such cases.[853]

Finally

> "If an ark may be essential for survival, begin building it today, no matter how cloudless the skies appear".[854]

The skies are by no means cloudless. No tangible progress is to be expected if those at the wheel – politicians, business leaders, and the top of the financial world – continue to turn

853 P. 98/99.

854 Peter Cripps, Could The Great Warren Buffet be wrong when he says insurers don't need to worry about climate change, https://www.environmental-finance.com/content/analysis/comment-could-warren-buffett-be-wrong.html.

a blind eye to the consequences of their crash course with nature and humankind.[855] In her dissenting judgment in *Juliana v US*, Judge Staton said

> "When the seas envelop our coastal cities, fires and drought haunt our interiors, and storms ravage everything between, those remaining will ask: Why did so many do so little?" adding that "history will not judge us kindly".[856]

Admittedly, there still are uncertainties, such as: which climate scenario will unfold, how will the melting of the polar ice develop? Forecasts that "[e]ven under an optimistic scenario" "Madrid's climate in 2050 will resemble Marrakech's climate today, Stockholm will resemble Budapest, London to Barcelona, … Tokyo to Changsha"[857] may or may not materialise, but this much is glaringly obvious: the future looks grim. To be precise: under all relevant scenarios. But "grim" still includes a range of scenarios from inconvenient but doable up to humanity having barely a chance to survive.

At some stage technology *may* solve part of the problem, but it is at best uncertain whether technology can counter the consequences that will already have materialised when a tipping point is passed. Hence, we fully second the view of the Dutch Supreme Court that it is irresponsible to bet on the availability of such technology.[858]

We are in the dark about the exact amount of losses of all kinds if we are unable or unwilling to curb GHG emissions significantly; losses to nature, the number of people doomed to die, and the financial repercussions. But we do not need to tell the fortunes with great precision to realise that business as usual is irresponsible.

Some countries and some enterprises have taken the lead. They are a shining example to others. Others, again, have curbed the emissions per caput and/or per unit of product, in some instances at a staggering rate. These achievements can only be applauded, but most measures fall significantly short of what needs to be done. We cannot but reiterate: global emissions were still rising until the corona crisis started scourging our planet.

We do not expect that our Principles and this update will save the world. However, we do hope that they will *contribute* to that goal. Even if only part of the business community, either or not challenged by politicians, investors, supervisory institutions, courts or NGOs, would be willing to comply with part of the update, a lot would be gained. That, in present day's world, would already be a major step forward.

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855 It follows from what has been said throughout the commentary that there are exceptions, particularly so in the investment community; some enterprises also do a fantastic job.

856 http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2020/20200117_docket-18-36082_opinion.pdf p. 64.

857 J.F. Bastin et al. (2019), Understanding climate change from a global analysis of city analogues, PLOS One, 14(10): e00224120, https://doi.org/10.1371/journal.pone.0224120.

858 Hoge Raad 20 December 2019, ECLI:NL:HR:2019:2007 legal ground 7.2.5.

Precisely because we realise that our Principles and this update are not the ultimate answer, we strongly support and encourage other initiatives aimed at the same goal: to keep global warming as close to 1.5°C as possible.

The previous version of the commentary concluded saying: "We only have to perform". On a similar note our current message is: all of us, those at the wheel and those in less influential positions, must perform. At some stage, those who do not will be confronted with the sword of the law which might well be an unpleasant confrontation. That confrontation may be unavoidable, but it will not change the climate. That can only be saved by courageous and far-reaching measures, taken right now.

At the occasion of COP 25 the UN Secretary-General Guterres rhetorically asked:

> "Do we really want to be remembered as the generation that buried its head in the sand, that fiddled while the planet burned?"

He subsequently notes that "[w]e have the tools, we have the science, we have the resources" to honour the "solemn promise" "through the Paris Agreement". He concludes:

> "To do anything less will be a betrayal of our entire human family and all the generations to come".[859]

We could not agree more.

Precisely for the reasons mentioned in section 7 we felt obliged to align our Principles with the most recent insights from, for our purpose, all relevant angles. We realise only too well that compliance with our Principles is demanding. It requires sacrifices. If we do not act, or not to the extent needed, we can perhaps still escape our self-inflicted fate but the price – an astronomically high price – will have to be paid by the young and future generations. That is so fundamentally unfair that any hope that such a stance is reconcilable with the law as it stands and will develop is idle.

At the end of the day the sword of the law will shape legal obligations to keep global warming below fatal thresholds, or, if no longer feasible, to stay as close as possible to these thresholds. We strongly believe that these obligations will not be significantly different from our update. They will get ever more stringent if society at large is unwilling to embark on a path of responsibility; see section 27.

At the Davos World Economic Forum Prince Charles eloquently reminded us:

859 COP speeches, https://unfccc.int/process-and-meetings/conferences/un-climate-change-conference-december-2019/speeches-and-statements-at-cop-25.

"what good is all the extra wealth in the world, gained from "business as usual", if you can do nothing with it except watch it burn in catastrophic conditions…. We simply cannot waste any more time – the only limit is our willingness to act, and the time is right now."[860]

860 O.c.

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