INVESTOR BRIEFING

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Woodside Petroleum (ASX: WPL) & Santos (ASX: STO)

Woodside and Santos appear to be misleading investors with claims to support the Paris Agreement's climate goals. Both companies' plans are consistent with the world failing to meet the Paris goals.

At the upcoming Woodside and Santos AGMs, investors are urged to vote:

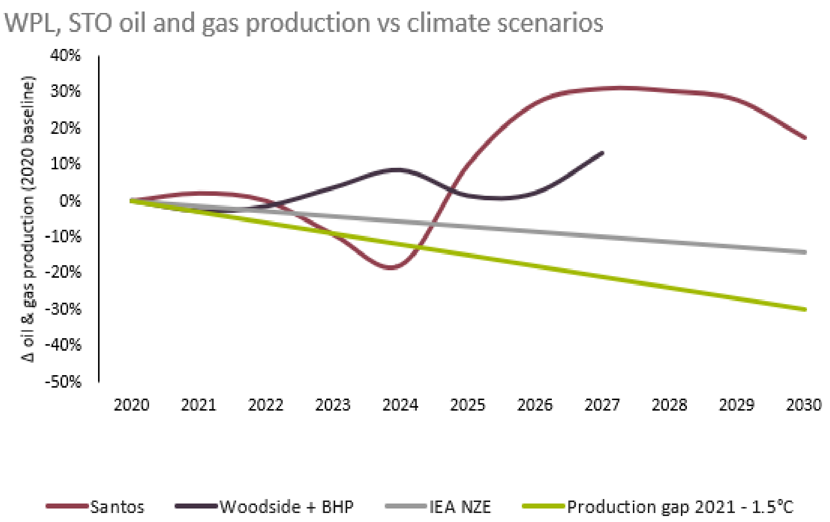
- **FOR the 'Capital Protection' shareholder proposals (see page 11).**
- **AGAINST the companies' own climate change reporting resolutions.**
- **AGAINST the Chairs of each company's Sustainability Committee.**

Executive Summary

Despite repeated investor demands to align capital expenditure, production and emissions plans with the Paris climate goals, Woodside and Santos have moved in the opposite direction, increasing exposure to climate transition risks through new projects and mergers to ramp up production:

- Woodside plans to increase (combined Woodside and BHP) production by ~13% (2020-2027).
- Santos plans to increase (combined Santos and Oil Search) production by >17% (2020-2030).

As shown in the chart below, these planned production increases are in direct contradiction to the declines required to align with the International Energy Agency's (IEA) Net Zero by 2050 Scenario (NZE) and the Paris climate goals.



Market Forces analysis of STO and WPL reporting

NOTE: All dollar figures in USD unless otherwise stated. Any conversions as at 16 March 2022.

Even using conservative estimates and assuming full implementation of Woodside and Santos' greenhouse gas reduction targets, these companies' increasing production plans are likely to see their overall emissions increase over the next 5-10 years:

- Santos' annual emissions are likely to sit more than 25% above a combined Santos and Oil Search 2020 baseline through 2026-2029.
- Woodside and BHP Petroleum's combined annual emissions from production are likely to increase by at least 11% from 2020 to 2027.

These production and emissions projections may be conservative, as they exclude the potential impact of a number of major growth projects currently being pursued by Santos and Woodside.

- Santos and Woodside (including BHP Petroleum) are currently pursuing growth projects with capex costs amounting to >60% of their current market capitalisation.

Demand for Woodside and Santos' products is expected to decline significantly under the NZE, leaving no room for new projects. In the NZE:

- Australia's LNG exports fall 25% below 2020 levels by 2030, and halve by 2035.
- Global oil demand falls more than 4% per year on average between 2020 and 2050.
- *"The rapid drop in oil and natural gas demand in the NZE means… no new oil and natural gas fields are required beyond those that have already been approved for development"*.

Beyond clearly contravening the IEA's key conclusion that there is no room for new oil and gas production projects in the pathway to net-zero emissions by 2050, **many new projects being pursued by Santos and Woodside are likely to be stranded in a net-zero by 2070 scenario, and some are even not competitive in a catastrophic 2.7°C warming scenario.**

Demonstrating the recklessness of Woodside and Santos' production plans, and the immense stranded asset risk facing investors, **both companies adopt oil price assumptions for the purposes of impairment testing that are almost double those projected under NZE by 2030**.

Emerging Asia will not replace Paris-aligned LNG demand falls in current markets. More than 62% of proposed LNG import terminal capacity and 61% of proposed gas-fired power capacity is unlikely to be built due to unfavourable project and country market fundamentals, and financial market constraints.

After similar resolutions at the 2021 Santos and Woodside AGMs received 13% and 19% support respectively, both companies have acted to increase their exposure to climate-related financial risks. Investors must therefore increasingly take this critical opportunity to demand these companies change course. Rather than pouring billions of dollars into new and expanded oil and gas production projects, Santos and Woodside must align their capital allocation plans with the expectations investors have been demanding for years, such as consistency with the Paris Agreement and net-zero by 2050 goals.

Paris climate goals mean no new oil and gas

Demand for Woodside and Santos' products is expected to decline significantly under net-zero by 2050 and Paris-aligned energy scenarios, leaving no room for new projects.

Woodside's current revenue mix is dominated by LNG (77% of 2021 revenue), with oil (10%) and condensate (9%) the other significant contributors. BHP Petroleum doesn't provide a revenue breakdown, but its production mix is 38% oil, 55% gas, and 7% natural gas liquids.

Santos' 2021 sales revenue comprised 47% gas sold to the domestic (Australian) market, 27% LNG, and 15% oil, with the remainder from condensate and LPG.

Both Santos and Woodside are pursuing major new LNG and oil projects, and see LNG sales as the key driver of their future performance.

The International Energy Agency's (IEA) seminal Net-Zero Emissions by 2050 Scenario (NZE) – which should be regarded as bullish on future fossil fuel demand as it relies heavily on unproven negative emissions technology and aims for a 50% chance of limiting global warming to 1.5°C – concludes:

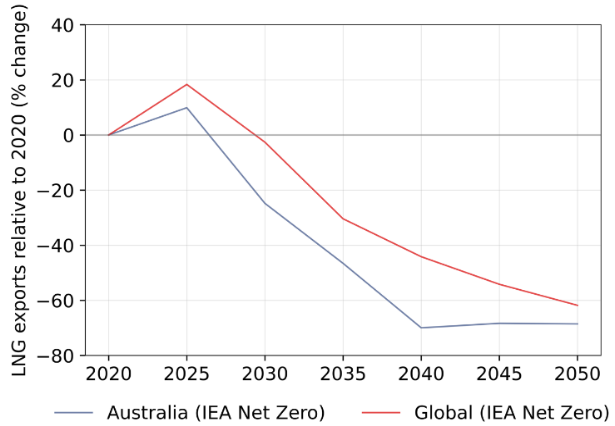
> *"The rapid drop in oil and natural gas demand in the [Net-Zero Emissions by 2050 Scenario] means… no new oil and natural gas fields are required beyond those that have already been approved for development."* International Energy Agency, Net Zero by 2050

The NZE also projects sharp declines in demand for Santos and Woodside's products:

- Australia's LNG exports fall 25% below 2020 levels by 2030, and halve by 2035 (below left).
- Global oil demand falls more than 4% per year on average between 2020 and 2050 (below right).

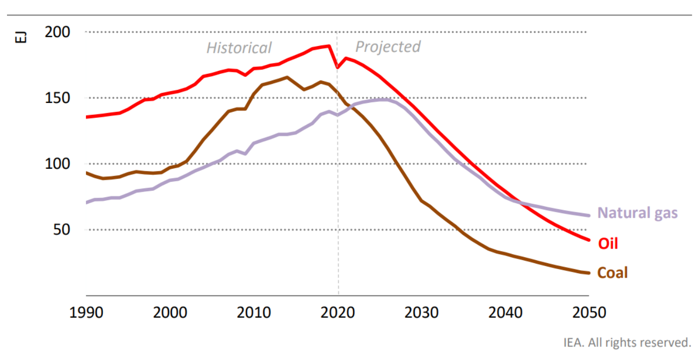
Other scenarios with less reliance on unproven negative emissions technologies and a higher chance of achieving the Paris Agreement's 1.5°C goal project demand to fall even faster. Analysis of such scenarios (next page) shows combined oil and gas production must fall 30% from 2020 to 2030, and 54% by 2040.

Relative change in global and Australian LNG exports post 2020 in NZE

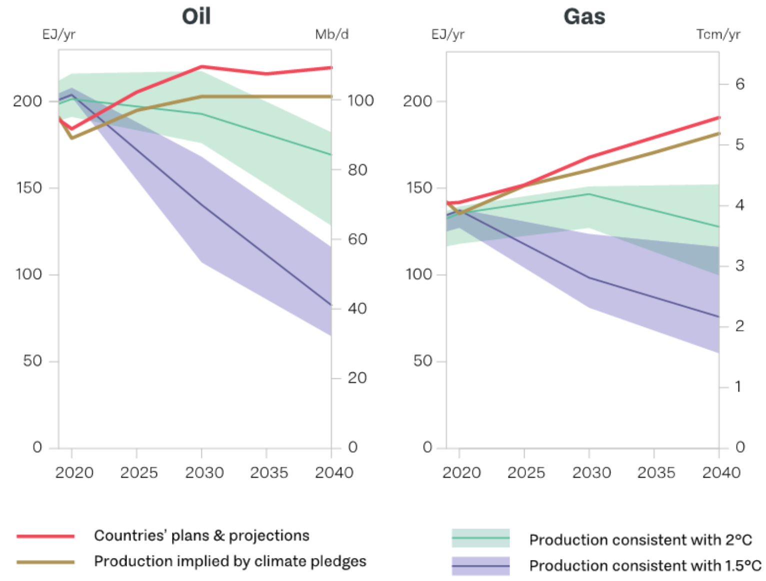


Climate Analytics Why gas is the new coal

Coal, oil and gas production in NZE



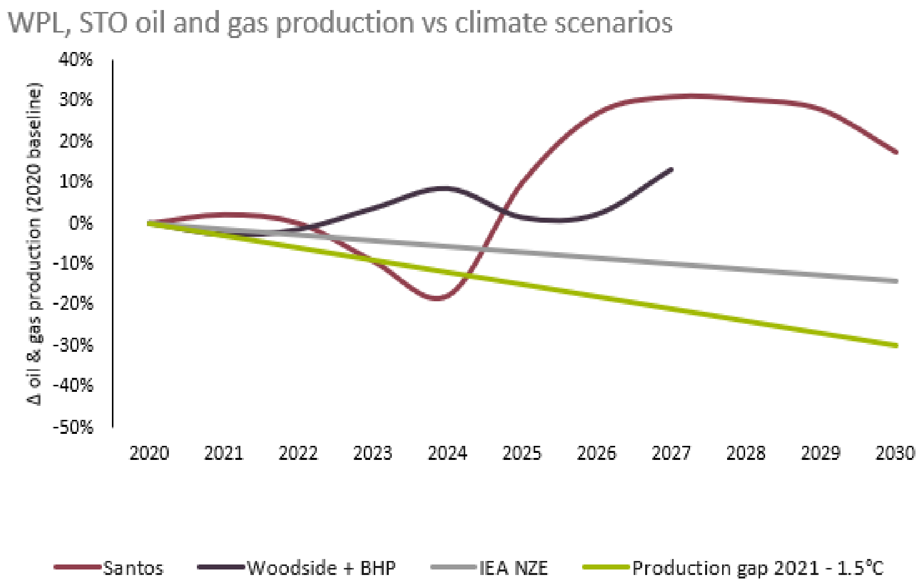
IEA, Net Zero by 2050



SEI, IISD, ODI, E3G, and UNEP, [Production Gap 2021]

Increasing production incompatible with climate goals

Despite the oil and gas demand declines projected under NZE and the IPCC's 1.5°C scenarios, Woodside and Santos are planning to significantly increase stranded asset risk exposure by ramping up production. These planned production increases are in direct contradiction to the declines required to align with the NZE and Paris climate goals, as depicted in the chart below.



Market Forces analysis of [STO] and [WPL] reporting

As shown above, Woodside [plans] to increase (combined Woodside and BHP) production by ~13% from 2020 to 2027. Other growth options could add significantly to the merged company's production capacity.

The Trion oil project, which BHP plans to have final investment decision (FID) ready by mid 2022, would add capacity equivalent to an extra 11% on 2020 production, while Browse could add a further 14%.

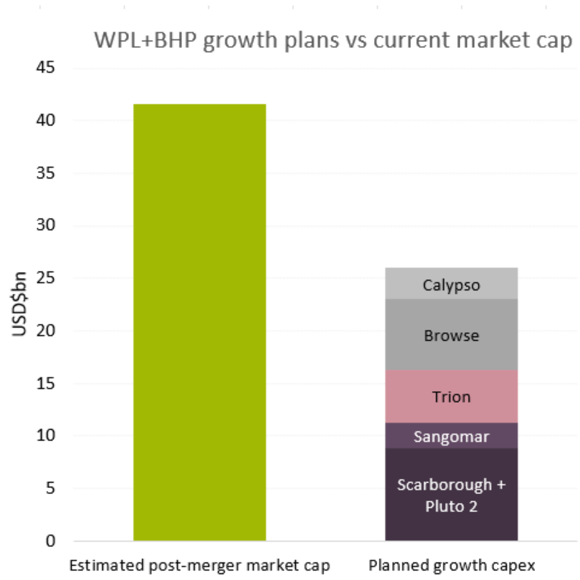
Taking the conservative production scenario produced by Grant Samuel for the Santos and Oil Search merger Scheme Booklet, the newly merged company is planning to increase combined production by at least 17% from 2020 to 2030. This excludes the potential start up of Santos' P'nyang LNG project, which the company is pushing ahead with, and could bring 2030 production to 58% above the 2020 baseline.

60% of companies' market value slated for new oil and gas

New oil and gas projects being pursued by Woodside and Santos would represent billions of dollars of shareholder capital being bet against the climate goals of the Paris Agreement, with each company's potential growth capex amounting to >60% of their current market capitalisation.

Recent FIDs on Scarborough-Pluto and Sangomar have seen Woodside commit ~$10bn of capex to new oil and gas projects, while the BHP merger could see a further $4-5bn spent on sanctioned oil and gas projects. If the newly merged company sanctioned all available project options, it could be spending about $26bn to 2030 on expansionary oil and gas projects that are incompatible with the Paris climate goals.

Santos has committed $1.8bn to the Barossa gas project, and is actively pursuing a further ~$13bn of capex on new projects that are incompatible with Paris.



Market Forces analysis of STO and WPL reporting; Market cap as at 16 March 2022

Beyond clearly contravening the IEA's key conclusion that there is no room for new oil and gas production projects in the pathway to net-zero emissions by 2050, a number of independent analyses reveal how significantly out of line both companies' expansion plans are with global climate goals, and the major stranded asset risks they face.

Woodside

In December 2021, Woodside announced its FID to proceed with the $12bn Scarborough-Pluto 2 project, consisting of a $5.7bn greenfield offshore gas field (73.5% WPL, 26.5% BHP) and the new $5.6bn onshore Pluto 2 LNG train (51% WPL, 49% GIP). Assuming the BHP merger proceeds, Woodside plans to spend $8.9bn on Scarborough-Pluto (pre-merger WPL share $6.9bn, BHP ~$2bn), which multiple independent analyses have found is incompatible with Paris and a net-zero by 2050 scenario.

Climate Analytics concludes the Scarborough-Pluto project:

- "Represents a bet against the world implementing the Paris Agreement", and
- "Is not 1.5°C consistent and consequently is a major stranded asset risk".

Carbon Tracker finds the project risks being stranded in even higher warming scenarios: "Pluto Train 2 is not competitive even in the [IEA's 2.7°C warming scenario] STEPS – that is, a world that utterly fails to decarbonise – meaning the deal with BHP is likely going to trigger Woodside to sanction one of its worst assets, increasing risk for its investors."

Scarborough-Pluto is not the only multi-billion dollar bet Woodside is making against climate action. The company increased its stake in the Sangomar offshore oil project in Senegal to 82% in July 2021. Sangomar is targeting first oil in 2023, with the first phase aiming to produce 230 million barrels.

Carbon Tracker has identified the $4.6bn Sangomar project as number three of the five largest oil projects sanctioned in 2020 that are incompatible with IEA's Sustainable Development Scenario (SDS; aligned with net-zero by 2070), let alone a net-zero by 2050 scenario.

Santos

New oil and gas projects being pursued by Santos include:

- Barossa LNG (Santos share of capex: ~$1.8 billion).
- Narrabri coal-seam gas (Santos share of capex: ~$650 million, noting Santos interest now 100%).
- Dorado oil (Santos share of capex: ~$1.5 billion).

Independent analyses have found all three of these projects incompatible with the global climate goals Santos claims to support. Investment in these projects therefore equates to Santos betting shareholder capital against the achievement of those goals.

The extremely high CO_2 content of the Barossa field has led energy experts to state the project is "a CO_2 emissions factory with an LNG by-product". IEEFA concludes, "Santos' proposed Barossa to Darwin LNG development would be both a major financial risk and a serious climate risk for all if it were to go ahead".

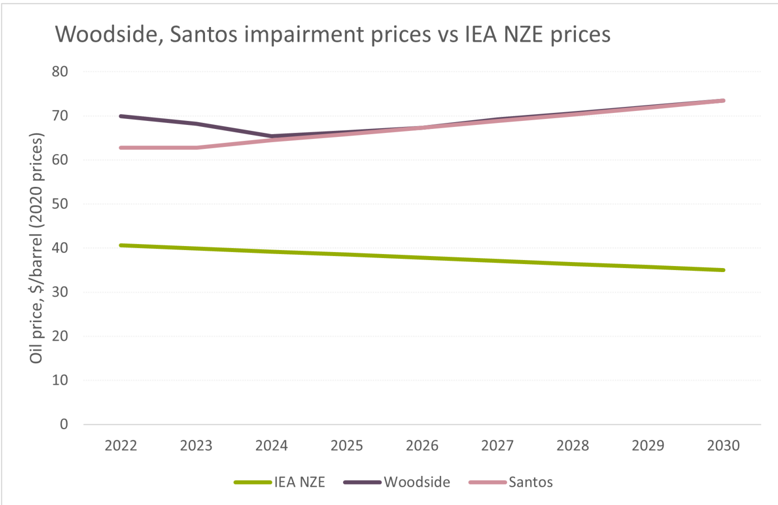
Former Australian Chief Scientist Penny Sackett has confirmed Santos' proposed Narrabri gas project is incompatible with the Paris Agreement and net-zero by 2050.

Carbon Tracker has found Dorado, for which FID is planned in 2022, is incompatible with even the IEA's net-zero by 2070-aligned SDS, let alone the far more constrained demand profile imposed by the NZE.

Oil Search's plans and climate risk liabilities, which Santos has now taken on, involved increasing production by >80% from 2020 to 2030. Carbon Tracker found 81% of Oil Search's business-as-usual capex would fall outside the net-zero by 2070-aligned SDS. Santos has therefore adopted the plans of another company spending the bulk of its capital on activities consistent with the failure of the Paris goals.

Unreasonably optimistic price assumptions

Santos and Woodside's willingness to pursue highly risky and expensive new production projects can be partly attributed to their unreasonably optimistic commodity price assumptions. **The oil price assumptions used by Santos and Woodside in their most recent annual reports for the purposes of impairment testing are almost double those projected under NZE by 2030.**



WPL & STO 2021 Annual Reports; IEA, Net Zero by 2050

Downward revisions of these assumptions have cost pre-merger Santos over US$8.6 billion in impairments since 2014, and pre-merger Woodside over $6.5 billion in impairments since 2015, clearly **demonstrating the risk of massive value destruction facing Woodside and Santos shareholders**.

Santos's 2019 annual report assumed a long-term oil price of $70/bbl (2020 real). This figure was revised down to 62.50 in July 2020, resulting in a $756 million write down. Woodside's 2019 annual report assumed a long-term oil price of $72.5/bbl (2020 real). This figure was revised down to $65 in July 2020, leading to a $5.3 billion write down. By comparison, BP uses a long term oil price of $55/bbl. Shell uses $60/bbl, and has provided sensitivity analysis showing an even less ambitious climate action scenario than NZE could wipe $33 billion from the carrying amount of its fossil fuel assets.

Current and prospective markets set to decline

The immense stranded asset risk facing Woodside and Santos due to the energy transition required to meet the Paris climate goals and reach net-zero emissions by 2050 **is becoming increasingly likely to materialise**, with key markets rapidly moving to align policy with these global climate goals.

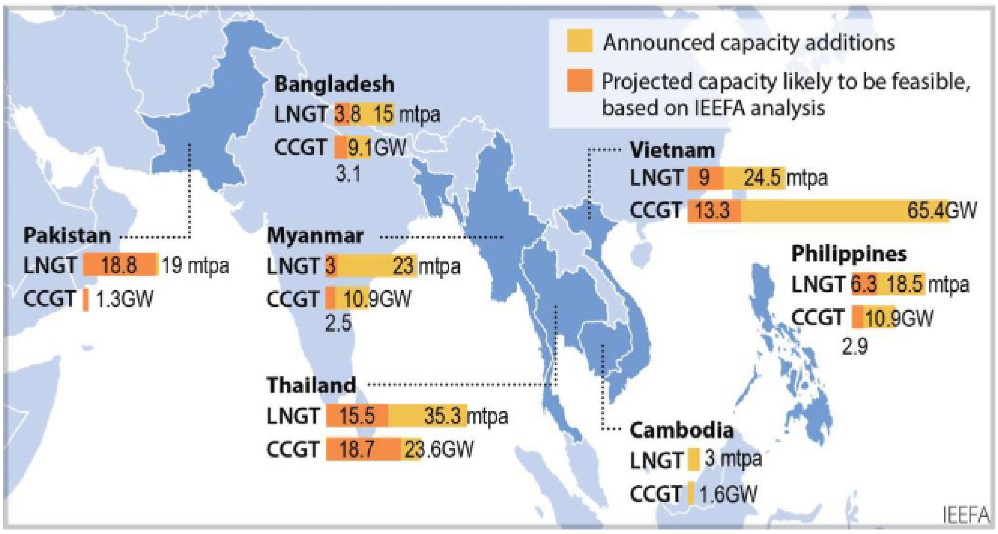
Sales to Asia dominate Woodside and Santos' revenue streams, while Japan (38%), China (37%) and Korea (11%) make up the vast majority of Australian LNG export values. These key markets are acting to decarbonise their energy systems.

Renewables are already providing the largest proportion of new energy capacity additions in China and Japan. Japan intends to reduce the proportion of energy produced by LNG from 37% in 2019 to 20% in 2030. Similarly, Korea plans to reduce LNG's proportion from 27% in 2018 to 19.5% in 2030.

The Australian LNG industry claims importers in emerging Asia will drive demand growth. However, these markets are unable to replace the demand falls required in Woodside and Santos' current markets in any Paris-aligned scenario. Even excluding climate policy, IEEFA analysis examining the proposed pipeline of LNG-to-power projects in Vietnam, Thailand, the Philippines, Cambodia, Myanmar, Pakistan, and Bangladesh has found 62% of proposed LNG import terminal capacity and 61% of proposed gas-fired power capacity is unlikely to be built due to unfavourable project and country market fundamentals, and financial market constraints.

Further, a CSIRO study – commissioned and then withheld from the public by Woodside – found increasing Australian gas supply could prolong coal, displace renewables and increase emissions in Asia, contradicting Woodside and the broader Australian gas industry's repeated claim that increasing LNG exports would reduce emissions by displacing coal in Asia.

Likely feasibility of proposed LNG capacity additions in emerging Asia



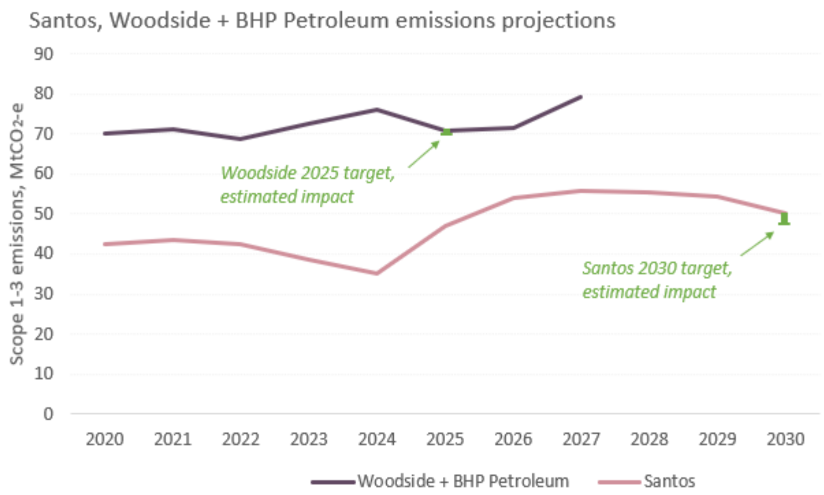
IEEFA, Examining Cracks in Emerging Asia's LNG-to-Power Value Chain

Climate targets little more than greenwash

Santos and Woodside appear to be misleading investors with claims to support the Paris climate goals, as both companies' increasing production plans are likely to see their emissions increase over the next 5-10 years.

Taking the companies' own production projections, applying conservative assumptions where required, and assuming the companies fully implement their emissions targets, our analysis shows:

- Santos' annual emissions are likely to sit more than 25% above a combined Santos and Oil Search 2020 baseline through 2026-2029, before falling back to 10% above 2020 levels in 2030 (assuming the P'nyang LNG project does not commence by then).
- Woodside and BHP Petroleum's combined annual emissions (from production, excluding Woodside's traded LNG business) are likely to increase by at least 11% from 2020 to 2027.



Market Forces analysis of STO and WPL reporting. WPL emissions exclude traded LNG business.

As shown on the chart above, the companies' inadequate emission reduction targets are dwarfed by the scale of their overall emissions. And even these miniscule reductions rely heavily on offsets and carbon capture and storage, which investor groups recognise "are generally not considered credible approaches."

Woodside's targets (15% reduction by 2025 and 30% by 2030, from average 2016-2020 baseline) only apply to its scope 1 and 2 emissions, excluding the ~90% of its emissions categorised as scope 3. As shown on the chart above, Woodside's 2025 target (equally applied to the BHP assets) would actually result in a reduction in overall emissions of less than 1% on 2020 levels, before increasing again along with production in later years.

Santos' target to reduce emissions by 26-30 per cent by 2030 similarly excludes scope 3, meaning its impact is insufficient to reduce overall emissions, which will still be at least 10% above 2020 levels in 2030. Santos also has a poorly defined target to "work with customers to reduce their Scope 1 and 2 emissions by more than one million tonnes CO_2e per annum by 2030". Assuming this actually results in a

1Mt reduction in Santos' scope 3 emissions in 2030 – which is extremely generous to Santos given the vague wording of the commitment – the decrease is still not enough to offset the emissions increase under even Santos' conservative production scenario.

Accusations of greenwashing are already raising legal risk for Santos and its shareholders. A current Australian Federal Court case alleges Santos engaged in misleading and deceptive conduct by claiming to have a "clear and credible pathway to achieve net zero emissions by 2040", but failing to "disclose that it has firm plans to increase its greenhouse gas emissions by developing new or existing oil and gas projects". Like Santos, Woodside's increasing production plans also undermine its climate claims, raising potential legal and regulatory risks for shareholders.

Santos, Woodside falling foul of investor initiatives and expectations

Numerous investor initiatives and specific investor demands have called on Woodside and Santos to align capital expenditure, production and emissions plans with the Paris climate goals.

At these companies respective prior AGMs:

- In 2020, 43% of Santos 50% of Woodside shareholders voted FOR the companies to produce scope 1, 2, and 3 emission targets, and exploration and capital expenditure plans aligned with the Paris Agreement in 2020.
- In 2021 13% Santos and 19% of Woodside shareholders voted FOR the company to manage down oil and gas production in line with the Paris Agreement.

Votes in favour of these previous resolutions, and the 'Capital Protection' resolutions to be voted on this year, are consistent with the demands and expectations set by many investor initiatives, including:

- Climate Action 100+'s demand that target companies will "align future capital expenditures with the Paris Agreement's objective of limiting global warming to 1.5° Celsius".
- IIGCC Net Zero Standard for Oil and Gas' expectation that "Companies should confirm that their investment strategy is aligned with net zero and set out the assumptions (oil price, carbon tax, depletion rates etc) underpinning that conclusion". IIGCC also notes a "'wind-down'… strategy is a legitimate approach to reaching net zero for all oil and gas companies".
- IGCC's expectation that companies set sector-specific commitments and actions aligned with 1.5°C, including for the oil and gas sector to reduce scope 3 emissions/fossil fuel sales by decreasing production in both medium- and long-term targets.
- The Net Zero Asset Managers initiative, which has seen investors with USD57.5 trillion in assets under management commit to "supporting the goal of net zero greenhouse gas emissions by 2050 or sooner, in line with global efforts to limit warming to 1.5 degrees Celsius; and to supporting investing aligned with net zero emissions by 2050 or sooner".

Investor action required

In the face of accelerating policy, market and investor commitments towards achieving net-zero emissions by 2050, the 'Capital Protection' shareholder resolutions seek to avoid the financial shocks of stranded assets, wasted capital and unpredictable revenues. They are also intended to ensure Santos and Woodside meet their environmental rehabilitation obligations and responsibilities to a just transition for staff. The disclosures requested would outline a scenario that avoids sudden unplanned job losses as a result of market shocks as the global energy system decarbonises, giving employees an opportunity to be retrained, financially supported and assisted in finding future employment.

Given the inadequacy of the companies' current climate plans, which will result in their total emissions increasing, and exacerbate the risks of future impairments and exposure to stranded assets, votes against Woodside and Santos' own climate change reporting resolutions are required. As set out in the Woodside Sustainability Committee Charter and the Santos EHS&S Committee Charter, these committees are responsible for monitoring and reviewing each company's approach to climate change. The failures outlined in this briefing also warrant votes against the Chairs of each of these committees (Peter Hearl [STO] & Ann Pickard [WPL]), who are both up for reelection.

At the upcoming Woodside and Santos AGMs, investors are urged to vote:

- **FOR the 'Capital Protection' shareholder proposals.**
- **AGAINST the companies' own climate change reporting resolutions.**
- **AGAINST the Chairs of each company's Sustainability Committee.**

Resolution: Capital protection

Shareholders note the company's support for the climate goals of the Paris Agreement,[1] along with the publication of the International Energy Agency's Net-Zero Emissions by 2050 Scenario,[2] and the Climate Action 100+ company assessment.[3] Shareholders therefore request the company disclose, in subsequent annual reporting, information that demonstrates how the company's capital allocation to oil and gas assets will align with a scenario in which global energy emissions reach net-zero by 2050, facilitating the efficient managing down of these assets.

This information should include:

- Production guidance for the lifetime of the company's oil and gas assets;
- Plans and capital expenditure expectations for decommissioning and rehabilitating oil and gas asset sites;
- Plans and provisions for supporting staff to transition to future employment following oil and gas asset closures; and
- Details of how remaining value in the company's oil and gas assets will be redeployed or returned to investors.

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[1] Woodside: https://www.woodside.com.au/docs/default-source/investor-documents/major-reports-(static-pdfs)/2020-full-year-results-and-annual-report/2020-woodside-annual-report.pdf 43; Santos: https://www.santos.com/wp-content/uploads/2021/12/Climate-Change-Policy.pdf

[2] https://www.iea.org/reports/net-zero-by-2050

[3] Woodside: https://www.climateaction100.org/company/woodside-energy/; Santos: https://www.climateaction100.org/company/santos-limited/