INVESTOR BRIEFING

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10 March 2023

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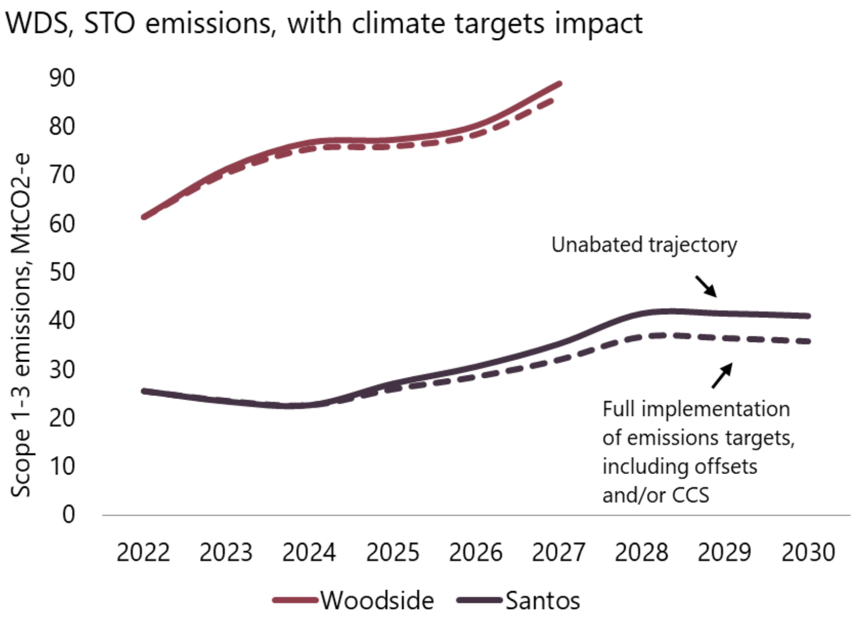
Woodside Energy (ASX: WDS) & Santos (ASX: STO)

Despite repeated investor demands to align with global climate goals – including votes of 49% and 37% against their respective climate plans last year – Woodside and Santos' strategies remain reliant on increasing oil and gas production.

Even assuming full implementation of Santos and Woodside's utterly inadequate emission reduction targets, these companies' increasing production plans are projected to see:

- Santos' annual emissions increase by 40% from 2022 to 2030
- Woodside's annual emissions increase by 40% from 2022 to 2027.



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

As highlighted by activist investment and advisory firm Snowcap's recent 'Reform Santos' campaign, oil and gas producers should be prioritising capital returns to shareholders, rather than wasting windfall profits on growth projects that would be stranded by action to align with global climate goals.

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

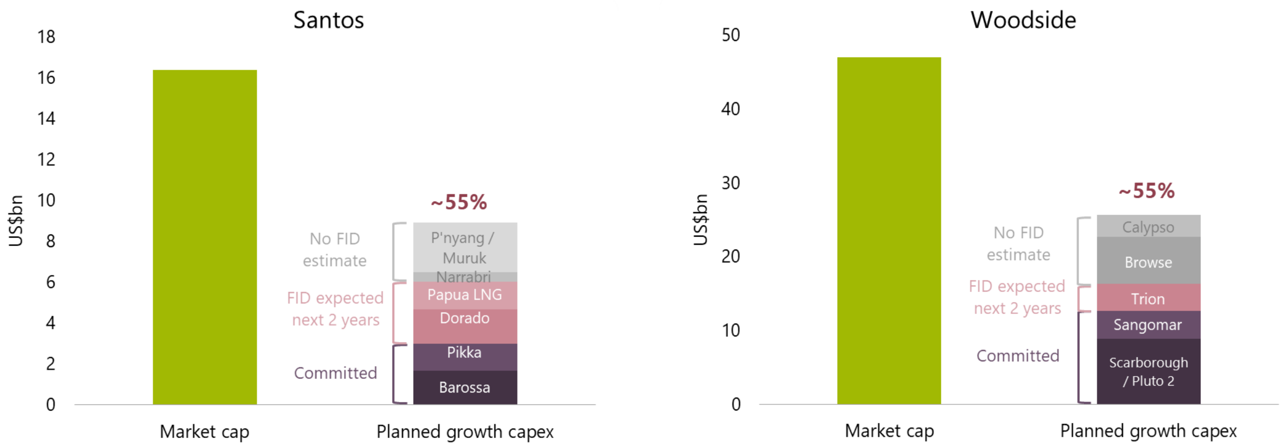
- **FOR the 'Capital Protection' shareholder proposals** (see Appendix 1)
- **AGAINST the companies' remuneration reports**
- **AGAINST directors standing for reelection at each company.**

NOTE: All dollar figures in USD unless otherwise stated. Any conversions as at 15 February 2023.

Summary

A “large consensus” of Paris-aligned climate scenarios have found “developing any new oil and gas fields is incompatible with limiting warming to 1.5°C”, including the International Energy Agency (IEA) Net Zero by 2050 Scenario (NZE).

New oil and gas projects being pursued by Woodside and Santos therefore represent billions of dollars of shareholder capital bet against the Paris Agreement’s climate goals. Both Santos and Woodside’s potential oil and gas growth capex amounts to ~55% of their current market capitalisations. This includes high-cost, high-risk, decades-long projects, many of which 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. Despite claiming to be investing in the energy transition, Woodside and Santos’ massive planned spending on oil and gas compared to ‘new energy’ shows a lack of serious will to diversify.



[DISER Resources and Energy Major Projects 2022](), WDS and STO merger independent expert reports and market disclosures; Market cap as at 15 February 2023. Capex refers to equity share upfront development cost, some of which has already been incurred for committed projects.

Woodside and Santos’ own analyses demonstrate the immense shareholder value at risk as a result of market and policy shifts required to meet global climate goals. Key markets are already moving to slash gas dependence, while recent high prices are destroying long term gas demand in developing Asia.

Woodside and Santos’ pursuit of new fossil fuel projects also expose the companies to legal and regulatory risks, with Santos’s climate claims already facing misleading conduct accusations, and projects of both companies facing strong opposition from First Nations communities.

Not only are Santos and Woodside’s high-risk, high-emissions strategies condoned by their boards, they are heavily incentivised by each company’s executive remuneration structure, a practice many oil and gas industry peers have already abandoned.

As the stewards of corporate strategy and risk management, **Santos and Woodside’s directors must be held to account for failing to respond to investors’ calls to address climate risks** by aligning production and capex plans with the global climate goals each company claims to support.

Failure to align strategy with climate goals

Despite repeated investor demands for Woodside and Santos to align with global climate goals (shown in the table below)**, these companies' strategies remain almost entirely reliant on increasing oil and gas production, entailing significant increases in overall emissions.**

Year	Woodside	Santos
2020	**50%** of shareholders voted for scope 1, 2, and 3 emissions targets, and exploration and capital expenditure plans aligned with the Paris Agreement	**43%** of shareholders voted for scope 1, 2, and 3 emissions targets, and exploration and capital expenditure plans aligned with the Paris Agreement
Since 2021	Climate Action 100+ demand to "align future capital expenditures with the Paris Agreement's objective of limiting global warming to 1.5° Celsius" has remained unmet	Climate Action 100+ demand to "align future capital expenditures with the Paris Agreement's objective of limiting global warming to 1.5° Celsius" has remained unmet
2021	**19%** of shareholders voted for the company to disclose plans to manage down oil and gas assets in line with the Paris climate goals, and **15%** for a similar resolution in 2022	**13%** of shareholders voted for the company to disclose plans to manage down oil and gas assets in line with the Paris climate goals, and **15%** for a similar resolution in 2022
2022	**49%** of shareholders voted against the company's climate plan	**37%** of shareholders voted against the company's climate plan

Paris and net zero by 2050 require rapid oil and gas demand falls

The IEA's landmark NZE, which is 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:

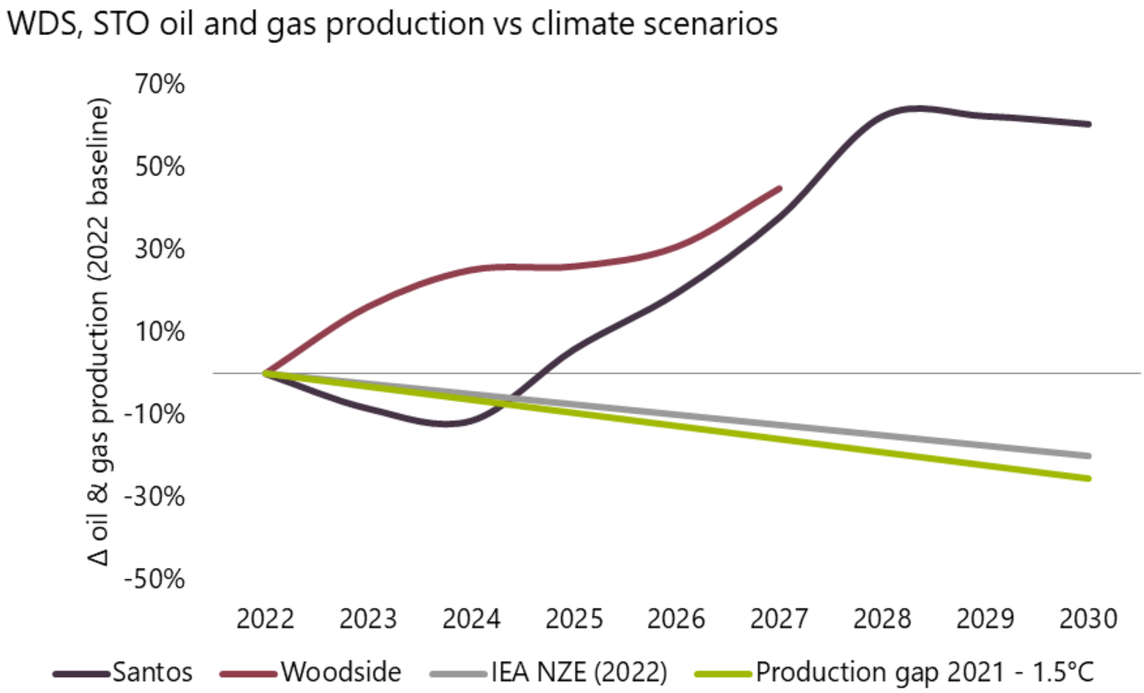
> ***The rapid drop in oil and natural gas demand in the NZE means… no new oil and natural gas fields are required beyond those that have already been approved for development."***
> International Energy Agency, Net Zero by 2050 (May 2021)

This position is consistent with a "large consensus" of Paris-aligned climate scenarios, which have found "developing any new oil and gas fields is incompatible with limiting warming to 1.5°C".

The IEA's 2022 World Energy Outlook (WEO) reiterated this conclusion: "No one should imagine that Russia's invasion can justify a wave of new oil and gas infrastructure in a world that wants to reach net zero emissions by 2050". The latest NZE projects even sharper declines in gas demand than the previous version, falling 23% globally between 2021 and 2030 while oil demand falls by 22% over the same period.

Increasing production incompatible with climate goals

As shown in the chart below, **Woodside plans to increase production by 45% from 2022 to 2027**. Other growth options being pursued could add significantly to the company's production capacity. The Trion oil project, which Woodside plans to have final investment decision-ready in 2023, would add capacity equivalent to an extra 13% on 2022 production, while Browse would add a further 25%. **Santos' [plans](#) to increase production by 60% from 2022 to 2030**. This excludes the potential start up of Santos' P'nyang LNG project, which the company is [pushing ahead with](#).



Market Forces analysis of STO and WDS reporting. IEA projections are originally based on a 2021 baseline and Production Gap numbers on a 2020 baseline; 2022 baselines are linear projections.

Significantly increasing emissions

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

- **Santos' annual emissions are projected to increase by 40% from 2022 to 2030**
- **Woodside's annual emissions are projected to increase by 40% from 2022 to 2027.**

As shown on the chart on page 1, **the companies' inadequate emission reduction targets are far outweighed by the scale of their increasing overall emissions**. Even these minuscule reductions rely heavily on offsets and carbon capture and storage, which investor groups recognise "are generally not considered credible approaches." For further analysis, see Market Forces' 2022 investor briefing.

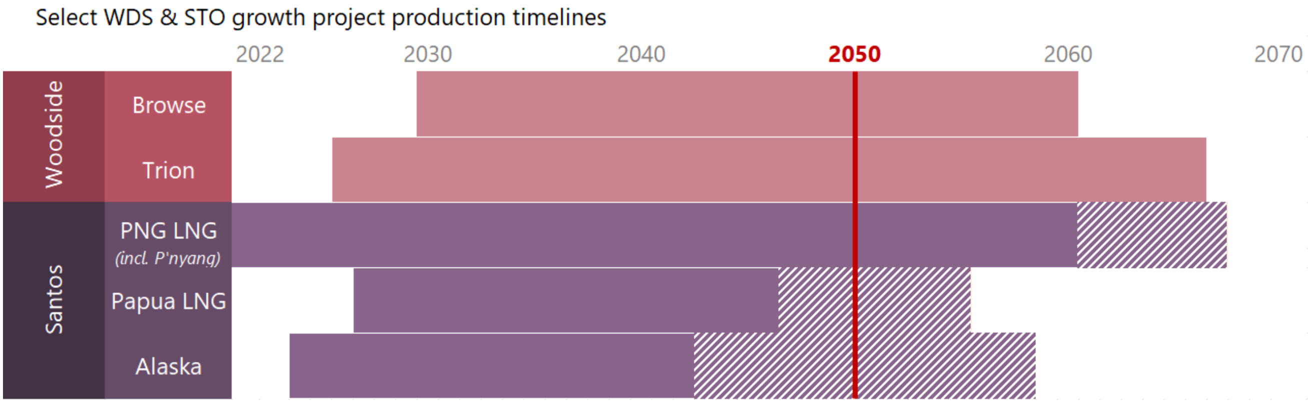
Critically, neither Woodside nor Santos' emissions targets have changed since the significant votes against their climate plans last year. Paris-aligned scope 3 emissions reductions would require the companies to manage down oil and gas production, which both have failed to commit to.

Betting on climate inaction

New oil and gas projects being pursued by Woodside and Santos would represent billions of dollars of shareholder capital being bet against the Paris Agreement's climate goals, with both Santos and Woodside's potential oil and gas growth capex amounting to ~55% of their current market capitalisations.

Beyond clearly contravening the IEA's key conclusion that there is no room for new oil and gas fields in a net zero emissions by 2050 pathway, **many 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.** For further analysis and links to independent studies confirming these findings, see Market Forces' 2022 investor briefing.

Santos and Woodside are pursuing projects that would produce oil and gas well past 2050, when the NZE projects global energy supply from gas to be 72% below 2021 levels. The image below shows the production lives of select growth projects as modelled by the independent expert reports on each company's recent merger.



Market Forces analysis of independent expert reports on STO and WDS mergers

These high cost, long-life projects entail unacceptable risks for investors. For example, analysis of Woodside's Trion greenfield deepwater oil project, targeted for a final investment decision in 2023, shows the project is not expected to meet Woodside's internal rate of return hurdle even when applying oil price assumptions far above those projected by the NZE.

'Transition' spending a drop in the ocean

Despite claiming to be investing in the energy transition, Woodside and Santos' planned spending on oil and gas far outweighs that on 'new energy'.

Taking Woodside's growth and sustaining oil and gas capex to 2030 on projects as modelled by KPMG, and adding the company's planned spending on Scarborough-Pluto, **Woodside's commitment to spend $5 billion on 'New Energy' projects represents just 16% of total expected capex to 2030**.

Santos doesn't disclose total planned 'transition' spending, however in 2023, **"Santos Energy Solutions"** – which includes "low carbon processing of Santos' and third-party gas and liquids" – **is planned at just $85m or 4.6% of major growth capex guidance**.

By comparison BP spent 30% of capex on “transition growth engines” in 2022, increasing to 50% by 2030. Equinor is planning to spend “>50%” of capex on “renewables and low carbon solutions” by 2030.

Unacceptable risks

Woodside and Santos’ increasing oil and gas production plans pose unacceptable financial risks ultimately borne by shareholders, including market risk threatening billions in value.

Key markets set to declines

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 (24%) and Korea (17%) make up the vast majority of Australian LNG export values. Renewable energy sources 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 20% in 2030.

LNG imports in emerging Asia are not expected to replace the demand falls required in Woodside and Santos’ current markets. IEEFA analysis found in late 2021 that over 60% of proposed LNG import and gas power infrastructure in emerging Asia is unlikely to be built, a situation only exacerbated by long-term demand destruction caused by high gas prices since:

> ***Volatile, unaffordable prices and supply challenges in the global market have crimped demand in Asia, and the International Energy Agency (IEA) has declared an end to the ‘golden age of gas.’”*** IEEFA

Value at risk

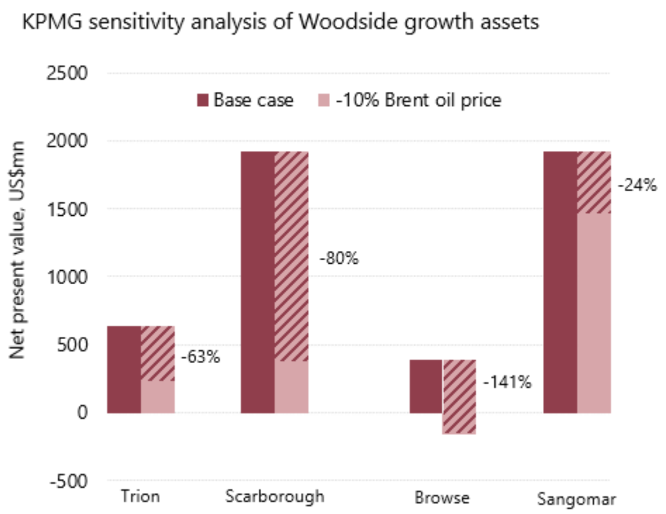
Woodside and Santos’ own analyses demonstrate the shareholder value at risk as a result of market and policy shifts required to meet global climate goals.

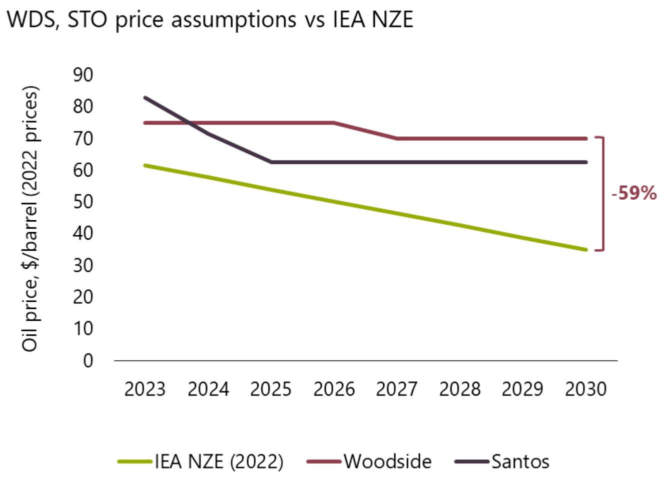
Demonstrating the immense financial risk posed by a net zero transition, in Santos’ 2023 Climate Change Report the company failed to update its 2022 scenario analysis, which projected **the value of Santos’ oil and gas portfolio would drop by approximately half under the NZE scenario**.

Woodside’s own analysis shows average annual free cash flow from producing and sanctioned assets over the next two decades would be disappointing at best under NZE, sitting around 20% below the 2018-2022 average. Woodside’s nearly $7 billion debt load will impose additional financing cash outflows, further eroding any potential shareholder returns.

Further, the independent expert report on the merger between Woodside and BHP Petroleum showed even just **a 10% fall in long-term oil prices would decrease the net present value (NPV) of Woodside's recently sanctioned Scarborough gas project by 80% to just $383 million**.

The chart on the left below shows a 10% fall below KPMG's base case price projections would also see the NPV of Woodside's Sangomar and Trion assets fall by 24% and 63% respectively, while its prospective **Browse project would become NPV-negative, becoming a $158 million liability**.





April 2022 Independent Expert Report (KPMG and GaffneyCline analysis) - Scarborough includes both Woodside and ex-BHP equity share of NPV; WDS & STO annual reports; IEA WEO 2022.

As shown in the chart on the right above, the **IEA NZE models an oil price 59% below Woodside's and 54% below Santos' in 2030**.

The conclusion is clear: in anything close to a Paris-aligned price scenario, the value of Woodside and Santos' oil and gas portfolios would be decimated.

Legal and regulatory risks

Woodside and Santos' pursuit of new fossil fuel projects also expose the companies to legal and regulatory risks.

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". Corporate regulator ASIC has also been asked to investigate Santos' potentially misleading claims that its new oil and gas plans were consistent with the NZE.

Australia's Federal Court has ruled a key environmental approval for Santos' Barossa project invalid due to the company's failure to properly consult with Tiwi Islands Traditional Owners. The contradiction between Santos' claim that it did not "anticipate any material cost or schedule impact" due to the court's decision and the company's previous statement that pausing the drilling would cause "a daily loss in the order of hundreds of thousands of dollars" forms the basis of complaints lodged with ASIC and the ASX. In January, Gomeroi Traditional Owners filed an appeal to the Native Title Tribunal's decision to permit Santos' Narrabri gas project without their consent.

Woodside's Burrup Peninsula projects, including Scarborough, Pluto and Browse, also face significant risks. Murujuga Traditional Custodians are campaigning "to stop new industry on the Burrup from damaging our Songlines, our rock art, our health and our climate". The region is being considered for World Heritage Listing, and the Australian government has launched a review into the impacts and risks of industrial development on more than a million pieces of sacred rock art in the area.

Incentivising climate failure

Santos and Woodside's high-risk, high-emissions strategies are incentivised by each company's executive remuneration structure, a practice many oil and gas industry peers have already abandoned.

Santos

27.5% of Santos' "corporate scorecard" used to determine the award of short-term incentives in 2022 was based on increasing oil and gas production and developing new oil and gas projects: 20% for higher production (excluding late-life assets), and 7.5% for delivery of oil and gas growth projects. Santos' incentivisation of fossil fuel growth is a consistent feature of its annual bonus scheme, with fossil fuel growth incentives having ranged from ~42.5% to ~50% from 2018 to 2021.

On top of this, in 2021, Santos' CEO also received a one-off "Growth Projects Incentive", delivered in the form of 847,458 share acquisition rights (SARs). The SARs become available in 2025 depending on performance over the five-year period. 60% of this award is based on the successful delivery of oil and gas growth projects: Barossa, Dorado and "backfill resources to maximise ongoing utilisation and future expansion of existing facilities".

In 2022, the board added Pikka, a former Oil Search asset, as a targeted project in the scheme. Independent analyses have found that Barossa, Dorado and Pikka are not aligned with net zero by 2050 and 1.5°C. If all Growth Projects Incentive SARs are fully granted, the fair value (measured at the beginning of the scheme) would be $6 million.

Woodside

20% of Woodside's 2022 "Corporate Scorecard" used to determine variable remuneration is based on increasing oil and gas production. A further 20% is based on delivery of strategic business priorities, which are heavily focused on progressing new oil and gas projects. Woodside's emphasis on fossil fuel growth is a consistent feature of its bonus scheme, with the weight of production targets having been largely unchanged over the last decade.

Inconsistent with peers

Woodside and Santos' significant incentivisation of fossil fuel growth through executive remuneration is inconsistent with many oil and gas industry peers. For example, Shell and TotalEnergies do not use any direct quantitative fossil fuel production targets in their remuneration schemes, having removed such incentives worth up to 25% and 8% of their CEO's annual bonuses respectively in 2021. BP attaches a very low weight to LNG production targets.

This means the total proportion of BP, Shell and TotalEnergies' remuneration driven by fossil fuel production is minuscule compared to Santos and Woodside.

In order to meet investors' growing expectations to closely align corporate strategy with global climate goals and accepted pathways, Woodside and Santos must stop providing remuneration incentives for new oil and gas project development and increased production.

Investor action required

As evidenced by the significant votes demanding improved climate action at recent AGMs, many investors recognise the unacceptable risks posed by Woodside and Santos' strategic misalignment with the goals of the Paris Agreement and net zero emissions by 2050. In fact these companies' oil and gas growth strategies would see their overall emissions increase by 40% in the next 5-10 years.

Not only are these high-risk, high-emissions strategies condoned by Santos and Woodside's boards of directors, they are significantly incentivised by each company's executive remuneration structure.

As the stewards of corporate strategy and risk management, Santos and Woodside's directors must be held to account failing to respond to investors' calls to minimise climate transition risks by aligning production and capital expenditure plans with the global climate goals their companies claim to support.

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

- **FOR the 'Capital Protection' shareholder proposals** (see Appendix 1)
- **AGAINST the companies' remuneration reports**
- **AGAINST directors standing for reelection at each company.**

Appendix 1

Capital protection resolution

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.

[1] Woodside: https://www.woodside.com/docs/default-source/about-us-documents/corporate-governance/woodside-policies-and-code-of-conduct/climate-change-policy.pdf; 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/