



Australasian Centre for Corporate Responsibility
Level 5 131 City Walk Canberra City
GPO Box 1596 Canberra ACT 2601

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OFFICE OF THE INDEPENDENT PLANNING COMMISSION OF NSW
LEVEL 3, 201 ELIZABETH STREET
SYDNEY NSW 2000

SUBMITTED ONLINE: <https://www.ipcn.nsw.gov.au/have-your-say>

7 AUGUST 2020

RE: Narrabri Gas Project (SSD-6456)

To the members of the committee,

Thank you for the opportunity to make a submission to your consideration of this Project.

The Australasian Centre for Corporate Responsibility (ACCR) is a registered charity with the Australian Charities and Not-for-profits Commission (ACNC). ACCR invests in and engages with Australian listed companies in regard to their performance on various issues, including climate and the environment. ACCR regularly discusses approaches to the management of climate risk, their emissions performance and targets with companies.

ACCR has engaged with Santos for several years in relation to its coal seam gas operations, its emissions targets and expansion plans.

ACCR objects to the approval of the Narrabri Gas Project (the 'Project') for the following reasons:

1. Any further expansion of gas extraction puts at risk the possibility of Australia meeting its commitments under the Paris Agreement;
2. Fugitive methane emissions are likely to be considerable and poorly managed, given Santos' poor disclosure to date, further exacerbating the climate risk of the Project;
3. It is likely that the high cost of production of the Project will see it financially stranded before the reserves are exhausted;
4. Santos' shareholders have rapidly evolving expectations regarding the company's strategy.

We will discuss each of these issues in detail.

1. Climate risk fuelled by gas expansion

The Special Report on Global Warming of 1.5°C from the Intergovernmental Panel on Climate Change (IPCC) projects that the share of primary energy provided by gas must decline by 20-25% by 2030,¹ and by 53-74% by 2050 (relative to 2010)². Santos intends to increase gas production by 60% to 120 million barrels of oil equivalent (BOE) by 2025³.

In 2018-19, Santos' Scope 1 and 2 operational emissions were 6.36 million tonnes of carbon dioxide equivalent (Mt CO₂-e), up from 3.97 Mt CO₂-e in 2013-14⁴, this figure equates to 1.2% of Australia's annual emissions. In 2018-19, Santos' Scope 3 emissions were 24.5 Mt CO₂-e (up from 18 Mt CO₂-e in 2013-14)⁵.

Santos estimates that the annual direct emissions from the Project will equate to 0.2% of Australia's current annual emissions⁶. This figure does not include the Scope 3 emissions from the Project, namely the emissions from use of the gas produced. Santos estimates these to be 3.77 Mt CO₂-e annually, based on the conservative assumption that the Project produces 200 terajoules (TJ) of gas per day for the 25-year assessment period⁷.

The Project will significantly increase both Santos' emissions and Australia's annual emissions, at a time when emissions must decline in order to limit the risk of dangerous climate change.

Prior to the impact of Covid-19, Santos indicated major growth capital expenditure of \$500 million in 2020, including the Barossa and Dorado fields, and in Papua New Guinea⁸. Santos continues to fund exploration off the coast of Western Australia, and onshore in the Northern Territory and Queensland⁹. There is a clear gulf between Santos' plans and the recommendations of the IPCC, given the absence of commercially viable CCS.

Santos has no intention of materially reducing its emissions. According to its 2020 Climate Change Report, Santos has set itself the following targets¹⁰:

- To grow LNG exports to at least 4.5 million tonnes per annum by 2025, a ~60% increase, arguing that liquefied natural gas (LNG) export growth will reduce global emissions;

¹ Assuming the absence, or only limited use of, fossil fuel technologies with carbon capture and storage (CCS)

² IPCC, Special Report on Global Warming of 1.5°C, October 2018

³ Santos Ltd, ASX Media Release, 3 December 2019

⁴ Santos Ltd, Climate Change Report 2020, 20 February 2020, p41

⁵ *ibid.*

⁶ Santos Ltd, Environmental Impact Statement - Chapter 24, p24-1

⁷ Santos Ltd, Environmental Impact Statement - Chapter 24, p24-4

⁸ Santos Ltd, 2019 Investor Day Presentation, 3 December 2019

⁹ *ibid.*

¹⁰ Santos Ltd, Climate Change Report 2020, 20 February 2020

- To reduce operational emissions in the Cooper Basin and Queensland by just 5% by 2025;
- To assess the feasibility of carbon, capture and storage and solar thermal technologies.

These are not credible targets, nor are they aligned with the Paris Agreement. Santos intends to increase production for the foreseeable future, even though several of its global peers have committed to set targets to reduce Scope 3 emissions (those from the use of products sold), most recently BP plc¹¹. Despite asserting that its LNG exports are “reducing emissions in Asia”¹², Santos has provided no evidence for this claim. It is based on the theory that its gas displaces coal for power generation in destination markets, which may only be true in isolated cases. In Japan, for example, gas has previously displaced nuclear power¹³ and may have crowded out the uptake of renewable energy, therefore increasing aggregate emissions.

Santos opposes regulators taking into account the emissions from Australia’s LNG exports. In a speech in July 2019, CEO Kevin Gallagher said “...that doesn’t mean there’s a role for regulators to consider Scope 3 emissions in project approvals”¹⁴.

Santos’ commitment to reduce operational emissions by 5% by 2025 will likely be achieved by the ongoing decarbonisation of the electricity grid, with only minor operational improvements directly implemented by the company. Ironically, in the Cooper Basin, Santos is using solar power to extract oil and gas more cheaply¹⁵.

Santos has failed to provide additional information about its commitment to “assess carbon capture and storage, and solar thermal technologies”. It has not disclosed its financial commitment, or any sort of timeline or metrics by which it will measure success.

The IPCC 1.5°C report recommends that in order to reach net zero carbon emissions by 2050, gas must play a diminishing role in primary energy supply. Failing to limit global warming to 1.5°C will seriously impact weather systems, the economy and society more broadly. The Australian summer of 2019/20 is evidence that climate change is already impacting the economy, yet Santos has no plans to materially reduce its carbon footprint.

Australia’s LNG exports increased from 25 million tonnes (Mt) in 2014/15 to 77 Mt in 2019, making Australia the world’s largest LNG exporter¹⁶. As a direct result of this growth, fugitive emissions increased by 19.2 Mt CO₂-e or 51.1%, and emissions from stationary energy (excluding electricity) increased by 35.7 Mt CO₂-e or 53.8% since 1990¹⁷. These

¹¹ BP plc, ‘From International Oil Company to Integrated Energy Company: bp sets out strategy for decade of delivery towards net zero ambition’, 4 August 2020

¹² Santos Ltd, Climate Change Report 2020, 20 February 2020

¹³ <https://www.eia.gov/todayinenergy/detail.php?id=38533>

¹⁴ Santos Ltd, CEO Speech to Petroleum Club WA Dinner, 23 July 2019

¹⁵ <https://www.santos.com/news/santos-rolls-out-renewable-energy-in-the-cooper-basin/>

¹⁶ Department of Industry, Science, Energy and Resources, Resources and Energy Quarterly, June 2020

¹⁷ Department of Industry, Science, Energy and Resources, Quarterly Update of Australia’s National Greenhouse Gas Inventory: December 2019

emissions increased strongly since 2015, “as a result of the growth of the LNG industry”¹⁸. In 2019, increases in LNG exports contributed an increase of 1 Mt CO₂-e from fugitive emissions and between 0.9-2.7 Mt CO₂-e in emissions from stationary energy (excluding electricity)¹⁹.

The growth in emissions from the gas industry has offset the substantial declines in emissions from electricity generation, as generation from renewable energy continues to grow. It is clear that the gas industry is preventing Australia from achieving much deeper cuts in emissions. Furthermore, it is unlikely that the gas industry will be able to substantially reduce emissions in the medium term, thus putting the burden of achieving Australia’s national emissions targets onto other sectors.

2. Fugitive methane emissions

Oil and gas extraction is one of the largest sources of methane emissions globally, accounting for approximately 20-25% of all methane emissions per year²⁰. Methane (CH₄) is the primary component of natural gas, and can be directly released to the atmosphere at each stage of gas production and transport. This happens deliberately (via flaring, venting, equipment purging, or incomplete combustion) or accidentally (via leaks or failures)²¹. Methane is more potent and has a higher potential to exacerbate the effects of climate change than carbon dioxide (CO₂). Over a 20 year period, the global warming potential of methane is 85 times greater than carbon dioxide, and 28 times greater over a hundred years²².

As previously noted, fugitive emissions in Australia have increased by 19.2 Mt CO₂-e or 51.1% since 1990, and increased strongly since 2015, “as a result of the growth of the LNG industry”²³.

Santos claims that “lifecycle emissions for energy produced from the combustion of the natural gas delivered by the Project will be nearly 50% less than for electricity that is currently supplied to the NSW grid”²⁴. Due to the global warming potential of methane, excessive fugitive emissions undermine the efficiency of gas in relation to coal as fuel for electricity. According to the Melbourne Energy Institute, “the methane-emission threshold at which point using gas for electricity generation provides no benefits over using coal occurs at a methane-emissions level equal to 3.2% of total gas production”²⁵. This threshold is further lowered in the case of exported LNG, due to the energy consumed throughout the export and import process.

¹⁸ *ibid.*

¹⁹ *ibid.*

²⁰ <https://www.nature.com/articles/d41586-020-02116-8>

²¹ Climate Council, *Pollution and Price: The Cost of Investing in Gas*, April 2017

²² <https://www.nature.com/articles/d41586-020-02116-8>

²³ Department of Industry, Science, Energy and Resources, *Quarterly Update of Australia’s National Greenhouse Gas Inventory: December 2019*

²⁴ Santos Ltd, *Environmental Impact Statement - Chapter 24, p24-1*

²⁵ Melbourne Energy Institute, *A review of current and future methane emissions from Australian unconventional oil and gas production*, October 2016

In 2017, the Climate Council found that Australia’s coal seam gas (CSG) industry under-reports methane emissions due to:

- A lack of field studies and direct measurement by the industry;
- The majority of methane emissions reporting using factors derived from out-dated United States (US) industry metrics, which have been shown to significantly under-report emissions, particularly from the CSG industry;
- A lack of baseline methane emissions studies undertaken before development of large CSG deposits took place in the Bowen and Surat Basins in Queensland;
- The minimal number of studies of actual emissions over this (now very large) developed area²⁶.

A 2014 CSIRO pilot study into fugitive emissions from equipment and well casings measured emissions at just 43 CSG wells – less than 1% of the existing CSG wells in Australia at the time²⁷. While that study estimated that fugitive emissions accounted for 0.34% of gas produced, it also concluded that “to fully characterise emissions, a larger sample size would be required and measurements would need to be made over an extended period to determine temporal variation”²⁸. Furthermore, that “there are many other potential emissions points throughout the gas production and distribution chain that were not examined in this study”²⁹. In its lifecycle greenhouse gas emissions of a CSG to LNG project in Queensland, GISERA estimated fugitive methane emissions at 1.5% of gas produced³⁰. Such high fugitive methane emissions would leave little room for error, relying on Santos to ensure that its fugitive methane emission management practices are best in class.

Given Santos’ poor disclosure, it is difficult to determine the quality of its fugitive methane emission management practices. In 2017, the oil and gas industry developed a set of guiding principles on reducing methane emissions across the gas value chain³¹, whose signatories include Woodside, Royal Dutch Shell and Santos’ partner at Gladstone LNG, Total. The guiding principles require signatories to:

- 1) Continually reduce methane emissions;
- 2) Advance strong performance across gas value chains;

²⁶ Climate Council, *Pollution and Price: The Cost of Investing in Gas*, April 2017

²⁷ CSIRO, *Field Measurements of Fugitive Emissions From Equipment and Well Casings in Australian Coal Seam Gas Production Facilities*, June 2014

²⁸ *ibid.*

²⁹ *ibid.*

³⁰ CSIRO, *Whole of Life Greenhouse Gas Emissions Assessment of a Coal Seam Gas to Liquefied Natural Gas Project in the Surat Basin, Queensland, Australia*, July 2019

³¹ Climate and Clean Air Coalition, *Reducing methane emissions across the natural gas value chain - Guiding principles*, November 2017

- 3) Improve accuracy of methane emissions data;
- 4) Advocate sound policy and regulations on methane emissions;
- 5) Increase transparency.

To date, Santos has not committed to the guiding principles on reducing methane emissions. Santos could improve its disclosure, however, without committing to the guiding principles. The US group Environmental Defense Fund has identified five metrics necessary for baseline methane disclosure:

- 1) An absolute emissions figure;
- 2) An emissions rate (methane emissions as a percentage of gas produced or throughput);
- 3) Discussion of leak detection and repair (LDAR);
- 4) Discussion of corporate positions on methane regulations;
- 5) A quantitative methane reduction target.

Santos discloses an absolute methane emissions figure (see below), but it does not disclose how these figures are determined, whether they are estimates or measurements, or a combination thereof. Santos claims that fugitive methane emissions “comprise less than 1%” of its operated emissions³². Santos does not produce this number alongside its production numbers, or as a time series. Santos does discuss its leak detection and repair (LDAR) practices, but only insofar that it complies with Queensland’s Petroleum and Gas (Production and Safety) Regulation 2004; the Queensland Government’s Code of Practice for Leak Management, Detection and Reporting for Petroleum Facilities; and, its NSW Environment Protection Licence (EPL) requirements³³. Santos states that “regulations and codes require operators to take all reasonable and necessary steps to avoid leakage from gas processing infrastructure and apply a risk-based approach to inspection frequencies with minimum timeframes and triggers”³⁴. Santos does not disclose any detailed information about inspection frequencies, minimum timeframes and triggers, or the type and proportion of its infrastructure that is subject to inspection.

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Emissions of CH ₄ (MtCO ₂ -e)	0.45	0.48	0.53	0.72	0.49	0.47

Source: Santos Ltd, 2020 Climate Change Report, p41

As part of the Project, Santos has committed to implement and a leak detection and repair program approved by the NSW Environmental Protection Authority to identify and

³² Santos Ltd, 2020 Climate Change Report, February 2020, p42

³³ *ibid.*

³⁴ *ibid.*

minimise fugitive emissions³⁵. But Santos' poor reporting to date makes it difficult to assess Santos' efficiency and performance, particularly that of its unconventional gas operations.

According to its 2020 Climate Change Report, Santos has “engaged CSIRO to undertake initial field monitoring across its operated onshore assets, including measuring background levels of methane, investigating fluxes and identifying sources of elevated methane levels”³⁶. While this is welcome, this program of work appears to apply to the McArthur Basin, Arcadia and Amadeus Basins³⁷, and not the Narrabri field.

Shareholders have raised their concerns about fugitive methane emissions with Santos for many years. To date, Santos has not provided sufficient evidence that it is willing or able to manage the risks posed by excessive fugitive methane emissions.

3. High cost of production

According to Pegasus Economics, the Project is relatively costly, with an estimated production cost of \$7.40GJ, ranking it 41 out of 51 actual and undeveloped gas projects assessed by the Australian Energy Market Operator (AEMO)³⁸. As the economy transitions away from fossil fuels, the likelihood of higher cost resources becoming financially stranded will increase.

UK think tank Carbon Tracker assesses the cost of production of global oil and gas resources against carbon budgets that are consistent with multiple emissions pathways. In 2019, Carbon Tracker found that 20-30% of Santos' planned capital expenditure to 2030 is outside a carbon budget consistent with the International Energy Agency's (IEA) Sustainable Development Scenario (SDS)³⁹. Furthermore, 40-50% of Santos' planned capital expenditure to 2030 is outside a carbon budget consistent with the IEA's Below 2 Degrees Scenario (B2DS)⁴⁰. Given that Santos is pursuing the development of various other gas resources where production costs are far lower than this Project, we can deduce that the development of the Project is not consistent with limiting global warming to well below 2°C above pre-industrial levels.

While the likelihood of stranded oil and gas assets may seem far-fetched, just this week, French company Total announced a \$US5.1 billion impairment on its high-cost Canadian tar sands assets, declaring them “stranded”⁴¹. As the energy transition accelerates, other oil and gas projects will be similarly stranded.

³⁵ Santos Ltd, Environmental Impact Statement - Chapter 24, p24-7

³⁶ *ibid.*

³⁷ Santos Ltd, 2020 Climate Change Report, February 2020, p43

³⁸ Pegasus Economics, Report on the Narrabri Gas Project, August 2019

³⁹ Carbon Tracker, Breaking the Habit, September 2019

⁴⁰ *ibid.*

⁴¹ Total SA, Short term price revision and climate ambition: Total announces exceptional \$8B asset impairments including \$7B in Canadian oil sands, 29 July 2020

4. Investor expectations

In April this year, ACCR filed two shareholder resolutions which were voted on at Santos' AGM (see Appendix). The first resolution requested the company set short, medium and long term emissions targets aligned with the goals of the Paris Agreement, which was supported by 43.39% of Santos shareholders. The second resolution requested the company conduct and publish a review of its direct and indirect lobbying in relation to climate and energy policy, which was supported by 46.35% of Santos shareholders.

It is clear from these results that a large proportion of Santos' shareholders are dissatisfied with Santos' approach to managing climate risk, particularly its existing emissions targets, and its lobbying of politicians at both state and federal levels.

As investors' understanding of climate risk evolves, the expectations of oil and gas companies will evolve, too. ACCR's shareholder resolution on Paris Goals and Targets, supported by 43.39% of Santos' shareholders, explicitly requests the company set targets that include Scope 1, 2 and 3 emissions. This is a step change, as investors become increasingly convinced of the need for fossil fuel companies to be held responsible for the emissions from the use of the resources they extract. Ultimately, by setting Scope 3 emissions targets, oil and gas companies must at first limit, and then begin to reduce, production.

Just this week, BP became the first oil and gas major to commit to such targets, announcing that it would cut production by 40% by 2030⁴². As noted above, Santos' CEO Kevin Gallagher does not support Scope 3 targets⁴³, as the company continues to rely on the implicit claim that all of the gas Santos produces displaces coal in electricity generation. Over time, investors will continue to intensify their engagement with Santos with a clear expectation that it sets emissions targets across its entire value chain. This further increases the likelihood that the Project could be stranded.

ACCR's second shareholder resolution, supported by 46.35% of Santos' shareholders, sought a review of the company's direct and indirect lobbying. While this may seem unrelated to the Project, it is worth noting that since 1 July 2014, representatives from Santos and the Australian Petroleum Production and Exploration Association (APPEA) have met with NSW ministers on 30 occasions⁴⁴. Such political interference is precisely the sort of behaviour that a significant number of Santos' shareholders are keen to prohibit.

Conclusion

ACCR believes the Project poses a risk to Australia's ability to meet its commitments under the Paris Agreement, which is sufficient reason for the Project to be rejected. ACCR is also aware of the risks the Project poses to biodiversity in the Pilliga forest, to groundwater used

⁴² BP plc, 'From International Oil Company to Integrated Energy Company: bp sets out strategy for decade of delivery towards net zero ambition', 4 August 2020

⁴³ Santos Ltd, CEO Speech to Petroleum Club WA Dinner, 23 July 2019

⁴⁴ NSW Government, Department of Premier and Cabinet, Ministers' Diaries Disclosures, 2014-20

by local farming communities, and to the ability of those communities to acquire sufficient business and property insurance. We endorse the views of community members and groups that are concerned by these issues, providing further reason to reject the Project.

Should you require further information, please email dan@accr.org.au.

Yours sincerely,

Dan Gocher

Director of Climate and Environment

Australasian Centre for Corporate Responsibility

APPENDIX

Ordinary resolution on Paris Goals and Targets

Shareholders request the Board disclose, in annual reporting from 2021:

1. Short, medium and long-term targets for reductions in our company's Scope 1, 2 and 3 emissions (Targets) that are aligned with articles 2.1(a) and 4.1 of the Paris Agreement (Paris Goals);
2. Details of how our company's exploration and capital expenditure, including each material investment in the acquisition or development of oil and gas reserves, is aligned with the Paris Goals; and
3. Details of how the company's remuneration policy will incentivise progress against the Targets.

Nothing in this resolution should be read as limiting the Board's discretion to take decisions in the best interests of our company, or to limit the disclosure of commercial-in-confidence information.

Ordinary resolution on our company's climate-related lobbying

Shareholders request that our company conduct a review of its direct and indirect lobbying activities relating to climate, resources and/or energy policy (Review). A report summarising the completed Review be should disclosed on the company's website by 31 October 2020.

The Review should cover a period of at least two years and should address the consistency of our lobbying activities with the goals of the Paris Agreement to limit global warming to well below 2°C (Paris Goals).

Direct lobbying by our company or its agents: where the Review shows direct lobbying inconsistent with the Paris Goals, shareholders request that the Board disclose a strategy to prevent further lobbying inconsistent with those Goals.

Indirect lobbying by Industry Associations of which our company is a member: where the Review shows a record of lobbying inconsistent with the Paris Goals, shareholders request that Board disclose a remediation plan, agreed with the Industry Association. Shareholders recommend that our company suspend membership of an Industry Association where a remediation plan cannot be agreed (or the Board otherwise decides suspension is in our company's interests).

Nothing in this resolution should be read as limiting the Board's discretion to take decisions in the best interests of our company.