

Further Objection 20/08/2020

Response to Santos Submission. Laura Hartley

I thank the Commission for the opportunity to respond, but I would like it to be acknowledged that it can only be in a very limited way for most of us, due to the timing and size of Santos' late submissions and the incomplete nature of DPIE's extremely overdue responses.

In response to Mr Gallagher's opening statements I would like to re-state the context of this hearing, namely the unconventional coal seam gas mining proposal in the largest intact remnant of Brigalow Belt Forest in NSW. I do not want us to lose sight of the fact that we are talking about a new fossil fuel development in a biodiversity hot spot, that is in a recharge area for the GAB, where the shallow aquifers of the region that risk being impacted have some of the best quality and highly valued water for regional agriculture.

I want that to be at the forefront while considering here how Gallagher attempts to construct an almost philanthropic need for the NGP. It is one that starts with the global, yet elides the larger context of Santos' LNG export interests, and their stated other gas interests in North West NSW, and does not adequately address the communities concerns about NGP greenhouse gases in a crisis of limiting global temperature rise. It attempts to omit or gloss over AEMO other alternatives in a supposed coming gas shortage in NSW, except to invoke them, somewhat threateningly, as higher emitting solutions.

Gas Demand and the World Energy Outlook 2018

Mr Gallagher says the *World Energy Outlook 2018* indicates that under its "Sustainable Development Scenario," global gas demand grows by 14 per cent by 2040 compared to 2016, but fails to mention that growth in gas demand since 2016 has **already exceeded this amount**. Taking this into account, WEO 2018's Sustainable Development Scenario would see gas demand **contract** on 2018 levels by 3.4%.

The global demand, the International Energy Agency says, comes from Asia. The WEO 2018 clearly states "A three-way race is underway among coal, natural gas and renewables to provide power and heat to Asia's fast-growing economies." WEO notes "The growing trade in LNG, intensifies competition among suppliers while changing the way countries need to think about managing potential shortfall in supply." Clearly this is the situation Santos finds itself in.

Gallagher also fails to take note of WEO cautions about the "Sustainable Development Scenario". WEO notes that in 2018 global energy-related CO2 emissions are rising, "far from a trajectory consistent with climate goals".

If there is no change in policies from today, as in the *Current Policies Scenario*, this leads to increasing strains on almost all aspects of energy security. If we broaden the scope to include announced policies and targets, as in our main *New Policies Scenario*, the picture brightens. **But the gap between this outcome and the Sustainable Development Scenario, in which accelerated clean energy transitions put the world on track to meet goals related to climate change, universal access and clean air, remains huge.** (my emphasis)

Unacceptable increase in greenhouse gas emissions

Mr Gallagher would like to shift attention from the undeniable increase in greenhouse emissions that the NGP would cause. Although he claims Santos supports limiting global temperature rise to less than 2 degrees, he cannot or will not demonstrate how the NGP would be consistent with that goal. He declines to engage at all with the information put forward by experts such as Prof Penny

Sackett, for example, which puts Narrabri's greenhouse gas contribution in the context of Australia's greenhouse commitment and a carbon budget consistent with the 2 degree goal.

Santos' claim that an increase in Australia's emissions due to the NGP would be 'relatively small', and somehow essential to reducing global emissions overall, is mystifying and unsupportable. It becomes all the more offensive when the Safeguard mechanism is invoked. The implication is that Santos will happily pay any penalty for the expected excess emissions they anticipate in a typical operating year.

Instead Mr Gallagher would have us focus much more generally on gas as a so-called transition fuel. As it is, there are omissions and misrepresentations in his presentation of gas's role in emissions reductions. Gallagher refers to emissions reduction in the UK.

"in the United Kingdom, coal-fired power generation has been phased out over the last two decades, with gas now accounting for almost 40 per cent of total power generation. This has led to a reduction of CO₂ emissions of 38% compared to 1990 levels. This gas-led reduction in emissions has allowed the United Kingdom to have one of the fastest declines in domestic emissions of the past 30 years."

Gallagher's reference is Hausfather, 2019, Analysis: Why the UK's CO₂ emissions have fallen 38 per cent since 1990. Gallagher's sentences above might imply that gas is the major factor in the UK's 38% reductions in emissions, but this is a significant misrepresentation of what Hausfather actually says.

"in 2017 [the latest year when full emissions inventories are available]:

- *UK CO₂ emissions are 38% lower than they were in 1990.*
- *Emissions would have been twice as large today if underlying factors had not changed.*
- *Electricity-sector emissions would have been nearly four times higher.*
- **1. The largest driver has been a cleaner electricity mix based on gas and renewables instead of coal. This was responsible for 36% of the emissions reduction in 2017.** (my emphasis)
- *2. The next largest driver is reduced fuel consumption by business and industry, responsible for about 31% of the emissions reduction in 2017.*
- *3. Reduced electricity use – mostly in the industrial and residential sectors – was responsible for 18% of the emissions reductions.*
- *4. Changes in transport emissions from fewer miles driven per capita and more efficient vehicles accounted for around 7%.*
- *5. Domestic emissions reductions were largely offset by increased CO₂ embodied in imported goods until the mid-2000s. However, reductions since around 2007 have not been offset by CO₂ in imported goods.* (my numbering and emphasis)

Hausfather is at pains to stress throughout his analysis, including his graph, "UK CO₂ emissions and reductions by source, 1990-2017", that **"no single factor was responsible for more than around a third of the total reduction in the UK's CO₂."** 36% of the 38% reductions in 2017 emissions is due to a cleaner energy mix. Ergo **the mixture of renewables and gas is responsible for 13.7% reductions in UK emissions in 2017.**

In a greater breakdown of the cleaner electricity contribution to reductions, Hausfather says **"The transition to renewable energy – wind, bioenergy and solar – is the largest driver, collectively responsible for 37% of electricity sector emissions reductions in 2017.** Wind is the largest portion of this, at 20%, with bioenergy at 12% and solar at 5%. (my emphasis)

Coal-to-gas switching "is the third largest driver, responsible for 29% of the reduction in 2017."

“However, this source of emissions savings has been largely exhausted, with coal generation now below 5%..... This means new gas generation today would be more likely to increase rather than decrease emissions, because there is little coal remaining to be displaced **and the alternatives are largely low-carbon sources, such as renewables and nuclear.** “(my emphasis)

“It is worth noting that this analysis of electricity sector emissions is incomplete, as it does not consider methane leakage during gas extraction and transport. “(my emphasis).

Hausfather acknowledges the cumulative impact gas had in reducing emissions -through replacing coal fired energy, in earlier years, but he has noted here that, in addition to gas being out performed by alternative low carbon options such as renewables and nuclear, there is an “incompleteness”, effectively an overstatement of gas’s role in reductions, since fugitive emissions have not been calculated into the analysis.

Fugitive emissions

Gallagher is dismissive of submitters concerns about fugitive emissions, despite world-wide evidence that fugitive emissions are much greater and more widespread than previously thought, and in cases where, like Australia, emissions reporting mechanisms were in place. To say that submitters fugitive emissions estimating techniques are “not appropriate reference points for the Coal seam Gas Industry” is not an adequate response. “As there is national emissions reporting legislation in place for all industries, it would be inconsistent to use any other forecasting methodology to estimate emissions for the project.”

CO2 of NGP gas

Gallagher claims that “compared to coal and some existing sources of natural gas in the east coast market, Narrabri gas has a very low CO2 content, so would be displacing higher emissions sources”. In response to submissions that the average CO2 content of NGP is greater than Santos claims, Santos argument is that the experienced industry analyst who made that finding has not understood the difference between in situ gas and produce gases, that the CO2 content of produced gas is far lower than the CO2 content of the gas underground because of different desorption rates. It appears that the information they claim to have that backs up this contention is still not being made available on the grounds of commercial confidentiality. Until Santos makes that public, we must remain in doubt.

I also note that the prime need is to examine the gap between gas emissions and renewables.

AEMO 2020 ISP

Mr Gallagher refers to AEMO’s 2020 ISP to build his ‘critical need” and transition fuel thesis - - the “key role for gas in Australia’s clean energy transition”.

ISP modelling forecasts approximately 120 PJ to 285 PJ of additional gas will be needed each year between 2024-25 and 2036-37 to meet residential, commercial and industrial gas demand, **gas for LNG export**, and gas supply for GPG. (my emphasis)

This indeed echoes the emergent conflict noted by WEO, between the massive investment in LNG export and potential ensuing domestic shortages. However, since LNG export supposedly has little to do with NGP, that leaves residential, commercial and industrial demand and GPG. AEMO ISP has much more to say about alternatives to gas, in the case of GPG and domestic energy, than Mr Gallagher indicates.

“The investment case for new GPG will critically depend on future gas prices”

GPG and batteries can both serve the daily peaking role that will be needed as VRE

replaces coal-fired generation.” “However, in the 2030s when significant investment in new dispatchable capacity is needed, this advantage could shift to batteries, especially to provide dispatchable supply during 2- and 4-hour periods. Based on the cost assumptions in the ISP, new batteries are more cost-effective than GPG in the 2030s. Future climate policies may also impact the investment case for new GPG.”

Santos predicted gas prices.

The new ACIL Allen report admits that “Gas Power Generation demand is likely to decline from 92 PJ/a in 2020 to 30PJ/a by 2028.”, but anticipates that it will rise again post 2030 when more coal power stations close. AEMO’s analysis is very clear that “The ultimate mix will depend upon the relative cost and availability of different storage technologies compared to future gas prices”, as well as future climate policies.

Gas prices would need to be as low as \$4/GJ after 2030, half or less than ACIL Allen’s forecast, to be competitive with battery-supported renewable energy. The price chart in ACIL Allen’s model shows gas prices generally increasing over the next two decades and from 2030-40, staying above \$9/GJ with or without Narrabri. AGL Energy is already kick-starting battery technologies in the transformation of the ageing Liddell coal-fired power station, lodging initial development documents for a new big battery of up to 500MW.

Covid

Covid recovery has been invoked as another ‘need’ for gas. This does not warrant comment here, so generalised and speculative as it is, except to say there are risks for increased emissions. The latest 2020 WEO warns that while the world-wide Covid pandemic sees a reduction in greenhouse gas emissions in 2020, and presumably for the duration of the pandemic, there will be a real risk that recovery rebound will see a rise in emissions that is greater than the decline, “ **unless the wave of investment to restart the economy is dedicated to cleaner and more resilient energy infrastructure**”. (my emphasis)

NSW Net Zero Plan

Santos mentions Stage 1 of NSW’s *Net Zero Plan*, but not its goal of introducing hydrogen as 10% of the gas in NSW’s network. Instead they focus on the “Memorandum of Understanding – NSW Energy Package” signed between the state and Federal governments earlier this year. This MOU, as Santos identifies, set a (non-binding) target of adding 70 petajoules of gas per year into the NSW market, though Santos fails to mention two other potential projects, one of which already has development consent, were conceived in the MOU as potentially meeting this target. The approved Port Kembla gas import terminal would provide up to 100 PJ, and the Port of Newcastle gas import terminal, up to 110PJ.

There is of course, a fourth alternative, that has been threatened – that of legislation to formally reserve for the domestic market some of the gas destined for LNG export

Which brings us full circle. Many hundreds of submissions have resoundingly elaborated the risks we see in the NGP, the fears we have for water, land, biodiversity. The recent interim review of the EPBC Act has, for the second time in 20 years, reported on the complete inadequacy of the act, it’s ineffectiveness in environmental protection, it’s being totally ‘unfit for purpose’. It contains and confirms the kind of criticisms many many submitters have made in relation to the NGP. Our world ranking in environmental protection is abysmal. It would be unconscionable to approve the NGP, a project that has its origins in a race for the Asian market. Please refuse this Project.

