



Please direct all responses/queries to:
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Jane Urquhart PSM
Deputy Secretary, Department of Industry, Science and Resources (DISR)
By email: RSP.consultation@industry.gov.au

Dear Ms Urquhart,

RE: RESOURCES SECTORAL PLAN (RSP)

On behalf of Woodside Energy Limited (Woodside), I am writing to thank your departmental colleagues for taking the time to visit the Woodside-operated Karratha Gas Plant and Pluto Plant in Western Australia's Pilbara region on 1 August 2024. This letter is to formally convey some of the matters that we discussed at that time, relevant to the Resources Sectoral Plan (RSP) and to the decarbonisation of Australia's Liquefied Natural Gas (LNG) sector, in which both Australia and our Asian trading partners have a substantial national interest.

Demand for LNG in Asia is likely to be sustained for decades to come. This is because, as with Australia's Future Gas Strategy, our trading partners expect to continue to utilise LNG at levels that will require investment in additional supply. Crucially, this is as an integral part of plans to reduce emissions while maintaining secure supplies of energy, and not in opposition to them. These ongoing demand requirements are positive for Australia because we are well placed to meet them, harnessing the associated social and economic benefits from our natural resource development whilst contributing as a regional partner in Asia's energy security and emissions reduction. However, given these ongoing demand requirements, we cannot rely on declining LNG production as the means of reducing domestic emissions from the sector, and instead will need to take a more challenging path to invest in the application of technology to reduce emissions amidst sustained ongoing production and competitive pressures.

Multiple technologies capable of significantly reducing emissions at LNG facilities exist today. Each LNG plant is different, and so are their sources of upstream gas supply. Different combinations of technology are therefore likely to be adopted at different facilities without a 'one size fits all' approach. Typically, the largest source of emissions will be direct refrigerant compression and the combustion of natural gas in turbines for power generation. Options to abate these emissions include post combustion capture paired with carbon capture and storage (CCS), replacing natural gas with hydrogen as a feedstock (sourced from either electrolysis or natural gas reforming with CCS), or substituting combustion with direct electrification powered by either renewables or natural gas with CCS. The second largest source of emissions, depending on upstream field composition, may be the removal and venting of naturally occurring carbon dioxide from the reservoir, for which CCS presents a potential solution. Other emissions, such as from methane fugitives or from flaring, are most likely addressed to be through a minimisation strategy.

The **availability of lower-carbon firmed power and of carbon capture and storage are critical** themes that underpin most of the technology pathways available to reduce emissions from LNG facilities. However, they could benefit from targeted support from Australian policy and regulatory frameworks, especially given our national interest in reducing the emissions from sustained LNG supply. The Climate Change Authority has taken note of the lack of incentives for electrification in the current Safeguard Mechanism, for example. We further note that whilst not the subject of this paper, CCS services are a potential export opportunity in their own right, as recognised by recent amendments to Australia's ratification of the London Protocol which should be reinforced with more support.

The case for expanded policy and regulatory support for decarbonising the LNG sector is further reinforced because there are **additional costs arising from retrofitting technology onto existing facilities** that are not likely to be reducible through a typical technology cost reduction curve. These costs arise from reconfiguring facilities to accommodate processes for which they were not initially designed.

Finally, for the foreseeable future **Australia is likely to have to absorb the costs of decarbonising its LNG sector rather than passing them through to customers.** This is because from the customer perspective, the difference in the carbon-intensity of different sources of LNG is relatively insignificant compared to the emissions reductions resulting from using LNG (from any source) to supplement the expansion of renewable electricity in order to displace coal in power generation and oil in heavier vehicle transportation (such as buses and trucks). This may change if policy measures such as the European Union's Carbon Border Adjustment Mechanism are effective in applying a price signal to lower-carbon LNG production. In the meantime, decarbonisation costs are more likely to need to be absorbed, rather than commanding a premium, which could lead to pricing Australia out of its potentially prosperous contribution to Asian decarbonisation and energy security through sustained LNG trade. In addition to policy support for direct decarbonisation of LNG facilities, the further development of a liquid and low-cost market in Australian Carbon Credit Units (ACCUs) that can meet compliance obligations with standards that command the confidence of the community consequently remains an essential component of Australia's decarbonisation options within the mitigation hierarchy.

In summary, Australian LNG can be expected to make a sustained contribution to Asia's decarbonisation as it implements plans for maintaining energy security whilst also reducing emissions. This means that the domestic emissions that arise from manufacturing LNG should not be expected to decline as a consequence of natural field decline. Investment in technology is needed instead, and should be supported by public policy and investment frameworks, since Australian producers cannot currently expect to recover costs in the marketplace. The key enabling technologies are the supply of lower carbon firmed power and also CCS. These can not only address our own emissions but also, in the case of CCS, become a saleable service to others.

We welcome the early engagement by DISR on the RSP. We would appreciate the opportunity to review a draft of the RSP via a formal consultation process as this would provide an avenue for more considered comments. We would also welcome the opportunity to meet with the DISR in the future to discuss the RSP in detail.

Yours sincerely,



Peter Metcalfe (Sep 10, 2024 05:57 GMT+9)

Peter Metcalfe

Vice President – Climate Sustainability and Energy Policy