

Updating the Authority’s Previous Advice on Meeting the Paris Agreement

Woodside submission

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Executive Summary

Woodside supports efforts to reduce global emissions and we believe our business contributes to the challenge of responding to climate change.

We are progressing developments that require the investment of billions of dollars in facilities that would export natural gas for decades to come. The exported liquefied natural gas from these facilities would support a transition to a lower carbon economy by displacing emissions in our customer markets, notwithstanding that they generate emissions domestically. Woodside is also developing technologies

and programs that can contribute to a lower carbon economy, including offsets, hydrogen and electricity.

We support Australian climate and energy policy that is scientifically based, stable, effective, incentivises all low-cost abatement and enhances international competitiveness. Advice issued by the Climate Change Authority (CCA) to date aligns well with Woodside's perspectives on how to deliver these policy objectives, but climate change is a dynamic issue.

Recent changes in the international and domestic policy landscape include maturation of the Safeguard Mechanism (SGM), challenges integrating renewables power, imminent limits on sulfur emissions from shipping, increasing domestic and international focus on hydrogen and progress with an international carbon pricing framework under the Paris Agreement.

This submission provides Woodside's perspectives on each of these issues, with recommendations on how Australian policy should respond. The recommendations are:

1. The Climate Change Authority should provide clear advice on the relative roles of the Commonwealth Government, the States and Territories, and their respective environmental regulators.
2. Amend the SGM to incentivise all cost-effective abatement by aligning baselines between facilities and issuing carbon credits when facility emissions are below their baseline.
3. Reduce electricity emissions further with a technology-neutral scheme, with a clearly defined trajectory to a lower emissions electricity system. Allow the Renewable Energy Target to expire as currently legislated.
4. Increase carbon offset supply by removing barriers to market development, increasing the requirement for supply side transparency and incentivising the development of new methods.
5. Continue to support an international carbon pricing framework through the UNFCCC process, including through support of the use of quality international units for domestic compliance purposes.
6. Promote LNG as a fuel for transport and remote power. Maximise the reach into international shipping by creating emission control zones and port fee incentives and supporting the establishment of LNG infrastructure for marine bunkering
7. Become a global hydrogen leader by investigating options to stimulate demand, establishing clear regulations and supporting technology development.

These recommendations provide concrete steps to improve Australia's climate and energy policy.

Woodside acknowledges that Australia's climate change policies have been the subject of political debate and are likely to remain so. This debate has included a contest not just about the level of ambition that Australia should adopt, nor even just over the optimum policy levers, but also a dispute over jurisdictional authority between the Commonwealth and the States. This contest has led to policy instability, contributed to a lack of confidence and hindered investment.

About Woodside

Woodside is the pioneer of the LNG industry in Australia. We have a global portfolio and are recognised for our world-class capabilities as an integrated upstream supplier of energy. We produce 6% of the current annual global LNG supply.

Technology and innovation are essential to our long-term sustainability. Today we are pioneering remote support and the application of artificial intelligence, embedding advanced analytics across our operations while recognising digital security issues. We are developing a business to supply LNG as a low-emissions and economically viable fuel to domestic users and the international shipping industry.

With a portfolio that comprises over 80% natural gas, we see a role for our products to displace more emissions intensive fuels in the short term and support the increased share of variable renewables in the long term. This is one of the reasons that we're supportive of sensible policy to reduce emissions both globally and within Australia.

In our own operations, we also understand that improving our energy efficiency reduces our environmental impact and increases shareholder value. In 2016 we set a target to improve our energy efficiency by 5% by 2020 compared to our baseline. By the end of 2018, we had delivered 3.4% of this target and are on track to meet the 2020 target.

Woodside and the challenge of climate change

The scientific consensus on climate change, and the commitment of global governments to reduce emissions, is clear. The need to increase access to modern energy for people living without it, and to improve local air quality, is also clear. Access to clean, cheap and reliable energy improves living standards dramatically, and the world's growing population is driving increased demand for it. The United Nations Sustainable Development Goals were adopted in September 2015 and include *Affordable and Clean Energy* (Goal 7, "by 2030, ensure universal access to affordable, reliable and modern energy services") as well as *Take urgent action to combat climate change and its impacts* (Goal 13), recognising the multi-faceted dimensions of sustainability.

In short, the world needs more energy, delivered in cleaner ways. Natural gas has a big role to play. It is clean, reliable, and the ideal partner for renewables. LNG demand grows strongly over the next two decades in the International Energy Agency's "Sustainable Development Scenario", which outlines a pathway to meeting the Paris Agreement goals, delivering universal access to modern energy, and dramatically reducing premature deaths from energy related air pollution.

The 2014 report of the Intergovernmental Panel on Climate Change (IPCC) said that "GHG emissions from energy supply can be reduced significantly" by switching to gas. According to the IPCC, electricity generated from gas has on average half the greenhouse emissions of electricity generated from coal. For example, in 2018, coal-to-gas switching helped avert 95MT of CO₂ emissions, according to the International Energy Agency (IEA). Moreover, the IEA's 2019 report "The Role of Gas in Today's Energy Transitions" examined the role of fuel switching from coal to natural gas. The report found since 2010, coal-to-gas switching has saved around 500 million tonnes of CO₂ – the equivalent of taking 200 million internal combustion vehicles off the road.

As a readily dispatchable power source, gas-fired power is an ideal partner with renewables to provide the system stability that allows high renewable penetration by providing firming capacity in the form of a reliable power source to help resolve intermittency issues.

The LNG that Woodside supplies into Asian markets, and the pipeline natural gas for WA, contributes to these outcomes, and we are also committed to lowering our own direct net emissions through plant design, efficient operations, and offsets. We have committed to improve our energy efficiency by 5% on baselines set in 2016 by 2020; and are a signatory to the Guiding Principles on reducing methane emissions across the natural gas value chain as well as the World Bank's Zero Routine Flaring initiative. We are exploring options for integrating renewables and batteries with gas-fired power at our facilities and are developing a new business to develop and acquire carbon offsets at scale.

We are developing new opportunities for LNG to displace higher-emission fuels, including in trucks, trains and ships, and building capability to produce and transport Hydrogen from both renewable and non-renewable sources.

Woodside's climate change policy advocacy principles

Where Woodside has the opportunity to engage with governments about their climate change policies, we are guided by the following key principles.

We recognise that an ideal policy – global in nature, stable over the long term, with targets based upon science, and delivering objectives at the lowest global cost – is not currently contemplated by the international community through a single mechanism or institution. Instead, pragmatic and incremental policies should be (and are being) implemented but should trend towards the ideal whilst mitigating the interim potential disadvantages of piecemeal action. For example:

- Policy objectives and targets should be based on the internationally accepted climate scientific consensus. National commitments and actions should be geared to make appropriate contributions to the scientifically derived global objective. Formal review cycles should ensure targets remain appropriate and that policies are effective in achieving them.
- Policies should target action to which ever global sector or geography can meet objectives at the lowest cost. To reduce the gap to global action, jurisdiction should be held at the highest level of a country's system of government and should endeavour to link internationally where possible. We believe that free markets efficiently allocate resources, and that a global market for high quality offsets should be encouraged and supported. Pre-competitive research and development support should be deployed to accelerate lower emission technologies down their cost curve in order to reduce the future marginal cost of abatement.
- Policies should enhance national competitiveness and reduce trade distortion by targeting relief to energy intensive trade exposed (EITE) sectors that compete with, or export to, markets that impose less ambitious policies upon their own equivalent sectors. Without effective EITE relief, the pace of national action will be constrained by the needs of the most vulnerable sector.
- Policies should be enduring over the long term in order to allow sound investment decisions. This means that they must accommodate the delivery of competing priorities such as energy security,

energy poverty, economic development, and urban air quality; and they need to be enduring which implies a need for political compromise and pragmatism in service of bipartisan consensus.

Setting the level of ambition

Climate change is a global challenge. Trillions of dollars of investment in new technology and cleaner industrial infrastructure is needed as part of a global response. To marshal such investment policymakers need to offer stable and consistent settings, in response to which business can effectively plan and invest. The global response to climate change has been agreed by the 197 countries that are party to the United Nations Framework Convention on Climate Change and the subordinate Paris Agreement.

1. The role of the Commonwealth versus the States and Territories

Woodside acknowledges that Australia's climate change policies have been the subject of political debate and are likely to remain so. This debate has included a contest not just about the level of ambition that Australia should adopt, nor even just over the optimum policy levers, but also a dispute over jurisdictional authority between the Commonwealth and the States. Efforts by sub-national governments to establish their own levels of ambition are counterproductive, spread confusion, and are likely to result in duplicative and inefficient efforts.

This contest, between political parties, and between the Federal and state governments is expected to continue for the foreseeable future, creating a challenge for industry which needs climate and energy policy to be stable across electoral cycles to be able to make multi-decade investment decisions.

Policy measures on climate change can be considered in terms of the demand-side and the supply-side. On the demand side, the demand for greenhouse gas emissions reduction is set by the national target. The clearer and more consistent this demand signal is, the better it will encourage supply-side investment and innovation to meet it. Within the Paris Agreement Framework, the Federal Government has the responsibility for setting levels of ambition for greenhouse gas emissions reduction. Australia's initial Nationally Determined Contribution (NDC) under the Paris Agreement has been submitted to the UN and is a 2030 target of 26-28% reduction from 2005 emission levels.

There is however a clear role for both the States and the Commonwealth on the supply side of policy (i.e. working on measures to ensure the cost of delivering abatement reduced). These might include

- Support of emerging technology (e.g. fiscal subsidies, removing regulatory barriers)
- Investment facilitation and attraction in lower carbon industries
- Direct regulation to resolve market failures (e.g. building energy efficiency standards)
- Offset industry capacity and capability development

The Climate Change Authority, whilst recommending the appropriate climate change policies for the Commonwealth Government, should also recommend that the Commonwealth provide advice to the States and Territories on their separate but complementary roles.

Woodside also notes that there is an ongoing discussion regarding the role of environmental regulators, including in the case of the Western Australian Environment Protection Authority's proposed

Greenhouse Gas Guideline (March 2019) and in the legal challenges to projects such as the Carmichael coal mine. In both cases, the WA Environmental Protection Act and the federal Environment Protection and Biodiversity Conservation (EPBC) Act could give clearer guidance to the regulators and the courts on the treatment of greenhouse matters. Such legislation should be reviewed to ensure that it supports rather than duplicating or confusing the Federal approach to regulating industrial emissions.

Economy wide and sectoral policies

Just as national approaches, when compared to a single global approach, cause trade and competitiveness issues across borders, so sectoral approaches create them across different parts of the economy. These barriers raise the cost of action on climate change by inhibiting access to least cost abatement opportunities. For example, requiring each sector to deliver its pro-rata share of the national emissions reduction goal would increase costs to the economy. Due to the nature of Australia's economy, this could also exacerbate trade competitiveness concerns. Whilst economy wide policies do not appear to be practical at this stage, it is important that all sectors deliver their efficient share of emissions reductions. This is preferably achieved by linking policies between sectors, or where this is impractical by calibrating policy settings to align marginal abatement costs across sectors.

2. Industrial facilities and the Safeguard Mechanism

All of Woodside's scope 1 emissions are from industrial facilities that were covered by the Clean Energy Act and are now covered by the Safeguard Mechanism (SGM) under the National Greenhouse and Energy Reporting Act. The SGM is sometimes criticised for not reducing industrial emissions but this is due to the design of the SGM, which is to prevent emissions purchased through the Emissions Reduction Fund from being offset with increases elsewhere.

The SGM's regulatory objective could do more to incentivise least cost abatement, by providing an incentive for a facility to reduce its emissions below its baseline. The recent changes to move baselines from reported to annually-adjusting, calculated emissions baselines will partially address this, but more fundamental changes would be required to ensure that industrial facilities deliver all cost-effective reductions for facilities under their baseline. To do this, facilities should be issued with Australian Carbon Credit Units (ACCUs) where their emissions are below their baseline. To avoid windfall gains for facilities with high baselines, this would require that baselines move to common definitions of production and industry average emissions intensity.

One of the advantages of automatically issuing ACCUs to facilities is that several Carbon Farming Initiative methods (such as the Facilities Method) would no longer be required. This would simplify the already complicated regulatory framework, reduce compliance costs and allow governmental, administrative resources to be allocated to other areas.

Many of the investments Woodside are currently considering are scheduled to start after 2020 and are subject to significant climate change policy uncertainty. Much of the uncertainty is due to benchmark intensities not yet being defined and the SGM being silent regarding trade competitiveness. If all baselines were changed to be based on average emissions intensities, then the concept of benchmark baselines would become redundant. If this is not to occur, then it's important that the benchmark emission intensities are established as a matter of urgency.

Any future changes to reduce baselines below industry average levels would need to consider trade competitiveness issues, so that tightening baselines continue to drive emissions reductions in Australia, rather than simply offshoring emissions, production, investment and jobs.

3. Electricity

The Renewable Energy Target (RET) has successfully commercialised a renewable industry and resulted in significant reductions in electricity emissions. It has however created challenges such as integration of large quantities of intermittent generation in specific areas of the grid. Despite the RET having been delivered, renewable capacity continues to be installed, suggesting that the RET is no longer required to drive investment. To provide stability however, we believe that it be allowed to reach its conclusion in 2030 as currently legislated.

The electricity sector continues to offer some of the lowest cost emission reduction opportunities in Australia, so policies should be crafted to take advantage of this. Further abatement should be through emissions focussed, not technology focussed policy. An emissions intensity scheme, a version of the National Energy Guarantee, or a modified SGM could all efficiently deliver this objective.

4. Domestic offsets

Built on a world class emissions reporting and national inventory system, Australia's Carbon Farming Initiative (CFI) is one of the most sophisticated carbon offset systems in the world. Woodside supports the expansion of the CFI so offset supply can meet expected demand from both the government's Carbon Solution Fund and from expected SGM and voluntary demand.

When considering the role of the SGM in the offset market, it's important to recognise that the current SGM regulations include several sunset clauses and ratchet mechanism that will progressively tighten baselines. These include the expiration of the Inherent Emissions Variability criteria in 2025 and the restrictions on using estimated emissions intensities beyond 2020. Most additional SGM changes that have been contemplated would reduce baselines, requiring additional offset supply.

Offset supply can be stimulated through dedicated incentive schemes (e.g. establishment of a land restoration fund), removing barriers that exist in legislation/regulation (e.g. simplifying eligible consent requirements), and development and implementation of new carbon farming methodologies, including in "blue carbon".

The Clean Energy Regulator's recent steps to improve transparency and increase the liquidity are to be applauded. Further steps, such as setting common standards (for example, in health and safety, or in contractual terms and conditions) could assist the industry to achieve scale.

5. International offsets

Climate change has global causes and global impacts, so global solutions are appropriate. The Paris Agreement acknowledges this. It supports cooperative approaches by creating Internationally Traded Mitigation Outcomes (ITMOs) through Article 6.2 and requiring that international carbon trading is transparently reported under Article 13. Article 6.4 also establishes for an offset scheme administered by the United Nations.

Woodside advocates for the Australian Government to continue supporting delivery of Article 6 of the Paris Agreement.

ITMOs are designed to be used for sharing mitigation effort between national governments. To ensure that Australian Safeguard entities and voluntary participants can access international markets, Woodside recommends that the Australian government:

1. Provide guidance and work with industry to identify and establish bilateral arrangements with other countries that may be willing to trade ITMOs with Australia.
2. Modify domestic legislation to allow the use of high-quality international permits for compliance purposes.
3. Develop a mechanism for liable SGM entities to access ITMOs.
4. Continue to actively support robust emissions accounting through the UN negotiations and the finalisation of robust Article 6 implementation rules.

Supporting innovation, finance and new industries

6. LNG fuels for transport and remote power

Displacing diesel and other liquid fossil fuels with LNG leads to significant cuts in greenhouse gas emissions and benefits for local air quality. On a lifecycle basis using trucked LNG in power generation instead of diesel would reduce greenhouse emissions by 27%.

There is a significant opportunity for fuel use in the remote power generation, heavy transport and shipping sectors, particularly in the mining industry in Western Australia, to transition to LNG - a cleaner, cheaper, and locally produced fuel. Around three billion litres of diesel are currently imported into the Pilbara each year and more than two-thirds of that goes directly into mining operations, primarily iron ore. The ships that carry the mining export product from the Pilbara consume around five billion litres of heavy fuel oil each year, all purchased overseas.

LNG has been successfully incorporated into similar applications overseas, including in North America and Europe. New emissions standards from the International Maritime Organisation that take effect globally from January 2020 will force shipping operators to adopt cleaner fuels or install expensive equipment to “clean” their emissions.

We believe there are a range of ways that governments can assist through policy development – for example establishing “Emissions Control Areas” on the Australian coastline like the USA, Europe and China have. Incentives such as reduced port fees or capital grants to encourage the development of LNG refuelling infrastructure and the adoption of LNG-fuelled ships, would also assist. This has already been implemented by Singapore and other jurisdictions.

7. Hydrogen economy

As the pioneer of the LNG industry in Australia Woodside sees hydrogen as a natural evolution of our energy export business model, post 2030. We have commended the Council of Australian Governments (COAG) in commissioning a national hydrogen strategy and believe as a nation rich in natural energy and resources, Australia can continue to make a difference to global emissions through trade.

Nations like Saudi Arabia, USA, Norway and Qatar are rapidly developing their hydrogen industries and if Australia wants to compete globally the correct support, policy settings and regulations need to be made.

In the context of developing a hydrogen industry, Woodside advocates a technology-neutral, lowest-cost approach. Lower costs will result in faster uptake and increased social license.

We believe the lowest cost and lowest emissions pathway to build hydrogen infrastructure is by stimulating stable and predictable domestic demand and through a transition from 'blue' hydrogen to 'green' hydrogen export industry.

Woodside is focusing on two technologies: carbon-neutral hydrogen, sourced from gas ('blue' hydrogen), and zero-carbon electrolysis of water powered by renewable energy ('green' hydrogen).

There are early signs of an emerging hydrogen market, which demonstrate that the technology for hydrogen generation, distribution and use exist. To leverage these efforts into major investment decisions, the Government could consider mechanisms to stimulate hydrogen demand and use. Additional hydrogen supply could mitigate east coast gas supply constraints, whilst maximising use of existing infrastructure and underpin the creation of a globally dominant hydrogen export industry comparable to Australia's current LNG industry.

The following proposals can further support the development of the hydrogen industry in Australia:

- **Export:** State and federal governments to consider direct investment in shared infrastructure to promote the establishment of hydrogen producing regions; and consider grants and tax incentives to encourage production and/or sales.
- **Domestic Transport:** State and federal governments can encourage a domestic hydrogen industry through procurement (supporting fleet purchases including bus fleets); and direct support of hydrogen fuelling demonstration sites as envisaged by COAG.
- **Domestic Industry:** Introduce measures that promote development and commercialisation of local content; by offering equalisation support for local export producers to select Australian made products. Adoption of international hydrogen standards where applicable would also streamline the development of the industry. This support could be removed as the industries achieve scale.

In addition to customer side incentives, also it is worth considering producer incentives, including:

- Capped tax depreciation effective lives for manufacturers. Currently the ATO provides a 25-year tax depreciation for hydrogen manufacturing assets. A shorter depreciation period would improve economics of hydrogen manufacturing operations.
- Expanded grants to support pilot projects and early stage demonstration.
- Encouraging collaboration between industry and the research community, for example by introducing the R&D tax incentive collaboration premium to hydrogen projects.