



CLIMATE ENERGY FINANCE

The impact of the Safeguard Mechanism on Woodside's Burrup Hub group of projects

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18 April 2023

KEY FINDINGS

Woodside and its partners will be subject to a multi-billion dollar cumulative liability of up to \$63 billion – roughly equivalent to Woodside's current market capitalisation – to 2050 at its multi-facility Burrup Hub LNG export project as a result of the critically important new Safeguard Mechanism (SGM) reforms.

Woodside will have to internalise the increasing costs of offsetting the Scope 1 onsite emissions of its existing processing facilities (North West Shelf (NWS) and Pluto), giving it a significant and rising incentive to invest to decarbonise them.

With the planned new Scarborough and Browse mega gas reservoirs required to operate at immediate net zero Scope 1 emissions under the SGM, Woodside should re-evaluate the investment case for these proposals.

With the carbon price set to rise at inflation +2% annually, and free permits set to diminish at 5% pa cumulative, the decarbonisation investment incentive is significant and growing, and should be a key new focus of board strategy, investment decision-making and risk management.

SUMMARY

- The SGM affects two existing LNG processing facilities (NWS and Pluto) and two new gas fields (Scarborough and Browse) at Woodside's Burrup Hub project, requiring a 4.9% annual reduction of Scope 1 emissions on existing facilities, and an immediate net zero scope 1 emissions for the new gas reservoirs connected to existing processing facilities.

- We project that the cumulative liability of Woodside and partners' Burrup Hub project to 2050 is between \$23bn to \$68bn, with Woodside's share almost half. Most costly are the ageing NWS facilities and the planned Browse expansion.
- This is a clear commercial signal for Woodside to invest in decarbonisation. There are various pathways to decarbonising LNG operations, e.g. by replacing gas baseload power used to run facilities with renewables plus storage and gas peaker firming. A high and rising price on carbon also puts pressure on Woodside to prove if carbon capture and storage (CCS) can work consistently at the scale of industry lobbyists' oft-repeated claims – the track record of persistent [underperformance at Gorgon](#) would suggest not. Importantly, any investment in CCS should be paid for by Woodside, under the polluter pays principle.
- This liability should prompt the board to re-evaluate the viability of fossil fuel expansion proposals. This is especially the case in light of the climate science, the [rapid acceleration in the energy transition](#), a widening gap between growing supply of new capacity¹ and demand as [global LNG demand weakens](#) in the face of extreme price volatility and hyperinflation, and increasing global decarbonisation momentum underpinning the risk of asset impairment and/or stranded assets as the industry enters structural decline.
- The default option to do nothing and pay for carbon offsets will become increasingly expensive for Woodside. The SGM ratchets up ambition to incentivise deployment of new technologies, like replacing behind-the-meter baseload gas power generation with hybrid wind-solar-battery-gas peaker solutions.
- Ahead of its 28 April AGM, Woodside Energy is under [shareholder](#) and [proxy advisor pressure](#) to bring appropriate energy transition and climate science experience to its antiquated board, and to provide shareholders with a clearly articulated energy transition action strategy to deliver on Scope 1-3 net zero emissions by 2050. Over 90% of Woodside's emissions are Scope 3 exported LNG emissions, so it will be well aware of the material impacts of significant global decarbonisation momentum, including in its number one export destination: [Japan's 'Green Transformation' GX Roadmap](#), and the growing pressure to deliver a [credible decarbonisation strategy](#).
- Woodside is responsible for [1% of the global carbon budget to 2050](#) when Scope 3 emissions are assessed, meaning on climate grounds alone it has a responsibility to accelerate its decarbonisation plans this decade in line with the science.

¹ Global Energy Monitor, [Why LNG's current boom will only accelerate its ultimate demise](#), 6 Apr 2023.

1. Context – the Safeguard Mechanism and Woodside’s Burrup Hub

With the passage through parliament of the federal Safeguard Mechanism (SGM) reforms last month, finance and industry will, from July 1, 2023, have a credible, progressively increasing real price on carbon emissions to factor into its capital flows, investment decisions and business valuations. The price of carbon under the SGM will increase by CPI+ 2% annually.

The SGM’s two-tiered system will ratchet down emissions at existing high-emitting facilities at the rate of 4.9% compounding p.a. (we assume this continues to apply beyond 2030), while requiring new gas reservoirs connected to existing facilities to prove they can operate at net zero emissions from day one.² Facilities covered by the SGM will be required to meet their emissions reduction obligations by directly mitigating onsite emissions or buying ACCUs to the equivalent value (international offsets are not eligible to meet emissions liability under the SGM).

Among the companies most incentivised to decarbonise their operations is Woodside Energy, with two existing SGM-impacted facilities – North West Shelf and Pluto LNG – and two new facility proposals, also liable to the SGM – Scarborough and Browse gas fields (Table 1).

Table 1 – Existing and new projects at Woodside’s Burrup Hub, Western Australia

<i>Project Name</i>	North West Shelf (NWS)	Pluto LNG	Scarborough	Browse
<i>SGM jurisdiction</i>	Existing	Existing	New	New
<i>Year of operation</i>	1989	2012	2026	Late 2020's
<i>Extraction source</i>	Carnarvon Basin	Pluto and Xena basins	Carnarvon Basin	Browse Basin
<i>Processing plant and capacity</i>	Karratha Gas Plant (KGS), 16.9Mtpa	Pluto LNG plant, 4.9Mtpa	Pluto LNG Plant, add additional ~5Mtpa	NWS processing facilities, lifetime extended from 2036 to 2070
<i>Ownership</i>	Woodside operated with 33.3% stake	Woodside operated with 90% stake	Woodside owns 100% of the Scarborough reservoir and 51% of Pluto 2 LNG train	Owned by the Browse JV, incl. Woodside

² Minister Bowen, [SGM one step closer to Parliamentary passage](#), 27 Mar 2022, media release.

Woodside Energy ranks in the top two corporate entities rendered most liable for decarbonising their existing operations by the SGM, alongside Chevron.³ Chevron's Gorgon and Wheatstone operations account for 9% of safeguard emissions, while four of Woodside's facilities account for a hefty 6%, predominantly the NWS and the Pluto facilities.^{4,5}

Woodside's methane gas export expansion plans at Scarborough and Browse – in defiance of the climate science, and of the [clear guidance of the International Energy Agency \(IEA\)](#), which says there can be no new gas or coal if the world is to retain the prospect of limiting warming to 1.5 degrees – makes it a particularly pertinent case to assess the SGM's impacts.

The SGM provides a powerful economic incentive for Woodside and its joint venture partnerships to invest to decarbonise Scope 1 pollution across its two existing and two new Burrup Hub facilities, for example by incorporating firm renewable energy power to run the liquefaction facilities.

Onsite emissions reduction may be achieved by replacing gas baseload generators with solar, wind and battery plus gas peaker firming, substituting renewables and storage for costly gas. This effort would contribute to Australia achieving its 43% emissions reduction target.⁶

While not captured under the SGM, cumulative lifetime Scope 3 emissions of the Burrup Hub to 2070 (gas fields and processing plants) are estimated to be 5.4Gt, representing 90% of the Burrup's total emissions profile – nearly equal to the entire 2050 Paris-aligned carbon budget for Australia's decarbonisation pathway, and about 1% of the total global carbon budget to 2050.⁷

Woodside's massive Scope 3 emissions profile makes it vulnerable to increasingly ambitious and rigorous decarbonisation policies by our major trading partners. For example, Japan, the largest importer of Australian LNG, is moving to decarbonise its domestic economy with its new 'GX League', a forum for economic reforms targeting carbon neutrality, where participant companies pledge and disclose emissions targets, and a phased emissions trading scheme (ETS) beginning initially with voluntary markets as soon as April 2023 and becoming mandatory phased in from 2026.⁸

³ On the flawed basis that fossil methane emissions from safeguard facilities are underestimated, especially on a global warming potential 20-year timeframe (GWP20) where methane's warming potential is 85 times that of CO₂, per [Ian Lowe's fossil fuel methane assessment under the safeguard mechanism](#), 20 Mar 2023.

⁴ Clean Energy Regulator, [Safeguard facility reported emissions 2021-22](#), 31 Mar 2023.

⁵ Woodside controls four [facilities under the SGM jurisdiction](#) – North West Shelf (NWS), Pluto LNG, Vincent Project Venture and APU01 Pyrenees AOA Facility – but 94% of Woodside's safeguard regulated emissions comes from the NWS and Pluto LNG projects.

⁶ Prime Minister of Australia, [Australia Legislates Emissions Reduction Targets](#), 8 Sep 2022.

⁷ Climate Analytics, [Impact of the Burrup Hub on WA's Carbon Budget](#), February 2020.

⁸ S&P Global, [Japan set to launch emissions trading system in April](#), 4 Feb 2023.

2. Woodside's forecast liability under the SGM

We estimate the nominal value cumulative liability to 2050 over the life of the four Burrup Hub facilities as a result of the Safeguard Mechanism is in the realm of A\$28bn at the lower end, with an assumed A\$45/t starting [price on Australian Carbon Credit Units \(ACCUs\)](#) in 2024, to A\$63bn at the upper projection, based on a A\$75/t starting price on carbon (see Table 2). Woodside and its partners would be liable for carbon offsets to this value on the worst case that assumes they do nothing to abate emissions across the affected projects.

A cumulative liability of this size should, consistent with the SGM's objectives, prompt the Woodside board's consideration of investment opportunities in emissions reduction to mitigate its adverse financial impacts, as a matter of sound corporate governance for their half-share.

Lower projection - using a starting SGM ACCU price of A\$45/t then inflation +2% pa, nominal

Liability on existing facilities is projected to begin at \$18m in 2024, rising to \$776m cumulative by 2030, and quickly escalating to \$19bn cumulative pa by 2050.

Liability on new facilities is projected to begin at \$354m cumulative by 2030 and \$9bn cumulative by 2050.

Upper projection - using a starting SGM ACCU price of A\$75/t then inflation +2% pa, nominal

Liability on existing facilities is projected to reach \$31m in 2024, \$1.4bn cumulative by 2030, and \$36bn cumulative by 2050.

Liability on new facilities is projected to reach \$912m cumulative by 2030 to \$26bn cumulative by 2050.

The Browse expansion

The Browse gas field expansion comes under particular scrutiny given it requires the extension of the highly polluting, and therefore costly, NWS processing facilities from 2036 to 2070.

To operate the Browse reservoir at net zero from day one, the annual cost of carbon during its first year could range from \$217m to \$912m, rising exponentially to between \$576m to \$1.8bn by 2050.

The extension of the NWS facility by an additional 34 years over its current life expectancy to process Browse reserves, adds additional annual costs from 2036 onwards. The projected annual cost of carbon to run the NWS facility ranges from \$290m to \$581m in 2035 – when it is still primarily processing gas from its current Carnarvon Basin source – to \$524m to \$1bn in 2040 – processing

Browse reserves – to \$1bn to \$2bn in the year 2050, and potentially more to 2070.

Woodside's 30% stake in Browse equates to a valuation of US\$224m to US\$571m (A\$332m to A\$845m).⁹ The fact that the cost of carbon pollution from this facility has a good chance of outweighing the asset valuation in its first year of operation, seriously undermines its commercial viability. On top of this, as the facility ages, the asset value will continue to depreciate while the carbon cost increases.

Table 2 – Cost projections (nominal, A\$m)

Safeguard facility:	Existing facilities			New facilities			Combined
	Pluto LNG, annual cost	NWS, annual cost	Existing, cum. cost	Scarborough, ¹⁰ annual cost	Browse, ¹¹ annual cost	New, cum. cost	Burrup Hub, cum. liability
Lower projection¹² (A\$m)							
2024	4	14	18	0	0	0	18
2025	9	30	57	0	0	0	57
2030	85	132	776	30	217	354	1,130
2035	186	290	2,593	38	277	1,789	4,382
2040	335	524	6,062	49	354	3,620	9,682
2045	514	802	11,816	63	451	5,956	17,772
2050	656	1,024	19,453	80	576	8,938	28,392
Cum. to 2050	7,587	11,867	19,453	1,184	7,754	8,938	28,392
Upper projection¹³ (A\$m)							
2024	7	24	31	0	0	0	31
2025	15	49	95	0	0	0	95
2030	141	265	1,441	50	683	912	2,353
2035	309	581	4,846	64	872	5,169	10,015
2040	559	1,050	11,343	82	1,113	10,602	21,944
2045	857	1,609	22,120	104	1,421	17,536	39,656
2050	1,093	2,053	36,425	133	1,813	26,385	62,810
Cum. to 2050	12,645	23,780	36,425	1,973	24,412	26,385	62,810

⁹ [Independent Expert Report](#), 8 Apr 2022, p.110.

¹⁰ Assumed year of operation 2026

¹¹ Assumed year of operation 2030

¹² Based on lower limit emissions projections at each facility, a carbon price starting at A\$45/tonne from FY2024 and compounding at a rate of 3% CPI plus 2%.

¹³ Based on upper limit emissions projections at each facility, a carbon price starting at A\$75/tonne from FY2024 and compounding at a rate of 3% CPI plus 2%.

3. Positioning to respond to the Safeguard Mechanism – three avenues

Against the backdrop of domestic decarbonisation regulation, an increasing price on carbon, key trading partners moving to decarbonise, the shift in risks to a now projected growing risks of LNG global oversupply, long-term decreasing gas demand, and building investor and community pressure to decarbonise in line with science, Woodside has three avenues to manage its (scope 1) emissions in line with SGM requirements:

Avenue 1: Do nothing to abate emissions at existing and new facilities, and cop the multi-billion dollar liability of mandatory ACCU purchases – unlikely to be a viable option for the company or investors. A scope 1 strategy that isn't centred on emissions reductions is risky since it will remain subject to regulatory change favouring more rapid and stringent decarbonisation and penalising failure to act – including the all but inevitable ratcheting up of national ambition to align with the science.

Avenue 2: Invest in carbon abatement technologies for existing and new facilities, by, for example, transitioning to renewables-powered operations onshore, and/or proving CCS can work consistently and at scale for offshore facilities. As long as the projected rising cost of offsets outweighs upfront retrofit investment costs, an incentive to invest exists, delivering direct financial gain and enhanced social licence, particularly if Woodside can abate more carbon than required each year.

Avenue 3: Re-evaluate planned expansion into new projects – a clear option given the risk of global LNG oversupply, long-term downward trending gas demand, [increased investor demands to accept and act on the science](#) as the world rapidly decarbonises and other factors detailed below. Shelving expansion plans would free-up capital for Woodside to invest in zero emissions energy supply alternatives, and/or deliver accelerated capital returns via a higher dividend payout and ongoing share buybacks, similar to the recent moves of [Chevron](#) and [Exxon](#) – while mitigating the exponentially disastrous effect of each global warming increment.

Below, we discuss avenues 2 and 3 in more detail, and in the context of a high price on carbon, a combination of both options is likely to reduce liability and deliver climate outcomes.

Avenue 2 – Investing for scope 1 emissions reduction in the gas sector

Scope 1 reduction at the Burrup Hub under avenue 2 above include investment opportunities to reduce onshore processing facilities emissions, and offshore reservoir emissions.

Onshore, investment to electrify liquefaction operations by replacing behind-the-meter fossil electricity generation with installed renewables plus storage and gas peaker firming is likely to make the most impact to emissions reductions under the SGM.

Offshore, avenues to reduce flaring and venting of reservoir CO₂ are an option. This should catalyse new emissions efficiencies across the value chain – for example, one study found that predictive maintenance could play a significant role in reducing “unplanned” flaring caused by ageing equipment.¹⁴ Carbon capture and storage (CCS) has also been championed by the industry as a solution.

On the basis of experience to date, the industry’s continued underperformance in CCS and its failure to prove the technology can work consistently at scale has legitimately been called out. Now, if it wishes to rely on CCS to meet its abatement obligations, the industry will have to make this red herring work.

Critically, the government must play a key role in setting the right policy framework, with independent and transparent monitoring, verification, and reporting (MVR) of onsite Scope 1 emissions as its cornerstone, enabling rigorous scrutiny of industry claims of CCS’s efficacy should they rely on it for abatement.

CCS related technology has been around for 50 years. The industry has long advocated for carbon capture, utilisation and storage (CCUS) i.e. a euphemism for using carbon dioxide injections to deliver ‘enhanced oil recovery’ (EOR).¹⁵ 75% of all captured carbon in the gas sector is used for EOR, which itself leads to more CO₂ emissions, as gas companies inject the pressurised CO₂ into existing gas reservoirs to squeeze out more.¹⁶ In the oil sector, when prices were high, CCUS rates were high – proving the technology has potential but only with a strong economic incentive. However, CCUS for EOR is not a climate solution, for obvious reasons that emissions from burning more reserves outweigh any claims to emissions reduction.

Absent a high price on carbon, there has been little financial incentive for fossil fuel giants to invest the capex and opex to run CCS projects consistently and at capacity. For example, Chevron, one of America’s largest companies, managed to push their Gorgon gas facility 1.1Mt beyond design capacity last year to extract superprofits during a period of LNG hyperinflation, but it failed to make its \$3bn mega-CCS project meet capacity for the 6th year in a row.¹⁷ Nevertheless, flying in the face of its spectacular underperformance to date, the company continues to express confidence in its ability to get CCS working at scale.¹⁸

The International Energy Agency’s (IEA) 2050 Net Zero Emissions (NZE) pathway projects carbon capture of fossil fuel emissions to account for 70% of total carbon capture in 2030 and 50% in 2050.¹⁹

¹⁴ McKinsey & Co, [The future is now: How oil and gas companies can decarbonize](#), Jan 2020.

¹⁵ IEEFA, [Carbon capture: a decarbonisation pipe dream](#), 21 Sep 2022.

¹⁶ IEEFA, [Carbon capture to serve enhanced oil recovery: Overpromise and underperformance](#), 1 Mar 2022.

¹⁷ WA Today, [Chevron’s Gorgon hits record gas exports at the expense of emissions](#), 12 Apr 2023.

¹⁸ Energy Intelligence Group, [Chevron Plans Drilling Work to Solve Gorgon CCS Shortcomings](#), 20 Mar 2023.

¹⁹ Note: This is within the IEA NZE pathway where fossil fuel supply falls from 80% of the global energy mix in 2020 to about 20% in 2050. Source: IEA, [Net Zero by 2050: Roadmap for the global energy sector](#), Oct 2021, pp. 56-60, 94 - 98.

Without maturing CCS technology in the fossil fuel sector, a net zero future would require an additional US\$15tn cumulative investment by 2050 to compensate for the emissions reduction CCS is modelled to have provided.²⁰

A high price on carbon provides the financial case for geological storage of carbon, and in Australia we now have the policy architecture in place for this. In 2021, Santos publicly stated that a A\$70/tonne carbon price by 2030 would provide it with an approximate 20% internal rate of return on its Moomba CCS project, making the project economic.²¹ With global prices currently sitting at US\$75/t (A\$110) and the Australian price set to reach A\$100/t by 2030,²² we may now – with domestic decarbonisation policy certainty and the SGM providing the necessary legislative legal carrot and stick – find out whether or not the gas giants, Woodside included, can make CCS work consistently and at scale.

The sector has the advantage of being able to leverage largely existing offshore infrastructure that allows CO₂ to be collected, compressed and channelled directly into nearby depleted reservoirs. Woodside's Browse project incorporates CCS infrastructure into its development concept,²³ yet CEO Meg O'Neill has stated that the project still needs a solution for storing the reservoir carbon dioxide.²⁴ Woodside's potential liability of up to \$68billion under the SGM should mature its plans for CCS, if the board truly believes this technology viable.

However, despite cries for government support from the gas cartel,²⁵ public money should not subsidise a multi-decade technological experiment that has so far failed. A key principle is that producers internalise the climate costs of their operations, not slug the taxpayer. Further investment in CCS must be made by corporate balance sheets, especially in the wake of the massive \$120bn in collective CY2022 war profits reaped by the Australian gas sector.²⁶

Avenue 3 – Re-evaluating expansion plans

The SGM establishes a best practice benchmark on new reservoirs, requiring them to be net zero emission from day 1, placing pressure on Woodside to re-evaluate its high emissions expansion plans for the Scarborough and Browse reservoirs.

For the planned expansion into the Browse reservoir, which is significantly more polluting than Scarborough, Woodside will need to invest heavily in reducing the flaring/venting of excess CO₂ either through CCS or offsetting its carbon emissions, which will become increasingly costly.

²⁰ Global CCS Institute, [Global Status of CCS 2022](#), p.42.

²¹ Renew Economy, [Santos counts on \\$70/tonne carbon price for flagship CCS project](#), 17 Aug 2021.

²² Under the Australian government's cap of \$75/tonne plus CPI plus 2% (5% compounding YoY).

²³ Woodside, [FY2022 Annual Report](#), p.29.

²⁴ SMH, [BP to grab biggest slice of Woodside's \\$30b Browse gas project](#), 3 Apr 2023.

²⁵ AFR, [Safeguard changes to kick forward carbon capture](#), 10 Apr 2023.

²⁶ RenewEconomy, [Fossil fuel majors reap obscene profits](#), 7 Dec 2022.

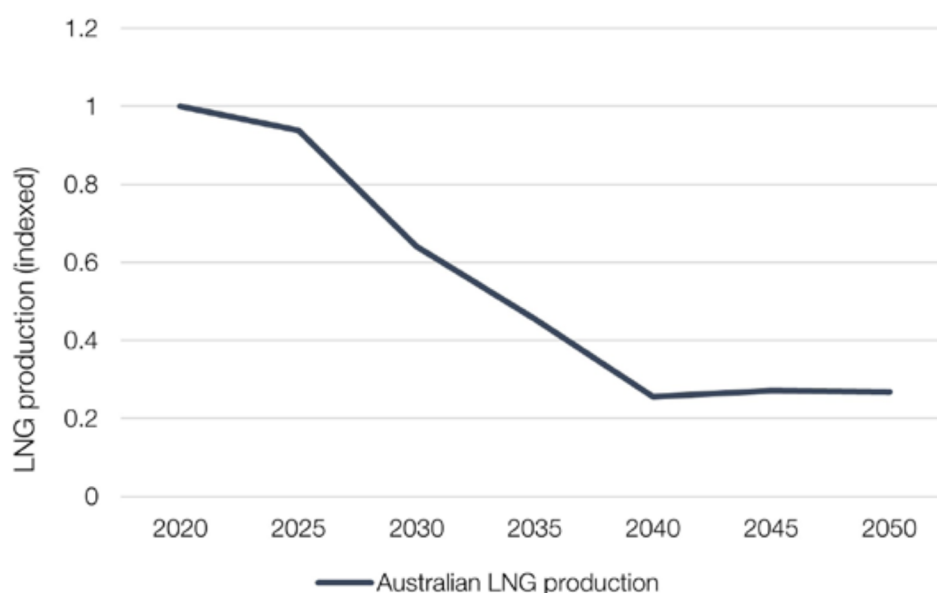
Even if Woodside were to successfully operationalise CCS at the Browse facility, the project would continue to generate emissions from compressing and channelling gas a thousand kilometres to be processed in Australia's oldest LNG plant at the North West Shelf.²⁷ Extending the life of the NWS facility from 2036 to 2070 to accommodate this will be increasingly liable to emissions penalties as decarbonisation regulation ramps up (per the financial assessment in Section 2).

Further, Woodside has publicly endorsed the feasibility of a 1.5 degree pathway, as an industry partner to the Australian Industry Energy Transitions Initiative (AIETI)²⁸ – a network of emissions-intensive industry players designed to coordinate action on net zero emissions supply chains – and it needs to act in accordance with this intent.

As a signatory to the AIETI, Woodside underwrites the initiative's forecast of the structural decline of Australian LNG production – a sharp 38% decline to 2030, and 73% overall decline by 2040 (Image 1). Counterintuitively, new LNG infrastructure builds of the kind proposed by Woodside at the Burrup Hub could take 5-8 years, i.e. the remainder of the decade, a period during which Woodside has assumed dramatic decline.

Image 1 – LNG production assumptions signed off by Woodside²⁹

FIGURE 7.01: LNG production assumptions in Australia



²⁷ SMH, [BP to grab biggest slice of Woodside's \\$30b Browse gas project](#), 3 Apr 2023.

²⁸ Australian Industry Energy Transitions Initiative, [Pathway to Industrial Decarbonisation: Phase 3 Report](#), Feb 2023.

²⁹ Australian Industry Energy Transitions Initiative, [Pathway to Industrial Decarbonisation: Phase 3 Report](#), Feb 2023, p.130.

Risks of expansion are amplified by the rising likelihood of a price on carbon emissions being imposed on the end use of LNG in Japan, Korea et al – key export destinations for Australian LNG – and the resulting impact on export prices.

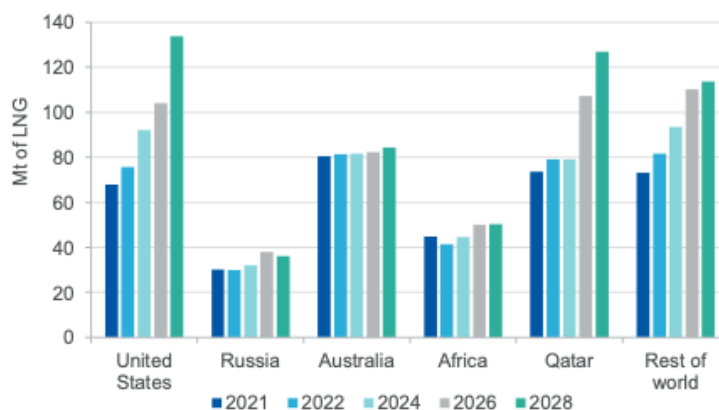
The potential for capex cost blowouts for Burrup Hub is also likely to be material, adding to the case for re-evaluation. Australian LNG export projects have typically seen an average 30% capex cost blowouts.³⁰

The rising risks of a new boom-bust LNG commodity cycle, a widening gap between growing supply and expectations of reduced demand, and acceleration of the global investor reorientation towards decarbonisation may lead to contract renegotiations, and the material risk of asset impairments and/or stranded assets, as projects become less feasible against the backdrop of the escalating climate emergency and the industry’s structural decline. This scenario may force an unanticipated policy response by LNG-import dependent nations, with impacts for exporters like Woodside, as the [G7 discussions](#) highlighted this month.

For example, the US and Qatar are investing heavily in liquefaction capacity to fill the gap in global supply brought about by sanctions against Russia, the world’s third largest gas exporter prior to the war on Ukraine.³¹ The Australian Office of the Chief Economist projects that the US is set to outpace the supply of any other country, shooting for world number one by the decade’s end (Image 2).

Image 2 – The US is set to far outpace Australia in the global LNG supply race.³²

Figure 7.2: Global LNG supply forecasts, 2021–28



Notes: 2021 and 2022 figures based on historical data.
Source: Department of Industry, Science and Resources (2023); Nexant ECA

³⁰ Financial Time, [Cost overruns near \\$50bn as Australia’s LNG boom falters](#), 31 Oct 2016.

³¹ Global Energy Monitor, [Why LNG’s current boom will only accelerate its ultimate demise](#), 6 April 2023.

³² Office of the Chief Economist, [Resources and Energy Quarterly](#), March 2023.

This trend will be strengthened by the widening gap between supply and demand as decarbonisation accelerates globally, and as a rapid diversion away from gas is triggered by high LNG prices as countries look to secure their energy sovereignty and independence.

Further, in 2022, use rates at regasification plants globally remained significantly below full capacity, and European demand for LNG is expected to be less than half of what Europe's import capacity would be with the new expansion plans.³³ European piped gas demand was down significantly in 2022, and likely to continue decreasing with strong incentives and subsidies for clean technologies (under the new EU Net Zero Industries Act (NZIA)) and reducing energy consumption, as well as newly installed LNG import regasification facilities.

The majority of emissions from Australia's gas supplies arise when the fuel is burnt rather than when it is produced, with Woodside's contribution a massive 1% of the global carbon budget to 2050, as noted above. Australia's scope 3 exported emissions are the elephant in the room. While not considered under the SGM, our outsized exported emissions profile risks putting us at odds with our partners' increasingly stringent decarbonisation pathways and policies, and on the wrong side of history, and distracts from the booming investment opportunities emerging globally in zero emissions solutions.

The combined impacts of Woodside's gas reservoir expansion and processing plans would impose a huge cost on the climate at a time when the escalating climate emergency and leading authorities worldwide dictate there can be no expansions to gas extraction and burning. In addition to climate impacts, the gas giant's proposals negatively impact a biodiversity hotspot, potentially devastate the world's most extensive collection of Indigenous rock art, and impose environmental costs and harms on local communities.³⁴

Woodside needs to now read the writing on the wall and seriously plan for the energy transition. The increasingly rigorous regulatory and decarbonisation policy framework of the federal government, the rising cost of carbon pollution, the global acceleration towards decarbonisation, the Glasgow Financial Alliance for Net Zero (GFANZ) pledge to align with the climate science by firms managing a collective US\$150 trillion of assets and the declining market attractiveness of gas are all significant shifts in the LNG landscape which the Woodside board should consider as a matter of urgent priority as part of a re-evaluation of its expansion plans – alongside the pressing ESG imperative to act on climate to retain and restore its diminishing social licence.

Contributing editor: [Annemarie Jonson](#), CEF

³³ Global Energy Monitor, [Why LNG's current boom will only accelerate its ultimate demise](#), 6 Apr 2023.

³⁴ CCWA, [Why Woodside's Burrup Hub developments should not proceed](#).