

Eni's Verus Not So True on Net Zero

Italian retail investors buying into dirtier
Australian gas

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Key Findings

Italian firm Eni plans to develop the carbon-laden Evans Shoal now renamed Verus project, making the company's net zero commitments more challenging.

Eni's plans are at odds with the objectives it pledged to the Italian investing public when raising €2 billion through its first sustainability-linked bond issue to retail investors.

This latest plan will be subject to Australia's Safeguard Mechanism, meaning Evans Shoal/Verus will be exposed to higher carbon costs than other gas fields given it is estimated to contain up to 27% carbon dioxide.

As greenwashing claims have become a focus for regulators in the United States, Europe and Australia, Eni's sustainability credentials should not only come under greater regulatory scrutiny but investors should also be asking questions.



Executive Summary

Italian energy firm Eni plans to develop the most carbon dioxide (CO₂) intensive gas field offshore Australia — the Evans Shoal project now renamed Verus. The development plan undermines Eni's position at the forefront of gas producers' net zero emissions by 2050 pledge.

Eni has made much of its sustainability credentials on its website and in multiple public presentations. Yet just days after raising €2 billion through its first sustainability-linked bonds issue to retail investors in January 2023, Eni held a briefing in Australia to outline its development plans for Evans Shoal. When Eni issued its sustainability-linked bonds to Italian retail investors, it did not disclose its Verus plans.



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There have been many plans for the Evans Shoal project over its 35-year history. This latest plan will be subject to Australia's Safeguard Mechanism meaning Evans Shoal/Verus will be subject to higher carbon costs than other gas fields given the CO₂ average content of 27% in the field and make it potentially one of the largest CO₂ facilities under the mechanism.

Developing the Evans Shoal/Verus project is inconsistent with Eni reaching net-zero greenhouse emissions (GHG) by 2050, which is entirely reliant on unproven carbon, capture and storage technology and buying carbon offsets. It will also coincide with a glut of new supply in global LNG markets over 2025 to 2027 and challenging economics for new LNG ventures looking to come online shortly after this period.

Eni has received significant funds from the Italian investing public based on the premise of its pledge to accelerate the energy transition and reduce GHG emissions. Given its plans to develop Verus/Evans Shoal, Eni's sustainability credentials and net zero commitments should come under greater scrutiny.

Verus, the Latest Plan for Evans Shoal, After 35 Years of Multiple Proposals

The Italian energy firm Eni has revived the undeveloped Evans Shoal gas project, around 300km northwest of Darwin off the coast of the Northern Territory in the northern Bonaparte Basin. It has also given the project a new name — Verus, Latin for true and genuine. Perhaps not a suitable name for a gas field that does little towards Eni genuinely achieving its greenhouse gas emissions (GHG) reduction targets.



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Evans Shoal is estimated to contain up to 27% carbon dioxide (CO₂), making it the most carbon-intensive gas field in Australian waters to be developed for the export market.¹ Eni plans to use the Verus gas as feedstock for a second train at Darwin LNG, which is operated by Australian LNG producer Santos. Eni made no reference to Verus' actual CO₂ content when it held a briefing about the project on 31 January 2023,² which is located near another carbon dioxide-laden field, Barossa.

This is not the first time Eni has touted Evans Shoal/Verus as an LNG project. In a presentation to the South East Asia Australia Offshore and Onshore Conference (SEAAOC) in August 2014, Eni said Evans Shoal was a potential LNG project and could also be a backfill project for the first train at Darwin LNG, which is now going to be backfilled by gas from Barossa.³ Santos' Barossa project will replace the gas from the dwindling supplies from the Bayu-Undan gas field in the Timor Sea. Bayu-Undan in turn will be used to store CO₂ from the Barossa and Verus fields.

Eni and Santos' interests offshore northern Australia are intertwined. The two companies signed a deal in May 2021⁴ to work together to develop Evans Shoal/Verus and carbon capture and storage (CCS) projects in northern Australia and in the territorial waters of Timor-Leste. The agreement also included other areas of cooperation such as the possible development of the Petrel and Tern fields in the Bonaparte Basin through the Blacktip/Yelcherr gas plant facilities. Eni states in its Verus briefing that the CO₂ from the project will be stored in the near depleted Bayu-Undan gas field.⁵

The Bonaparte Basin and nearby Timor Sea are familiar territory for the Rome headquartered firm. Eni operates the Blacktip gas field in the Bonaparte Basin and supplies Darwin with much of its gas.

¹ Geoscience Australia (GA) portal, Map Layers → Geochemistry → Organic Chemistry – Natural Gas Composition → Natural Gas Composition – Carbon Dioxide: <https://portal.ga.gov.au/> accessed 13 March 2023. GA data shows carbon content in Evans Shoal drill wells ranged between 16.76% and 27%.

² Eni. Eni's Verus Gas Project – Briefing. 31 January 2023.

³ Eni. Eni's Activities: A presentation to SEAAOC. Darwin. August 2014. Page 12.

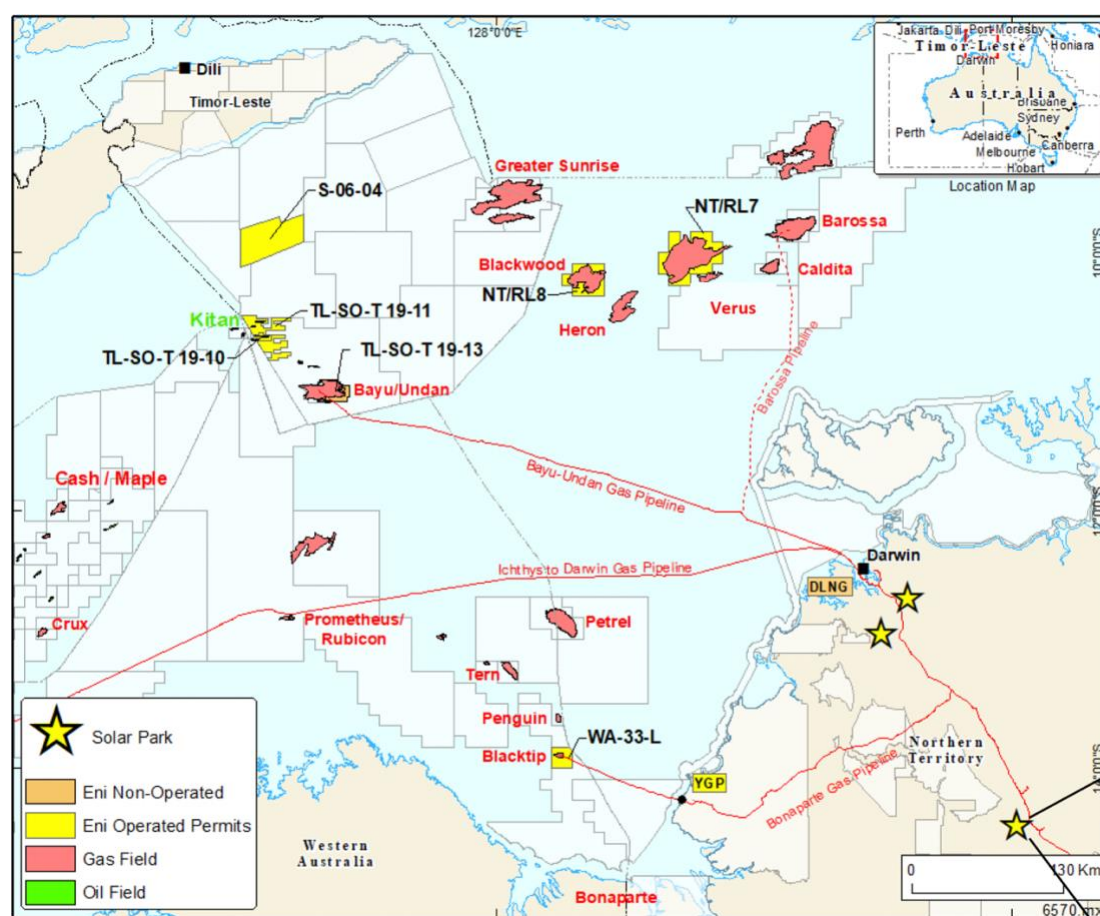
⁴ Santos. Santos and Eni sign MOU to collaborate in northern Australia and Timor-Leste. 3 May 2021.

⁵ Eni. Eni's Verus Gas Project – Briefing. 31 January 2023. Page 4.

The company also has an 11% stake in the Bayu-Undan field,⁶ and is the owner operator of the retention lease NT/RL8 that contains the Blackwood gas discovery.⁷ The Evans Shoal gas discovery/Verus project is around 200km to the east of Woodside Energy's Greater Sunrise gas field in the Timor Sea (Figure 1).

The high CO₂ levels in Evans Shoal/Verus has been a barrier given the costs associated with separating the CO₂ from the gas before selling to customers. In a world that talks of the need for greater focus to reduce GHG emissions, there had been a perception that the project's time had passed. But Eni does not think so.

Figure 1: Verus and Other Gas Fields in the Bonaparte Basin and Timor Sea



Source: Eni's Verus Gas Project – Briefing, 31 January 2023, p. 4

⁶ Santos. Santos completes Bayu-Undan and Darwin LNG sell-down to SK. 30 April 2021.

⁷ National Offshore Petroleum Titles Administrator. National Electronic Approvals Tracking System (NEATS) – Retention Lease NT/RL8.

Evans Shoal/Verus History

There have been many plans for Evans Shoal since it was discovered 35 years ago. The field is located within Australian territorial waters in permit NT/P48, which became the retention lease NT/RL7 in August 2014.⁸ The project has seen multiple owners and has changed operator numerous times since it was first discovered in 1988 by BHP Petroleum, now part of Woodside Energy. BHP Petroleum discovered Evans Shoal under a farm-in agreement with WMC Resources, the upstream subsidiary of miner Western Mining, which became part of BHP in 2005.

In 1996, the permit for the field (NT/P48) was granted to Timor Sea Petroleum NL, which became Natural Gas Australia Limited, and Shell farmed into the permit with a 50% interest. Japanese utility Osaka Gas purchased a 10% stake in the field permit in August 2000, at the same time it bought into the Greater Sunrise gas project.

A year after Shell became the largest owner in the NT/P48 permit it formed a collaboration in May 1997 with Australian gas and LNG producer Woodside, which operates the Greater Sunrise gas project. The two firms undertook a study about the prospect of building a two-train 7.5 million tonnes per annum (mtpa) LNG and domestic gas project to be based in Darwin using gas from both Evans Shoal and Sunrise.⁹ The tie-up between Shell and Woodside was known as the Northern Australian Gas Venture (NAGV).¹⁰

The combined Sunrise/Evans Shoal plan included Evans Shoal connected via a pipeline to the Sunrise project and was to be brought on stream as the Greater Sunrise field neared full depletion.

In March 1999, Woodside and Shell concluded that the Sunrise/Evans Shoal LNG project was technically feasible but commercially “immature” due to a lack of LNG market opportunities. The NAGV partners then proposed that the Greater Sunrise and Evans Shoal fields be developed separately, with further appraisal work required for the Evans Shoal field prior to a final decision on development options.

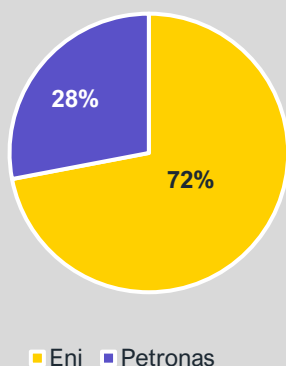
Santos bought into the Evans Shoal project in 2001 when it acquired Natural Gas Australia Limited and took its 40% stake in the project. It also became the project operator. In 2007, Malaysian government-controlled oil and gas producer Petronas bought into the Evans Shoal project when it acquired half (25%) of Shell's (50%) stake in the venture following an asset swap arrangement between Petronas and Shell.¹¹ Santos then sold its stake for up to US\$350 million on 28 October 2011¹² to Eni with US\$250 million paid on completion of the transaction in December 2011. A further US\$100 million would be paid to Santos subject to a

final investment decision (FID) and the level of proven and probable reserves (2P) at the time that the gas field is sanctioned for development.¹³

Hence, Santos has a financial incentive to see Verus developed as it would receive a further payment from Eni under their 2011 sale agreement.

Eni bought a further 32.5% stake in Evans Shoal (now in permit NT/RL7) from Shell in December 2017 after Eni had sold to Shell a 7.5% stake in the permit at the time it bought its original stake from Santos in 2011. Eni then embarked in 2018 on a plan to develop Evans Shoal as a backfill gas project for the existing Darwin LNG train by 2022.¹⁴ This plan was not executed and Eni is now working on its Verus plan. In between working on Verus and the 2018 plan, it bought a further 7% stake from Japanese utility Osaka Gas to take its entire stake to 72%. Its partner Petronas bought an additional 3% from Osaka Gas to increase its holding to 28% in Verus.

Figure 2: Evans Shoal/Verus Gas Project Ownership



Source: Data from Eni's Verus Gas Project – Briefing, 31 January 2023, p. 4

⁸ National Offshore Petroleum Titles Administrator. National Electronic Approvals Tracking System (NEATS) – Retention Lease NT/RL7.

⁹ Northern Territory Government. Oil and Gas fact sheet. 4 March 2002.

¹⁰ Northern Territory Government, Department of Infrastructure, Planning and Environment. Assessment Report 38: Sunrise Gas project – Environmental Assessment Report and Recommendations. February 2003. Page 2.

¹¹ Offshore. Shell, Petronas strengthen gas asset position. 26 September 2007.

¹² Santos. Santos sells interest in Evans Shoal for up to US\$350 million. 28 October 2011.

¹³ Santos. Fourth quarter activities report for period ending 31 December 2011. 19 January 2012. Page 9.

¹⁴ Eni. 'Northern Australia Activity', Eni presentation to SEAAOC 2018 in Darwin, September 2018.

Verus Faces Carbon Costs

The Verus gas field will come under Australia's Safeguard Mechanism legislation, which was amended with tighter GHG emissions limits on 30 March 2023 when the Safeguard Mechanism (Crediting) Amendment Bill 2023 passed both houses of the national parliament.¹⁵ The mechanism places a GHG emissions ceiling on all facilities in Australia that emit more than 100,000 tonnes per annum of CO₂. This equates to the top 215 emitters and accounts for a total of 28% of Australia's annual emissions.¹⁶

The revised scheme comes into force on 1 July 2023 and sets an annual reduction of 4.9% for each facility to ensure that Australia's largest emissions polluters contribute to Australia's total emissions reduction target of 43% by 2030 from 2005 levels of 621mt of CO₂.¹⁷ This means Australia's emissions have to fall to around 354mtpa of CO₂ by the end of the decade. Based on Australia's latest GHG emissions inventory report, total emissions were 490.5mtpa of CO₂ in the 12 months to 30 September 2022,¹⁸ and therefore need to fall a further 27.8% to meet the 2030 target.

Emissions from the facilities under the Safeguard Mechanism are around 137mtpa of CO₂, and the amendments to the mechanism have set a ceiling of 100mtpa of CO₂ by the end of the decade. The Safeguard Mechanism together with Australia's 2030 emissions reduction targets leaves little room for carbon-intensive gas fields such as Verus to be developed, given gas and LNG facilities contribute a significant proportion of total emissions under the mechanism.



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A report by Climate Analytics referred to Australian government estimates that LNG facilities accounted for around 35mt of CO₂ of GHG emissions in the 2020–21 fiscal year to 30 June.¹⁹ This equates to around 25% of all emissions under the Safeguard Mechanism. The largest source

¹⁵ Parliament of Australia. Safeguard Mechanism (Crediting) Amendment Bill 2022. 30 March 2023.

¹⁶ Department of Climate Change, Energy, the Environment and Water. Safeguard mechanism: protecting our net zero by 2050 future. 31 March 2023.

¹⁷ Australian Office of Financial Management. Australian Government climate change commitments, policies and programs. November 2022.

¹⁸ Department of Climate Change, Energy, the Environment and Water. Quarterly Update of Australia's National Greenhouse Gas Inventory: September 2022. 2023.

¹⁹ Climate Analytics. Emissions as usual: Implications for the Safeguard Mechanism of LNG and coal mine projects. 27 February 2023.

of emissions from LNG facilities are stationary energy with 19mt in 2020–21; fugitives accounted for 11mt over the same period and 4mt came from electricity use.²⁰

The Australian government's Department of Climate Change, Energy, the Environment and Water (DCCEEW) projects that stationary emissions from LNG facilities will rise to 21mt by 2030 and to 15mt from fugitive emissions over the same period.²¹ Total emissions from LNG are projected to rise to 41mtpa of CO₂ by 2030²² or 41% of emissions allowable under the revised Safeguard Mechanism. This volume of emissions is based on Australian LNG exports of 88mtpa in 2030, up from 79mtpa in 2020,²³ and equates to an average increase of 0.466t of CO₂/t of LNG.

The rise in Australia's LNG exports estimates is based on the addition of the Barossa gas field to provide backfill gas to the 3.7mtpa Darwin LNG facility, and the Scarborough gas field in the Carnarvon Basin offshore Western Australia to provide feedstock to a second train at Woodside Energy's Pluto LNG with a nameplate capacity of 5mtpa. The government is also factoring in the Crux gas field for backfill to Shell's Prelude floating LNG project in the Browse Basin offshore Western Australia and the Browse Basin fields providing backfill to Woodside's 16.3mtpa North West Shelf (NWS) LNG facility.²⁴

However, the Australian government's official commodity forecaster, the Office of the Chief Economist (OCE), estimates Australia's LNG exports to total 80mtpa in the 2027–28 fiscal year to 30 June compared with 83mtpa in 2021–22.²⁵ This may reflect that government agencies see most of the additional LNG exports coming towards the end of the decade.

Gas fields used for LNG export are not the only gas projects under the Safeguard Mechanism — around 20% of Australia's total gas production is for domestic use. DCCEEW estimates that fugitive emissions from domestic gas fields will be 11mtpa of CO₂ in 2030, up from 10mtpa in 2020.²⁶

The gas fields either under development or proposed for development to provide LNG feedstock are on average more CO₂ intensive than the previous gas fields in Australia. The Barossa field has an average CO₂ content of 18%²⁷ and annual Scope 1 and 2 GHG emissions of 3.38mtpa of CO₂.²⁸ This is three times the average of the near depleted Bayu-Undan field that Barossa is replacing.²⁹

²⁰ Climate Analytics. Emissions as usual: Implications for the Safeguard Mechanism of LNG and coal mine projects. 27 February 2023.

²¹ Department of Climate Change, Energy, the Environment and Water. Australia's emissions projections 2022. December 2022. Page 31, Figure 13 and page 43, Figure 19.

²² Ibid. Page 47.

²³ Ibid.

²⁴ Department of Climate Change, Energy, the Environment and Water. Quarterly Update of Australia's National Greenhouse Gas Inventory: September 2022. 2023.

²⁵ Department of Industry, Science and Resources, Office of the Chief Economist. Resources and Energy Quarterly, March 2023. 3 April 2023.

²⁶ Department of Climate Change, Energy, the Environment and Water. Australia's emissions projections 2022. December 2022. Page 44.

²⁷ IEEFA. Carbon capture and storage no answer for Santos Barossa gas project. 25 October 2021.

²⁸ ConocoPhillips Australia. Barossa area development offshore project proposal. 5 March 2018. Page 128.

²⁹ IEEFA. Santos' loss forces them back to the drawing board on unapproved Barossa gas project. 14 December 2022.

The three gas fields that comprise the Browse gas project have an average CO₂ content of 10%,³⁰ and estimated average annual Scope 1 and 2 emissions of 4mtpa of CO₂.³¹ The Crux field is estimated to have annual average emissions of 0.347mtpa of CO₂, and once it is added to the Prelude field, the combined annual average emissions from Prelude-Crux is 2.18mtpa of CO₂.³²



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Eni has not disclosed the intended gas or LNG production from Verus, but has estimated it has 11 trillion cubic feet of raw gas or 311 billion m³.³³ This is more than Barossa, which has over 4 trillion cubic feet of gas, and means that Verus has sufficient feedstock to produce as much LNG as its neighbouring field. Assuming Verus produces 3.7mtpa of LNG through a second train at Darwin, and given that Verus has 50% more CO₂ content than the Barossa field (27% versus 18%), Verus could emit 50% more Scope 1 and 2 emissions than Barossa. This equates to 5.07mtpa of CO₂ or 5% of the allowable emissions under the Safeguard Mechanism by 2030 and would make it one of the highest emitting projects among the more than 215 facilities under the mechanism. It would also make it the largest emissions-intensive field with an average of 1.37t of CO₂/t of LNG or three times the expected average of Australian LNG exports in 2030.

Eni would likely argue that the CO₂ will be buried in the proposed Bayu-Undan CCS project, which Santos has targeted a 2027³⁴ first injection timeline that coincides with the proposed start of production for the Verus field. CCS projects have largely underperformed and none more so than the largest CCS project in Australia at the Gorgon LNG venture operated by Chevron offshore Western Australia.

Chevron and its Gorgon partners ExxonMobil and Shell have spent A\$3.2 billion (\$2.14 billion) on the Gorgon CO₂ injection project and had buried a total of 7mt of CO₂ from August 2019 to 17 July 2022.³⁵ That equates to an average cost of A\$457/t of CO₂ to inject. The project was late in starting and it does not seem to be improving the rate of CO₂ capture. Chevron and its partners injected 1.65mt of CO₂ in the Gorgon CCS project in the 2021–22 fiscal year to 30 June from the 5.04mt of CO₂ that was removed from the Gorgon gas field and other reservoirs used in the Gorgon LNG

³⁰ Woodside. Proposed Browse to NWS Development, EPBC Act and EP Act Environmental Referrals, Supporting document. November 2018. Page 29.

³¹ Ibid.

³² Shell. Crux Project, Offshore project proposal June 2020. 19 June 2020.

³³ Eni. Eni's Verus Gas Project – Briefing. 31 January 2023. Page 4.

³⁴ Santos. 2022 Investor Briefing Day. 8 November 2022. Page 43.

³⁵ Chevron. Gorgon Gas Development and Jansz Feed Gas Pipeline. Environmental Performance Report 2022. 4 November 2022. Page 44.

project over the same period — well below the 3.3–4mtpa it planned to bury.³⁶ It is also below the 2.17mt of CO₂ that was injected in 2020–21.³⁷

This has forced Chevron and its partners to buy carbon offsets to meet its obligations. The 2.35mt of CO₂ shortfall in 2021–22 means that Chevron and its partners will have to buy the equivalent in offsets to meet its obligations. The prevailing price of Australia's official carbon offset, the Australian carbon credit unit (ACCU), was A\$37.25 on 24 April 2023.³⁸ That equates to around A\$87.50 million to be spent on carbon permits. Australia has capped carbon prices at A\$75/t under the Safeguard Mechanism from the 2023–24 fiscal year,³⁹ which is double the prevailing carbon price.

If the Australian government is going to achieve both its 2030 emissions reduction target and the reductions in the Safeguard Mechanism, IEEFA is of the view that it will leave no room for a carbon-intensive field such as Verus to be developed. Nor will Verus help Australia meet its voluntary contribution to the Global Methane Pledge of reducing global methane emissions across all sectors by 30% by 2030.⁴⁰ This is also IEEFA's view when factoring in the possibility of the proposed CCS facilities coming online to bury the emissions from Australian gas fields.

Santos has indicated it plans to have CCS ready for Barossa by the end of the decade, but the Barossa project is facing delays following legal rulings and the Bayu-Undan CCS facility, which would store Barossa's emissions, has yet to receive any regulatory approval.⁴¹ It is unlikely that new CCS facilities would make a meaningful reduction in emissions from Australia's new gas fields for LNG exports by 2030.

Almost all of Australia's gas and coal production operations would come under the Safeguard Mechanism. The combined fugitive emissions from gas, coal and oil is projected to rise to 55mtpa of CO₂ in 2030, up from 53mtpa in 2020, according to government estimates.⁴² This implies that a large carbon-intensive project such as Verus has no room under the Safeguard Mechanism.

New Gas and Net Zero by 2050, Not Compatible

The International Energy Agency (IEA) in its Net Zero by 2050 roadmap states that no new gas projects are required if the globe is to reach net zero by 2050: "Beyond projects already committed as of 2021, there are no new oil and gas fields approved for development in our pathway, and no

³⁶ Government of Western Australia, Department of Mines, Industry Regulation and Safety. Gorgon carbon dioxide injection project.

³⁷ Chevron. Gorgon Gas Development and Jansz Feed Gas Pipeline. Environmental Performance Report 2021. 17 November 2021. Page 44.

³⁸ Jarden. ACCU spot price. 24 April 2023.

³⁹ Department of Climate Change, Energy, the Environment and Water. Safeguard Mechanism Reforms. Position Paper. January 2023. Page 9.

⁴⁰ Australian Minister for Climate Change and Energy, Chris Bowen. Australian joins Global Methane Pledge. 23 October 2022.

⁴¹ IEEFA. Santos' loss forces them back to the drawing board on unapproved Barossa gas project. 14 December 2022.

⁴² Department of Climate Change, Energy, the Environment and Water. Australia's emissions projections 2022. December 2022. Page 44.

new coal mines or mine extensions are required. The unwavering policy focus on climate change in the net zero pathway results in a sharp decline in fossil fuel demand.”⁴³

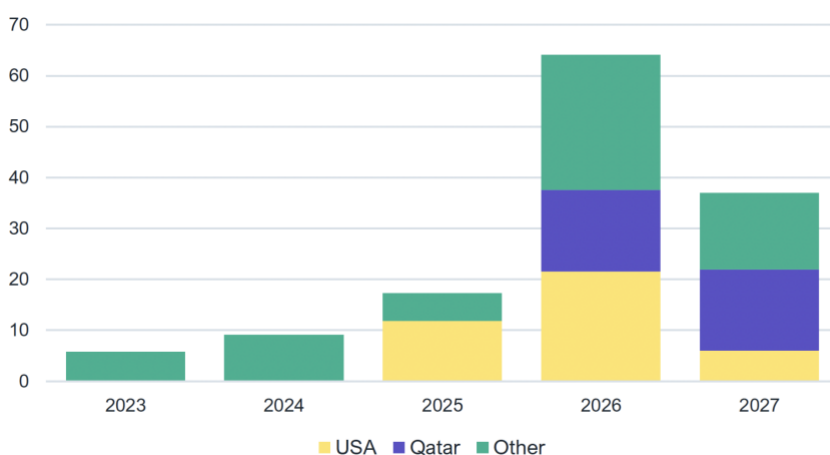
Gas demand, under the IEA net zero pathway, declines by 55% by 2050 heightening the risks that new gas projects will become stranded assets (i.e. the project will not see out its economic life). Eni's investment in a high GHG emitting field is in IEEFA's view a risky proposition.



If Eni is looking to develop Verus to come online just after this period, it may be delivering gas into a market that has seen multiple LNG projects come online.

Eni has estimated it will start producing at Evans Shoal/Verus by 2027⁴⁴ and pump the gas to be liquified at a second train at the Darwin LNG plant operated by Santos where there is an existing train with a nameplate capacity of 3.7mtpa. Santos has approval to host LNG capacity of 10mtpa at its Darwin LNG precinct. If Eni is looking to develop Verus to come online just after this period, it may be delivering gas into a market that has seen multiple LNG projects come online. IEEFA anticipates that roughly 17mtpa of liquefaction projects are likely to come online around the world in 2025 — more than in 2023 and 2024 combined. New capacity additions will peak in 2026, with an estimated 64mtpa of capacity coming online in a single year, and continue into 2027, when 37mtpa of new capacity is expected to begin operating (Figure 3).⁴⁵

Figure 3: Forecasted Liquefaction Capacity Additions (mtpa) 2023–27



Source: IEEFA, *Global LNG Outlook 2023–27*, 15 February 2023, p. 8

⁴³ IEA. Net Zero by 2050: A Roadmap for the Global Energy Sector. May 2021. Page 21.

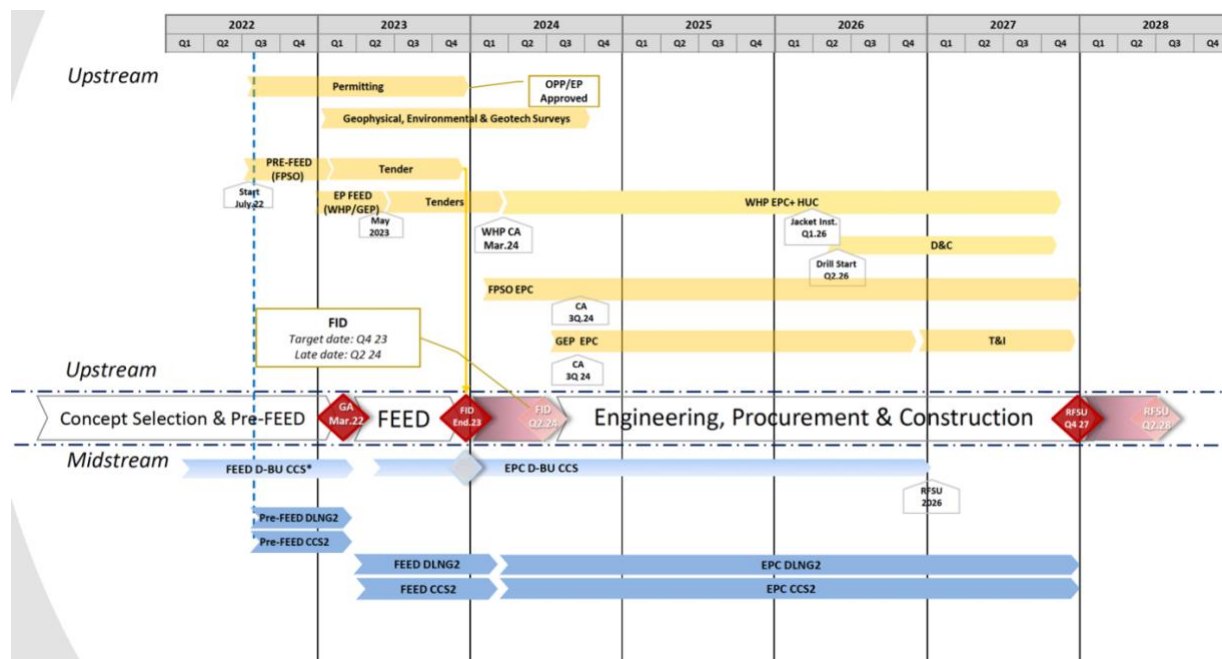
⁴⁴ Eni. Eni's Verus Gas Project – Briefing. 31 January 2023.

⁴⁵ IEEFA. *Global LNG Outlook 2023–27*. 15 February 2023.

Eni is planning initial engineering work, also known as front end engineering and design (FEED), on a second Darwin LNG train due to start this year. It plans to make a final investment decision on the Verus field in late 2023 or by the end of June 2024, having started work on the project in July 2022. The timing of the sanctioning of the project is likely partly motivated by Eni wishing to renew the retention lease where the Evans Shoal field is located, which expires on 23 April 2025.⁴⁶

The Northern Territory (NT) government has promoted Darwin as a key LNG export hub, with gas coming from the onshore Beetaloo Basin as well as the Japanese upstream firm Inpex, which has plans to expand its Ichthys LNG export capacity from the existing 8.9mtpa through a third train with an unspecified nameplate capacity.⁴⁷ At a February 2023 Environment and Communications Legislation Committee in the Senate, Inpex's General Manager, Commercial, stated that "Inpex has an aspiration to add a third train at Darwin by around 2030, maybe into the early 2030s".⁴⁸ A third Ichthys LNG train and the development of Beetaloo were not included in the government's emissions projections.

Figure 4: Versus Road Map



Source: Eni's Verus Gas Project – Briefing, 31 January 2023, p. 11

⁴⁶ National Offshore Petroleum Titles Administrator. National Electronic Approvals Tracking System (NEATS) – Retention Lease NT/RL7. Accessed 16 February 2023.

⁴⁷ Inpex. Ichthys LNG: Overview.

⁴⁸ Commonwealth of Australia, Environment and Communications Legislation Committee. Senate Committee on Safeguard Mechanism (Crediting) Amendment Bill 2022. 28 February 2023. Page 38.

Eni Shows ESG Ambitions, Hides Carbon Bomb

Eni has made much about its environment, social and governance (ESG) credentials on its website and in multiple public presentations. According to its strategic plan, Eni has targeted a 35% reduction in absolute emissions by 2030 and an 80% reduction by 2040 (compared to 2018), bringing forward by five years its net zero emissions Scope 1 and 2 target to 2035.⁴⁹

In a first for the company, Eni has also gone a little further than some of its peers in terms of moving to net zero, selling bonds to retail investors based on its sustainability aspirations.⁵⁰ Eni claims it was the first in its sector to publish a sustainability-linked financing framework, integrating sustainability into the company's funding strategy.⁵¹ In January 2023, Eni issued a €2 billion (A\$3.27 billion) sustainability-linked bond, which was doubled from €1 billion due to overwhelming public demand from more than 300,000 Italian retail investors.⁵² The final coupon payment for the bond is linked to Eni achieving its Scope 1 and 2 emissions reduction targets.

Self-described as being “strongly committed to playing a key role in sustainability”, the company notes that it has “built a business model that puts sustainability at the centre of every business activity, including financial strategy, and believes that the development and use of sustainability-linked instruments can help promote the energy transition process towards a low-carbon future”.⁵³

It is hard to see how developing the Evans Shoal/Verus project is consistent with Eni's sustainability aspirations. It is also hard to gauge whether the investing Italian public understand that through the project, Eni will be actively increasing its GHG emissions in Australia.

In its February 2023 capital markets update, Eni did not give any indication to its sustainability-linked bond investors that it plans to develop Australia's most CO₂-intensive gas field. The Evans Shoal/Verus project was not among the 14 oil and gas projects Eni has an equity interest in that are planned to be developed during the 2023–2026 period.⁵⁴



In its February 2023 capital markets update, Eni did not give any indication to its sustainability-linked bond investors that it plans to develop Australia's most CO₂-intensive gas field.

Eni's partner in Verus, the Malaysian state-controlled energy firm Petronas, announced its net zero carbon emissions by 2050 aspirations in 2020.⁵⁵ The Petronas target includes a 25% reduction in

⁴⁹ Eni. Our integrated operations.

⁵⁰ Eni. Extraordinary success for Eni's first sustainability-linked bond dedicated to public in Italy: euro 2 billion of total amount. 23 January 2023.

⁵¹ Eni. Eni publishes the world's first Sustainability-Linked Financing Framework in its sector. 23 January 2023.

⁵² Eni. Eni: new offer of sustainability-linked bond for Italian public starting on January 16, 2023. 11 January 2023.

⁵³ Eni. Eni's Sustainable Finance.

⁵⁴ Eni. Eni Capital Markets Update: Strategic plan 2023–2026. 23 February 2023.

⁵⁵ Petronas. PETRONAS sets net zero carbon emissions target by 2050. 5 November 2020.

emissions from 2019 levels by 2030.⁵⁶ While Petronas may not promote its energy transition credentials as much as Eni, its website is peppered with sustainability reports and net zero references. However, there is no mention of being involved in the CO₂-laden Verus project.

Petronas is no stranger to carbon-intensive gas fields and CCS projects. It is developing a CCS project for its Kasawari gas field, offshore from Sarawak, Malaysia, in the South China Sea. The Kasawari gas field has a CO₂ content of up to 40% and the CCS facility aims to capture between 3.7 and 4mtpa of CO₂, making it one of the world's largest of its kind.⁵⁷

How Sustainable Are Eni's Sustainability-linked Bonds?

Eni's sustainability-linked bond issue applies the voluntary guidelines known as the Sustainability-Linked Bond Principles (SLBPs), which are overseen by industry groups associated with financial markets under the International Capital Markets Association (ICMA).⁵⁸

Unlike green bonds, and despite its name, the proceeds from sustainability-linked bonds are for general corporate purposes.⁵⁹ Sustainability-linked bonds appear to be a watered-down version of green bonds, which provide funding for companies as long as they abide by the Green Bond Principles (GBP). Issuers of green bonds use the proceeds to finance "environmentally sound and sustainable projects that foster a net-zero emissions economy and protect the environment".⁶⁰ There is certainty that green bonds lead to new or the extension of projects that contribute to reduced GHG emissions, unlike sustainability-linked bonds. Issuers of sustainability-linked bonds are simply committing to future improvements in sustainability outcomes.

In the prospectus accompanying Eni's sustainability-linked bond issue, the company notes that they are not being marketed as green bonds since it expects to use the net proceeds for general corporate purposes. It also notes it "does not intend to allocate the proceeds specifically to projects or business activities meeting environmental or sustainability criteria, or to be subject to any other limitations associated with green bonds".⁶¹

As limited information is provided about Eni's plan to phase out oil and gas energy sources, it is not inconceivable that the proceeds from its sustainability-linked bonds are to be spent on maintaining its growing fossil fuel business, based on IEEFA's analysis. This runs counter to the promise of such bonds — which is to accelerate the energy transition.

⁵⁶ Petronas. PETRONAS' Pathway to Net Zero Carbon Emissions 2050. November 2022.

⁵⁷ Journal of Petroleum Technology. What You Should Know About Offshore and Sour Gas CCS: High Cost, Leak Mitigation, and Transportation. 1 June 2022.

⁵⁸ ICMA. Sustainability-Linked Bond Principles: Voluntary Process Guidelines. June 2020.

⁵⁹ Ibid. Page 2.

⁶⁰ ICMA. Green Bond Principles: Voluntary Process Guidelines for Issuing Green Bonds. June 2021 (with June 2022 Appendix 1). Page 2.

⁶¹ Eni. Debt Issuance Programme Base Prospectus dated 6 October 2022. 6 October 2022. Page 128.

In addition, under the SLBPs, the proceeds of the issue should meet objectives such as key performance indicators (KPI) as assessed against sustainability performance targets.⁶² It is against these measures that Eni's development of Evans Shoal/Verus challenges the principles of the sustainability-linked bonds.

One of Eni's KPIs underlying the January 2023 issue is to reduce net GHG emissions for its upstream activities (Scope 1 and 2) by 65% as at the end of 2025, from 2018 levels.⁶³ Developing the Evans Shoal/Verus project with 27% CO₂e will only increase Eni's Scope 1 and 2 emissions and therefore challenge one of the key investment metrics of its recent sustainability-linked bond issuance.

Additionally, the KPI excludes Scope 3 emissions, which typically account for around 90%⁶⁴ of all the emissions from producing and burning gas — a huge hidden risk to investors. It is also a significant metric in the context of fossil fuel companies and measuring their carbon footprint. Excluding Scope 3 emissions from its KPI absolves Eni's contribution to GHG emissions. It is unclear whether retail investors understood the complexity of this structure and its implications.

A second party opinion (SPO) conducted in 2022 on Eni's sustainability-linked financing framework also reported ambition and credibility issues, specifically with its upstream emissions targets (Scope 1 and 2).⁶⁵ It was acknowledged that while Eni's overall emissions targets appear more ambitious than its peers, this target or KPI does not align with the expectations of international standards of the IEA, the Transition Pathway Initiative and the Institutional Investor Group on Climate Change. These standards underscore credible net zero strategies from oil and gas companies must cover all GHG emissions (Scopes 1, 2 and 3). The SPO also penalised Eni for a lack of credible methods to meet its emissions targets. Including natural gas exploration and production as part of Eni's decarbonisation plans was seen as an issue, as the IEA has warned in its May 2021 roadmap that in order to achieve net zero by 2050 there can be no new oil, gas and coal investment or development.⁶⁶ The use of CCS technologies and a non-negligible use of carbon offsets were also cited as problematic in meeting Eni's emissions targets (discussed further below). As such, the SPO found that Eni's 2030 and 2040 targets do not appear to be aligned with the 2-degree or 1.5-degree scenarios under the Paris Agreement.



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Institutional investors have raised concerns on the credibility of sustainability-linked bonds, in particular the instrument's ability to drive real sustainability impact. Sticking points include the lack of

⁶² ICMA. Sustainability-Linked Bond Principles: Voluntary Process Guidelines. June 2020. Page 2.

⁶³ Eni. New offer of sustainability-linked bond for Italian public starting on January 16, 2023. 11 January 2023.

⁶⁴ CDP. CDP Technical Note: Guidance methodology for estimation of Scope 3 category 11 emissions for oil and gas companies. 21 January 2022 (version 2.0). Page 7.

⁶⁵ Moody's ESG Solutions. Second Party Opinion on Eni's Sustainability-Linked Financing Framework. 2 May 2022.

⁶⁶ IEA. Net Zero by 2050: A Roadmap for the Global Energy Sector. May 2021.

transparency in the use of proceeds, structural loopholes and the limited ambition of targets attached to the issuer's KPI. As a result, it has been reported that a number of the world's largest ESG bond investors refuse to touch these instruments.⁶⁷ Eni's first sustainability-linked bond in June 2021 was sold to institutional investors.⁶⁸ It is unclear whether Eni's decision to issue retail sustainability-linked bonds in January 2023 was guided by a lack of institutional interest. This would confirm the investor sentiment for sustainability-linked bonds — or suggest problems with Eni's transition story.

Net Zero Plans Reliant on Unreliable CCS

Developing the Evans Shoal/Verus project is inconsistent with Eni reaching net-zero GHG emissions by 2050, which is entirely reliant on abatement through CCS and buying carbon offsets. Eni plans to store 50mtpa of CO₂ by 2050 through CCS and acquire carbon offsets equivalent to abating 25mtpa of CO₂ by mid-century.⁶⁹ Both CCS and buying carbon offsets have an unreliable track record.

Captured carbon has mostly been used for enhanced oil recovery, which boosts oil production and subsequently more emissions and is not a solution for lowering GHG emissions.⁷⁰

The focus on emissions reductions and the increasing percentage of CO₂ content in gas fields that have either recently been developed or are under consideration for development has seen the revival of CCS by the industry as a solution to address their emissions profile.

Verus will become the most CO₂-intensive field in Australia used for feedstock for LNG export, overtaking Chevron's Gorgon field, which has a CO₂ content of between 3.51% and 17.17%. However, it will not be the most CO₂ concentrated gas field in Australia in production, with the Tuna gas field in the Gippsland Basin taking that mantle. Tuna is operated by ExxonMobil and the gas is processed at the Longford gas plant in Victoria's Gippsland region, where the molecules are largely used in the domestic Victorian gas market. The Tuna gas field has drilled a well with 45% CO₂ and has many wells where the carbon content is above 30% and some as low as 2.56%.⁷¹

The Tuna gas field was developed along with the Kipper and Turrum field and was the most expensive gas project in the Gippsland Basin at A\$4.4 billion,⁷² and rose further to A\$5.5 billion, which also included the cost of reconditioning the onshore Longford gas plant to remove CO₂ from the gas before it is sold.⁷³

Gas producers promote CCS as justification for developing gas fields even though they only capture a small proportion of a little amount of the CO₂ generated from a gas field as most of the emissions occur when gas is burnt by the customers, known as Scope 3 emissions. The faith in CCS by the oil

⁶⁷ Bloomberg. ESG-Linked Bonds Seen Stalling on Greenwash and Legal Fears. 29 November 2022.

⁶⁸ Bond ticker ISIN: XS2344735811.

⁶⁹ Eni. 2023 Capital markets update and 2022 full year results. February 2023. Page 41.

⁷⁰ IEEFA. The carbon capture crux: Lessons learned. 1 September 2022.

⁷¹ Geoscience Australia. Geoscience Australia Portal.

⁷² Sydney Morning Herald. Solution found for Kipper. 8 February 2012.

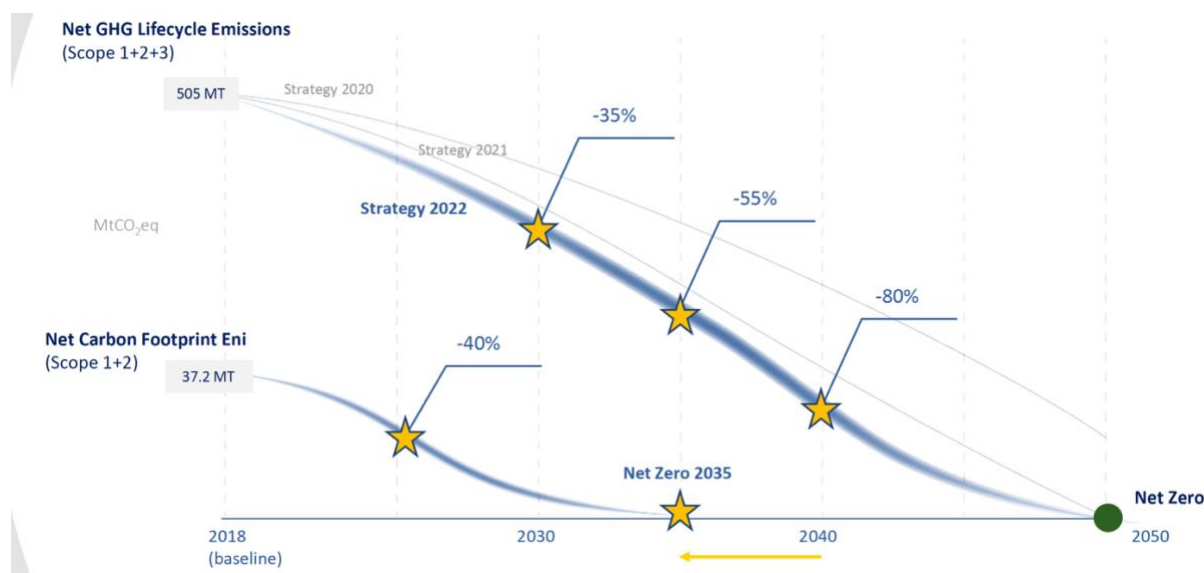
⁷³ ABC. Esso's new A\$5.5billion Longford plant to 'boost production' for Australian energy market. 7 May 2017.

and gas sector is resolute and plays down any concerns about the underperformance of Australia's largest CCS facility for storing CO₂ from a gas field, the Gorgon CCS facility in Western Australia.

As mentioned earlier, the Gorgon CCS facility beneath Barrow Island was designed to bury 4mtpa of CO₂, but performance reports have shown it has been injecting around a third of the nameplate capacity, prompting Chevron to pledge to buy carbon offsets to make up the difference.⁷⁴

The underperformance of Gorgon's CCS facility is consistent with the track record of CCS technology as an unreliable pathway to burying CO₂.⁷⁵ Similarly, based on the historic reliability of CCS, any CCS facility associated with the Verus/Evans Shoal project should not be counted on to bury 100% of the Scope 1 and 2 GHG emissions from the field.

Figure 5: Eni's Transition Strategy — Targets and Implementation



Source: Eni's Verus Gas Project – Briefing, 31 January 2023, p. 5

Eni is looking to store the CO₂ from Verus in the near depleted Bayu-Undan gas field in the Timor Sea. Santos has said it is targeting a final investment decision (FID) by the end of 2023 on a CCS facility, capable of potentially storing 10mtpa of CO₂e, in the Bayu-Undan gas field with significant interest in importing CO₂ from Asia to the new CCS facility.⁷⁶

In a presentation on 31 January 2023, Eni said it plans to separate the CO₂ from the gas at Darwin and send the CO₂ back through a 500km pipeline to the Bayu-Undan field after already travelling 381km from the Verus field to Darwin.⁷⁷ Pumping CO₂ through 800km of pipeline requires a lot of compression, which is energy intensive. The net emissions savings therefore are likely to be much

⁷⁴ Sydney Morning Herald. Gas giant's \$3.2b effort to bury carbon pollution is failing. 13 November 2022.

⁷⁵ IEEFA. The carbon capture crux: Lessons learned. 1 September 2022.

⁷⁶ Santos. 2022 Climate Change Report: Investor Briefing Presentation. 31 March 2022. Page 31.

⁷⁷ Eni. Eni's Verus Gas Project – Briefing. 31 January 2023.

smaller than the volumes touted by CCS project proponents. The Bayu-Undan CCS plan is more complicated than the existing Gorgon CO₂ injection project, which sits almost below the Gorgon field and is itself experiencing significant technical problems. In comparison, the Bayu-Undan project involves hundreds of kilometres of pipelines and a compression unit to pump the CO₂ along the vast distance it has to travel before it is injected into the depleted reservoir. It also has to cross an international jurisdiction as Bayu-Undan sits in the Joint Petroleum Development Area (JDPA) jointly administered by Australia and Timor-Leste.

Eni is a partner in the Northern Territory CCS Hub, which is a collaboration between oil and gas companies, the NT government and Australia's main scientific research body, the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Eni has said the "development of a CCS Hub in Darwin would provide a path to a low emissions development of its Evans Shoal [Verus] gas field".⁷⁸



Eni has said the "development of a CCS Hub in Darwin would provide a path to a low emissions development of its Evans Shoal [Verus] gas field".

The NT CCS Hub is part of the NT government's Middle Arm Sustainable Development Precinct, a planned area that will host low emissions manufacturing, including hydrogen, mineral processing and "advanced manufacturing".⁷⁹ The original business case for the precinct was reportedly as a new gas demand centre.⁸⁰ In the March 2022 budget, the Coalition government under the prime ministership of Scott Morrison pledged A\$1.5 billion to the Middle Arm Sustainable Development precinct.⁸¹ Bayu-Undan is one of four CCS projects Santos intends to be involved in by the end of the decade with the first, the Moomba CCS plant in the onshore Cooper Basin in South Australia, planned to be operational by 2024.⁸²

Carbon offsets have been promoted vigorously by the oil and gas sector, but questions over integrity of the offsets such as planting trees persist with respect to whether they actually absorb the carbon claimed by the proponents. Other questions remain such as how is nature factored into the offsets, particularly in areas around Australia that are subject to bushfires and floods. As the CEO of Climate Analytics recently noted, "Compared to the thousands of years that fossil fuel emissions stay in the

⁷⁸ CSIRO. CSIRO and partners scope NT Hub to lower emissions and boost investment. 28 September 2021.

⁷⁹ Northern Territory Government. Project overview: Middle Arm Sustainable Development Precinct. August 2022.

⁸⁰ ABC News. Business case for Middle Arm Sustainable Development Precinct triggers climate concerns from critics. 29 December 2022.

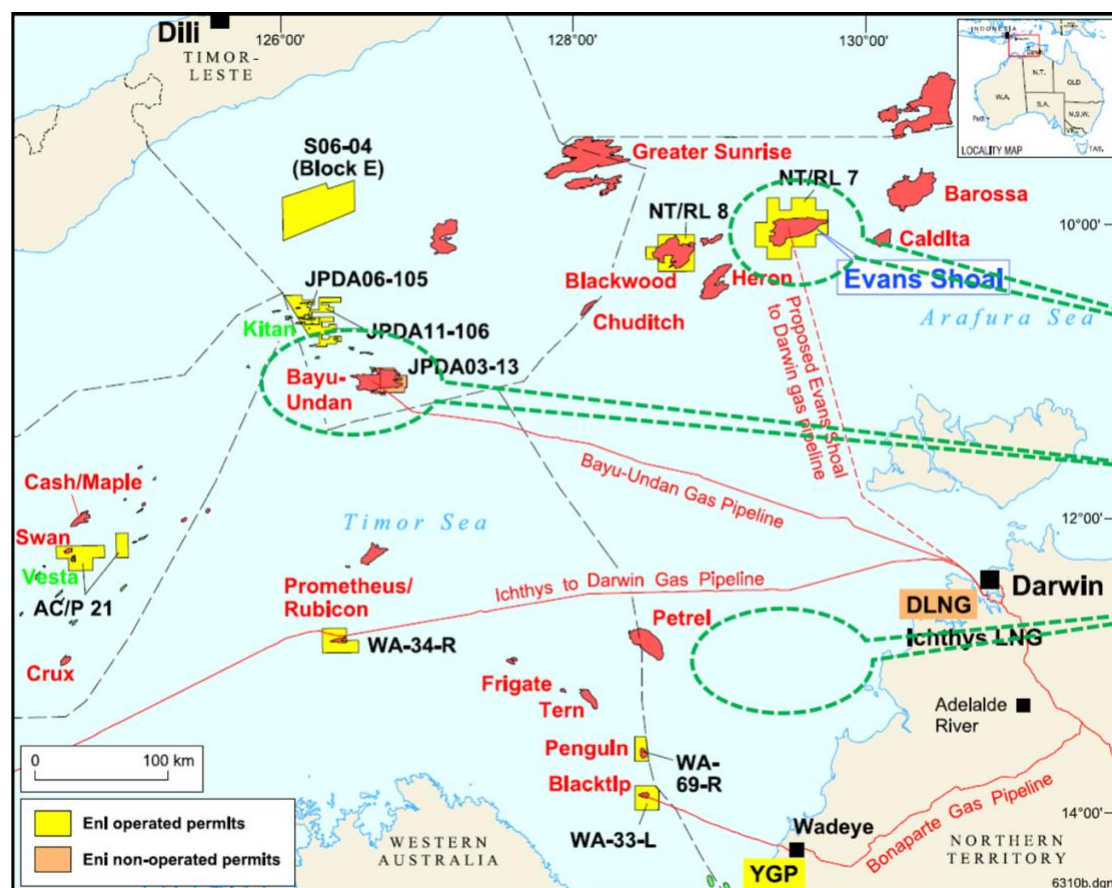
⁸¹ ABC News. Northern Territory businesses hope proposed port facilities at Darwin's Middle Harbour Middle Arm could mean new jobs. 1 April 2022.

⁸² Santos. 2022 full-year results. 22 February 2023.

atmosphere, land-based offsets do not and cannot guarantee sequestration of carbon on such timescales".⁸³

As some commentators have noted, a proposal to send CO₂ to the Bayu-Undan field for reinjection not only justifies a delay in Eni decommissioning the wells at Evans Shoal/Verus, but both Eni and Santos would benefit through deferring their decommissioning costs by pushing back the removal of the offshore infrastructure at Bayu-Undan.⁸⁴

Figure 6: Evans Shoal CO₂ Sequestration Options



Source: 'Northern Australia Activity', Eni presentation to SEAAOC 2018 in Darwin, September 2018, p. 8

⁸³ Climate Analytics. The Dangers of Overreliance on Carbon Offsets. Keynote presentation at the Climate Integrity Summit. 15 February 2023.

⁸⁴ Boiling Cold. Santos and ENI team up to tackle dirty gas and decommissioning. 11 May 2021.

Greater Disclosure on Emissions and Finance Required

The sustainability claims of Eni and the large volume of GHG emissions Verus will add to the atmosphere is worthy of regulatory scrutiny given that greenwashing claims have become a focus for regulators in the United States, Europe and Australia.⁸⁵ The US Securities and Exchange Commission has launched a climate and ESG task force to identify ESG-related misconduct.⁸⁶ The European Commission has been adding more provision to its regulation on sustainability-related disclosure in the financial sector.⁸⁷

Eni has received significant funds from the Italian investing public based on the premise of its pledge to accelerate the energy transition to a more sustainable future and consequently reduce GHG emissions. Few Italian retail investors would likely be aware that the funds raised from the sustainability-linked bond issue could flow to develop a CO₂-intensive gas field in Australia.

By its own account, the extraordinary success of Eni's sustainability-linked bond issue in early 2023 "demonstrates the strong appreciation among Italian investors for the soundness of Eni and its commitment to the energy transition".⁸⁸ Eni received orders from more than 300,000 investors for more than €10 billion (A\$16 billion) or 10 times the €1 billion (A\$1.6 billion) initially offered, resulting in Eni doubling its issue to €2 billion (A\$3.2 billion). "So many Italians have believed in what we are doing, both in terms of progressively moving toward decarbonized industrial processes and products, and in terms of ensuring energy security," Eni Chief Executive Officer Claudio Descalzi said in a statement.⁸⁹

Investors have likely been swayed by the messaging from Eni on its commitment to the energy transition and reducing emissions. In May 2021, Eni released its Sustainability-Linked Financing Framework, noting it is targeting to deliver sustainable value while decarbonising the business, setting some of the strongest targets in the sector across all activities and full life-cycle emissions.⁹⁰

It is difficult to see how the most carbon-intensive offshore gas field in Australia fits into Eni's energy transition strategy. Or how the emissions intensity of Verus will be accommodated under Australia's Safeguard Mechanism. Given its plans to develop Verus/Evans Shoal, Eni's sustainability credentials should come under greater scrutiny.

⁸⁵ Australian Securities and Investments Commission. ASIC launches first Court proceedings alleging greenwashing, 28 February 2023.

⁸⁶ U.S. Securities Exchange Commission. Spotlight on Enforcement Task Force Focused on Climate and ESG Issues. Modified 29 November 2022.

⁸⁷ European Commission. Sustainability-related disclosure in the financial services sector.

⁸⁸ Eni. Extraordinary success for Eni's first sustainability-linked bond dedicated to public in Italy: euro 2 billion of total amount. 23 January 2023.

⁸⁹ Ibid.

⁹⁰ Eni. Sustainability-Linked Financing Framework. May 2021.

Appendix 1: Carbon Dioxide Content in Australian Gas Fields

Field	Location	Operator	CO ₂ content %	Annual emissions estimated	Stage of development	Year started/proposed start
Barossa	Bonaparte Basin	Santos	16–20	1.4–2.1mtpa from vented emissions from FPSO. Total emissions from FPSO 2.1 and 3.8mtpa	Stalled due to legal action from Tiwi Islanders	2025
Evans Shoal	Timor Sea, offshore NT	ENI	16.76–27		pre-FEED	2027
Montara	Timor Sea, offshore NT	Jadestone Energy	3.7–10.61		In operation	2013
Prelude	Browse Basin, offshore WA	Shell	9		In operation	Dec 2018
Ichthys	Browse Basin, offshore WA	Inpex	8–17		In operation	Jul 2018
Brecknock	Browse Basin, offshore WA	Woodside	2.14–7.44		Planned	2030+
Calliance	Browse Basin, offshore WA	Woodside	10		Planned	2030+
Torosa	Browse Basin, offshore WA	Woodside	10		Planned	2030+
Gorgon	Carnarvon Basin, WA	Chevron	3.51–17.17		In operation	2016
Pluto	Carnarvon Basin, WA	Woodside	2		In operation	2012
Scarborough	Carnarvon Basin, WA	Woodside	0.1		Under development	2026
Kipper	Gippsland Basin, offshore Victoria	ExxonMobil/Woodside	18.25–25.65		In operation	2016
Tuna	Gippsland Basin, offshore Victoria	ExxonMobil/Woodside	2.56–45		In operation	2013

Sources: ConocoPhillips Australia, [Barossa Area Development Offshore Project Proposal](#), March 2018, p. 127; Geoscience Australia, [Molecular and Stable Isotopic \(2H/1H AND 13C/12C\) Compositions of Natural Gas from the Exmouth Plateau, Carnarvon Basin](#), 2007; Geoscience Australia, [Geoscience Australia Portal](#). Abbreviations: FPSO, Floating, Production, Storage and Offloading

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