

Carbon Capture in Timor-Leste

Is it Carbon Colonialism?

Presentation by
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to ECNT Mythbusting CCS webinar

23 November 2021



What is La'o Hamutuk?

- **The Timor-Leste Institute for Development Monitoring and Analysis, founded in 2000.**
- **Timorese and international people "walking together" on the journey to create a new Nation.**
- **An independent, non-partisan, Timorese, non-governmental organization which does research, policy analysis, public education and advocacy.**
- **A force for participatory, equitable, sustainable and evidence-based policies and practices.**

**Timor-Leste has been a killing field.
It should not become a garbage dump.**



The people of Timor-Leste have paid dearly for other nations' wars.

December 17 will be the 80th anniversary of Australia's invasion of then-Portuguese Timor, which led to the killing of 40,000 Timor-Leste people by Japanese forces.

Ten days earlier will be the 46th anniversary of Indonesia's invasion and occupation, which killed more than 180,000 people. Cold War politics caused Australia, the U.S. and others to support this atrocity.

We must not let it happen again, and the escalation of military tensions with China, as demonstrated in the recent AUKUS agreement, is worrisome.

Today, I will briefly discuss these topics:

- Climate change
- Petroleum dependency
- The Maritime Boundary
- Bayu-Undan's depletion and future oil and gas prospects
- Barossa-Caldita and other carbon-heavy gas fields
- Santos' proposal to store CO₂ in the empty Bayu-Undan reservoir

Climate change is real.



TL is already experiencing the impacts of climate change. Last April, floods killed 44 people and displaced 13,000.

Forty percent of Timorese people live in poverty, and more than half depend on subsistence agriculture. Unpredictable rains and droughts make farming more challenging. The mountainous terrain and monsoon climate cause floods and landslides, which will only get worse.

Timorese people don't produce many emissions. According to World Bank figures, Timor-Leste only emits 0.5 tons of CO₂ per capita per year, about one-ninth of the world average. Each Australian is responsible for 15 tons. (These figures follow the convenient international practice of absolving fossil-fuel-exporting countries of the emissions when that fuel is consumed.)

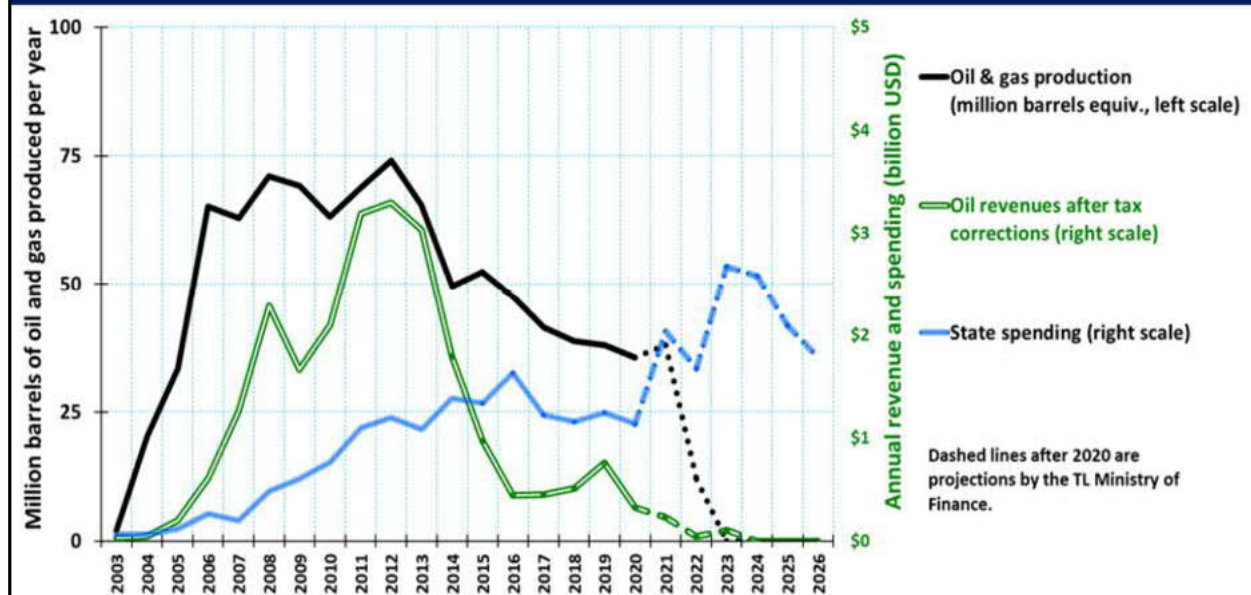
However, the Timorese will suffer far more serious consequences than people living in rich countries.

We are not opposed to Carbon Capture and Storage, once the technology is proven. But it should not be used to greenwash or justify additional emissions for oil company profits – “Net Zero” is a scam.

Oil and gas income has been falling since 2012.

Production is falling, and is unlikely to ever reach past levels.

Many are looking for easy money to replace petroleum rents.



(I will use U.S. dollars, the official currency of Timor-Leste. At today's exchange rate, each US dollar is about \$1.40 Australian.)

Since independence in 2002, Timor-Leste has received \$23 billion in petroleum revenues and \$9 billion in investment returns, and spent \$13 billion. But the oil is running out, and the country is drawing down its savings.

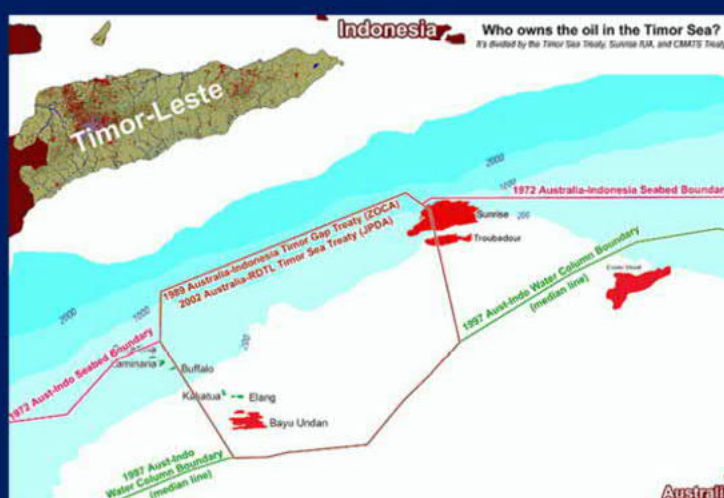
Oil and gas have paid for more than 85% of state spending; Timor-Leste is one of the most petroleum-export-dependent countries in the world.

Very little has been done to develop the non-oil economy.

When the sovereign wealth fund runs out in about 10 years, the state budget will have to be slashed by 80%.

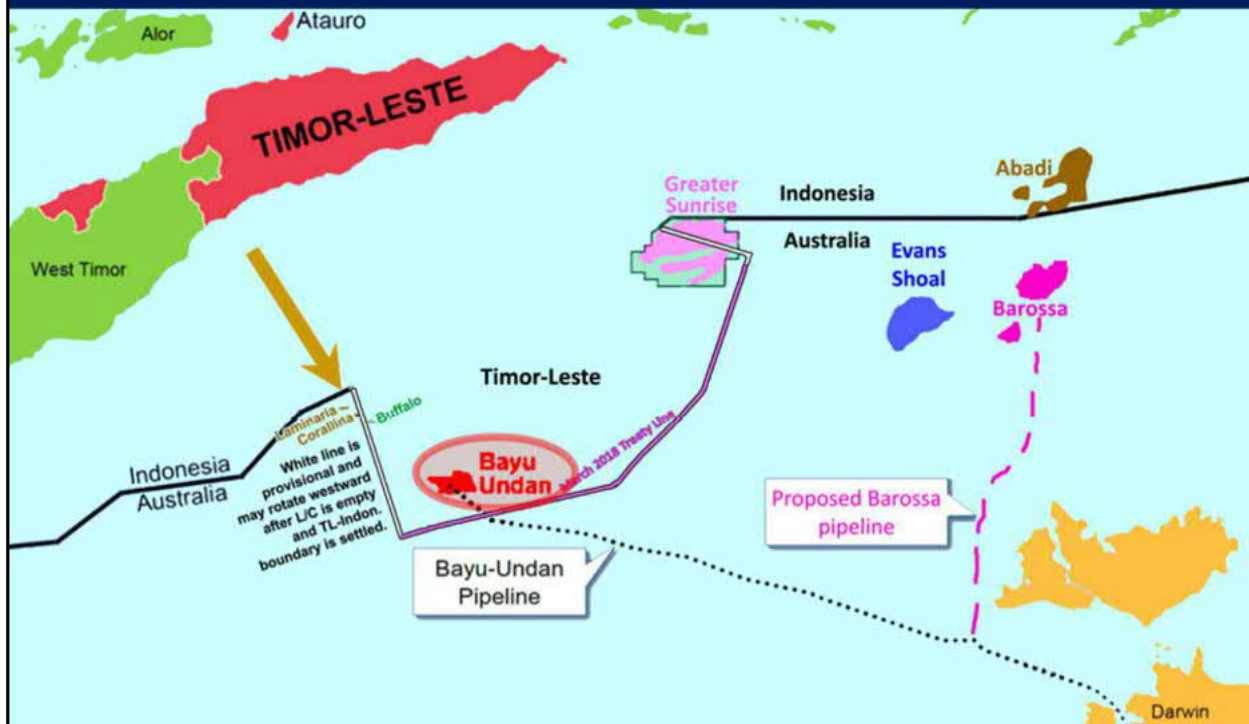
The maritime boundary dispute

- Australian companies have explored the area since for fifty years, even before Australia and Indonesia divided our maritime resources without involving Portugal. In 1989, Jakarta and Canberra closed the "Timor Gap" to share illegally occupied resources in the Joint Development Area.
- The 2002 Timor Sea Treaty shared revenues but failed to recognize Timorese territory. The 2006 CMATS Treaty banned maritime boundary discussion for 50 years.
- Australia prioritized its greed for oil money over respect for its sovereign neighbor or international law.
- Based on UNCLOS, TL owns fields north of the median line, and lateral boundaries should move outward.
- In 2017, Australia accepted Timor-Leste's request to revoke the CMATS Treaty. After UN-assisted negotiations, the two countries signed a boundary treaty in 2018 and it came into force in August 2019.



This map shows the situation before the 2018 maritime boundary treaty. There was no boundary, and the red polygon in the middle was a "joint development area" where oil revenues were shared between Timor-Leste and Australia.

The belated maritime boundary



The purple and white line was set by the Maritime Boundary Treaty which came into effect in August 2019.

Before then, the Australian government collected about \$5 billion in oil and gas revenues from fields that it now agrees are in Timor-Leste's territory. Australia plans to keep it, and Timor-Leste is not allowed to raise the issue.

During that period Bayu-Undan, the largest field, paid \$21 billion to Timor-Leste and more than \$2 billion to Australia. Since the boundary treaty came into effect, Timor-Leste has and will receive less than \$1 billion more from the field. The \$100 million Australia lost by giving up its unjustifiable 10% cut is a small price to pay for international legitimacy and avoiding the responsibility to clean up Bayu-Undan after it's used up.

Woodside began extracting oil from Laminaria-Corallina in 1998, and has paid more than \$2 billion in revenues to Canberra. In 2017, when the field was no longer profitable, Woodside sold it to start-up Northern Oil and Gas Australia, which violated environmental rules and then went bankrupt. Australian taxpayers and/or oil companies will pay more than \$200 million to decommission the project.

The white parts of the treaty boundary will be adjusted after the relevant fields are worthless and Timor-Leste and Indonesia have settled their maritime boundaries. Laminaria-Corallina may eventually be turned over to Timor-Leste. Some industry people think it should be turned over even before it is cleaned up.

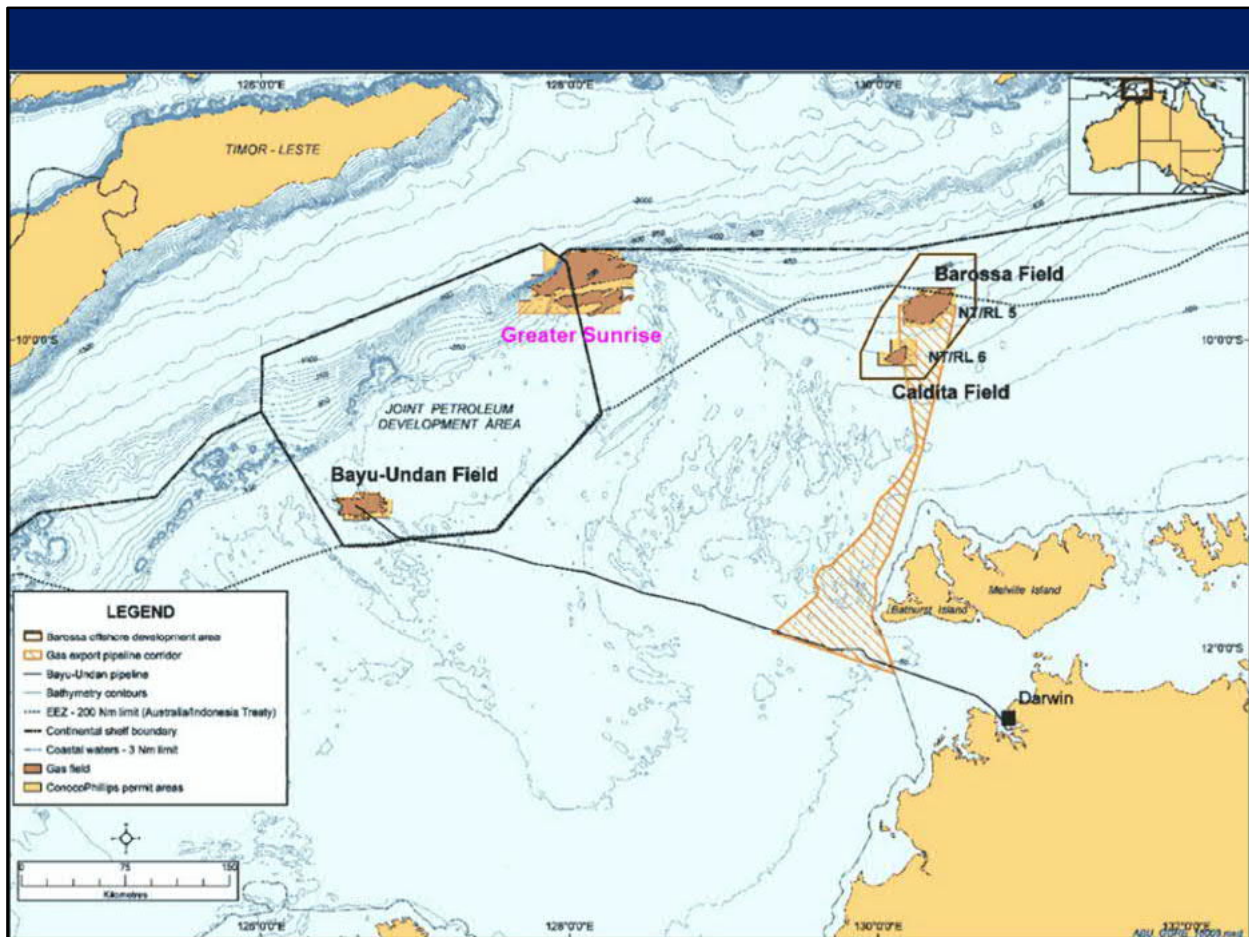
Future oil and gas projects won't provide much revenue.

Project	Operator (partners)	Oil & gas reserve (mmBOE)	Possible future revenues (million USD)	Status
Bayu-Undan current wells	Santos 46% (SK E&S, Inpex, Eni, JERA/Tokyo Gas)	20	\$200	Produced 800 mmBOE since 2004, will end in 2022 or 2023.
Bayu-Undan infill wells	Santos 46% (SK E&S, Inpex, Eni, JERA/Tokyo Gas)	20	\$0	Three more production wells drilled in mid-2021 may extend production 1-2 years, but drilling costs will use up potential revenues.
Greater Sunrise	Woodside 33% (TimorGAP 57%, Osaka Gas)	1,080	?	Discovered in 1974. Seeking financing to proceed with development. High capital costs. TL will get 70% of state revenues. Woodside and TimorGAP revalued the project to zero in 2020.
Buffalo	Carnarvon 50% (Advance Energy)	31	\$465	Produced 20 mmBOE in 1999-2005 for BHP and Australia. First new well planned for late 2021.
Onshore (Covalima & Manufahi)	Timor Resources 50% (TimorGAP)	40	\$600	First test wells drilled in October 2021.
Chuditch	Baron Oil 75% (TimorGAP)	588 (?)	?	Shell drilled a test well in 1998 but did not continue. New owners will decide by the end of 2022 whether to drill another.
Three other contract areas	TimorGAP and Eni	?	unlikely	Not enough work has been done to estimate possible reserves. No wells planned.

Timor-Leste relies on oil and gas revenues, but future prospects are not good. This table lists the oil and gas projects currently under contract which could provide more revenue for Timor-Leste. People are unrealistically optimistic that they will continue to finance government activities.

The four projects which are plausible enough to estimate might generate almost \$1.3 billion in revenues – as much as the country received during the last **three months** of 2012.

This might cover the state budget for about a year, but that's not a long-term solution.



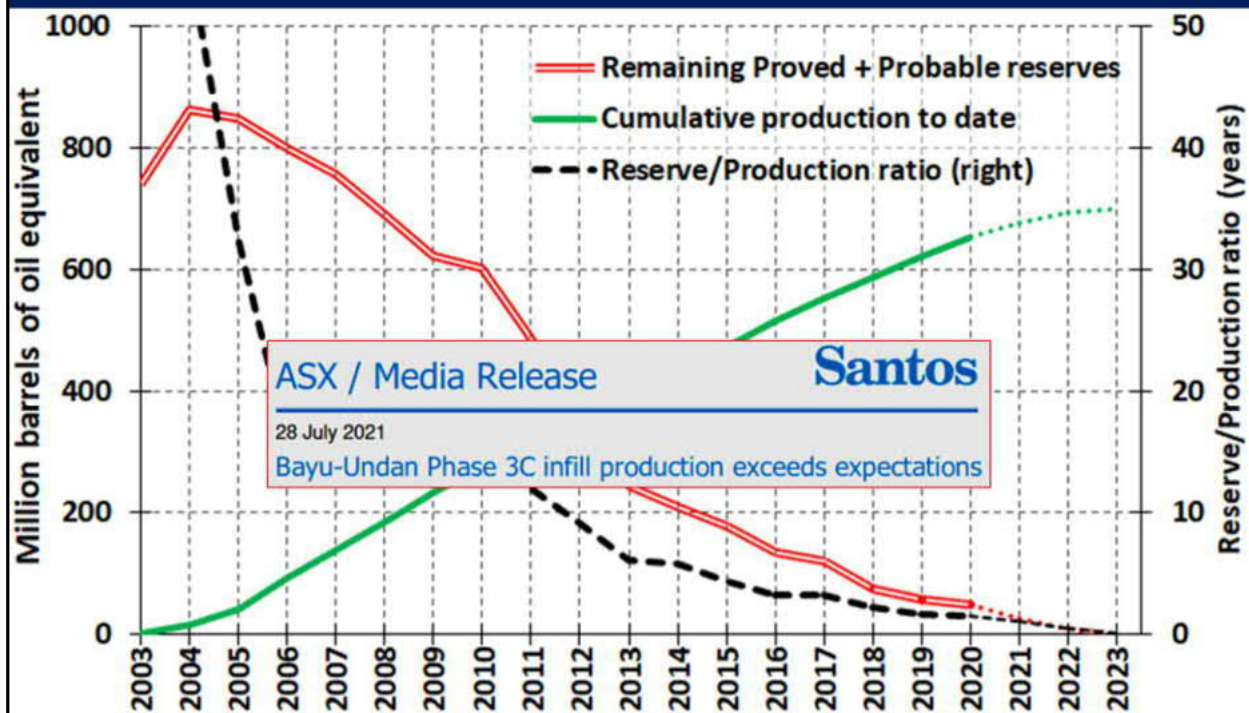
In early 2018, before the maritime boundary was agreed, ConocoPhillips was planning to pipe Barossa gas into the Bayu-Undan undersea gas pipeline to the LNG plant at Wickham Point in Darwin.

They knew that Bayu-Undan was nearly exhausted, and that the LNG plant and pipeline would be unused. The company hoped to save on Barossa capital investment, while ignoring climate implications.

Santos bought out ConocoPhillips' shares of Bayu-Undan, Barossa, the pipeline, and Darwin LNG in late 2019.

The first public mention of carbon capture for this region was when Santos and Eni signed an MOU last May.

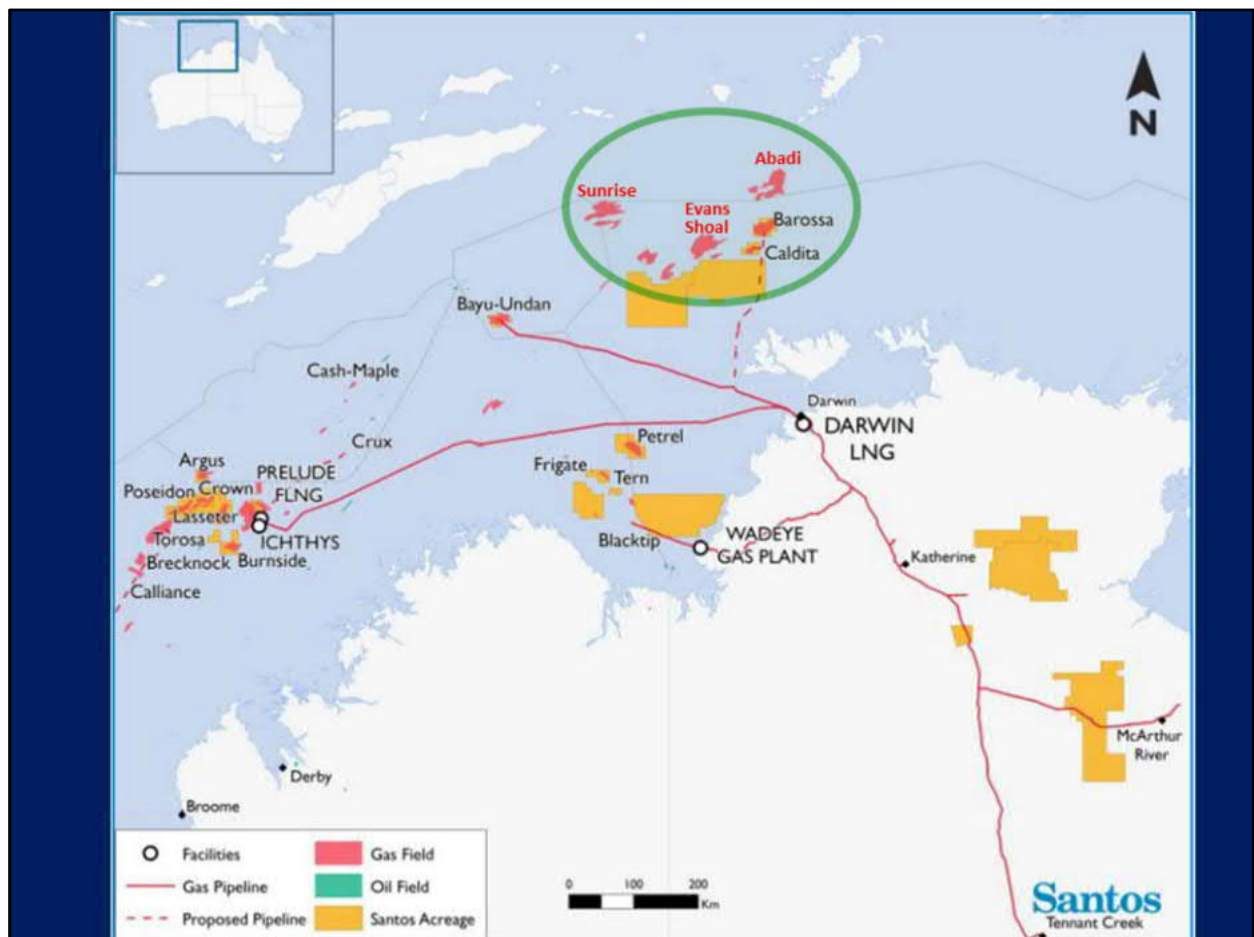
Bayu-Undan is nearly depleted.



Timor-Leste has already received more than 99% of the revenues it will get from Bayu-Undan oil and gas, which has been piped to Darwin, liquefied, and shipped to Japan since 2006.

Santos is drilling three more wells to suck up the last puddles of oil and gas, but the cost of those wells could absorb all the revenue they would have produced for Timor-Leste.

After Bayu-Undan is empty in 2-3 years, Santos wants to use the Darwin LNG plant and part of the undersea gas pipeline for Barossa gas, which will save them billions of dollars in construction costs.



The natural gas fields to the east of Greater Sunrise have a higher CO₂ content than nearly every other field in the world. Santos wants to store carbon in the depleted Bayu-Undan field so that they can extract dirty methane from Barossa and Caldita.

Eni, which is working with Santos on CCS, wants to do the same for Evans Shoal.

The companies will reap profits from these fields, Australia will get the economic and tax benefits, the earth will get warmer, and Timor-Leste will get the waste – and the responsibility to keep it out of the atmosphere for centuries to come.

Last week *Energy Voice* reported that Abadi, a similar field in Indonesian territory contracted to the Japanese company Inpex, “is looking increasingly unlikely to be developed.”

3 May 2021

Santos and Eni sign MOU to collaborate in northern Australia and Timor-Leste

Santos and Eni have signed a Memorandum of Understanding (MOU) to cooperate on opportunities in northern Australia and Timor-Leste.

The areas of cooperation include assessing the synergies of sharing possible infrastructures associated with gas field developments around Barossa and Evans Shoal, pipeline to Darwin and onshore associated gas processing leading to LNG expansion developments.

This also includes investigating options to re-purpose the Bayu-Undan facilities to extend the life of the project, including a carbon capture and storage project, subject to the agreement of the Timor-Leste government.

ASX / Media Release

Santos

14 September 2021

Bayu-Undan Joint Venture and Timor-Leste's ANPM sign MOU on Bayu-Undan Carbon Capture and Storage

Santos and Eni hope to store 10 million tons per year of CO₂ in the depleted Bayu-Undan field, equivalent to 1/39 of Australia's 2018 emissions. From a Timorese perspective, this is 16 times as much carbon as the entire country emitted that year.

In addition to helping the companies and Australia claim "net zero" while exploiting Barossa and Evans Shoal, this will enable them to delay the costs of decommissioning Bayu-Undan and restoring it to a safe, stable condition. Even if they don't get an Australian government subsidy for this CCS project in Timor-Leste, they will have the advantage of much looser environmental and operational regulation, out of sight of the Australian government and people.

Last September, Santos signed an MOU with Timor-Leste's petroleum regulator to explore the CCS option.

The project is moving quickly.

Upstream
28 Oct. 2021

Santos joins the dots between Darwin LNG, Barossa and Bayu/Undan CCS

Project 'sets up Darwin LNG up for at least another 20 years'

Santos CEO to SEAAOC, 27 October 2021:

...we are also rapidly transforming our business to capture the new opportunities that are opening up in low-carbon and clean-burning fuels.

This includes carbon-neutral LNG cargoes and hydrogen, enabled through carbon capture and storage, and nature-based carbon offsets.

On this front, the Northern Territory is also taking a leading position, announcing at the end of September a proposal to fast-track Darwin as an emissions reduction hub.

Santos is proud to be part of this proposal, partnering with the Northern Territory Government, Australia's national science agency, the CSIRO, and other industry participants to assess the viability of a large-scale, low emissions carbon capture, utilisation and storage hub based at Middle Arm.

At the same time, Santos is moving forward ... to repurpose the existing Bayu-Undan facilities and pipeline to Darwin as a CCS project starting up in 2025.

This project ... has the potential to provide a carbon solution by the middle of this decade, unlocking other gas resources in the region.

Last month, Santos' CEO spoke to an industry conference in Darwin. He outlined their motivations for Bayu-Undan CCS.

In Timor-Leste, nobody in government is talking about this openly. It has not been in the local media.

I think most people there would not want Timor-Leste to take responsibility for Australia's waste, and would be appalled at their country being used to justify further destruction of the climate.

The project is moving quickly.

One week later, at the COP in Glasgow:



Florentino Soares Ferreira

President of ANPM (National Authority of Petroleum and Minerals) at ANPM.

Today, Kevin Gallagher (Santos Managing Director & CEO) and Julia Grewar (Santos Investment Relations Manager) had a very fruitful and productive meeting with ANPM team in Glasgow to follow up with our 10MTPA Bayu-Undan CCS Project.

It's so ironic that as close neighbours we had to do it on the other side of the world.

It is the world we are living today.

In the nick of time for a cold light of the day.

But the Timorese government needs money, and has become addicted to easy rents from the petroleum industry. The proposed CCS project will inspire more fantastic dreams of manna from heaven.

We do not know how much Santos will pay to store carbon in Timor-Leste, how long they will take responsibility for it, or what happens after that.

Santos, Eni and Australia hope to exploit an impoverished neighbor whose people (including decision-makers) have limited technical, environmental, and numerical skills and experience.

Almost nobody in Timor-Leste's government talks about this within the country. It has hardly been in the local media.

I think most people would not want Timor-Leste to import Australia's waste, and would be appalled at being used to justify further destruction of the climate.

Please help us ground the discussion in reality, and help Timor-Leste and Australia avoid going down this ill-fated path.

Thank you.

You will find more and updated information at

- La'ó Hamutuk's website
<http://www.laohamutuk.org>
- La'ó Hamutuk's blog
<http://laohamutuk.blogspot.com/>

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