

Bayu-Undan CO2 Storage, Timor-Leste



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Field and ge overview

-Leste

: Q4 2023

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The map displays the geological structure of the Darwin and Bonaparte Basins. Key features include:

- Gas Fields (Red):** SUNRISE/SUNSET, TROUBADOUR, BLACKWOOD, EVANS SHOAL, EVANS SHOAL SOUTH, GALDETA, BAROSSA, ABADI, SARATOGA, PROMETHEUS/RUBICON, FISHBURN, FRIGATE TERN, MARINA, BLACKTIP, PETREL.
- Oil Fields (Green):** KUDATASI, LAMINGIA HIGH, MINAR TROUGH, KARATUA NORTH, KARATUA, BAYU-UNDAN, SARATOGA, LONDONDEIRY HIGH, CASHMAPLE, JABRU, CASSING, CHALLIS, PUSIN, SWAN, KUKUA, BALBOT, MONTARA.
- Sub-basins:** Flamingo Syncline, Sahul Platform, Troubadour Terrace, Malita Graben, Darwin Shelf, Bonaparte Basin, Petrel Sub-basin, Londondeirry High, Ashmore Platform, Vulcan Sub-basin.
- Territorial Boundaries:** Timor-Leste - Indonesia, Timor-Leste - Australia, Timor-Leste - Western Australia, Timor-Leste - Northern Territory.
- Other Labels:** Calder Graben, Darwin, Wyndham, Kath.

Legend:

- NWS Gas Fields
- NWS Oil Fields
- Bona Sub-basins
- Territorial Boundary

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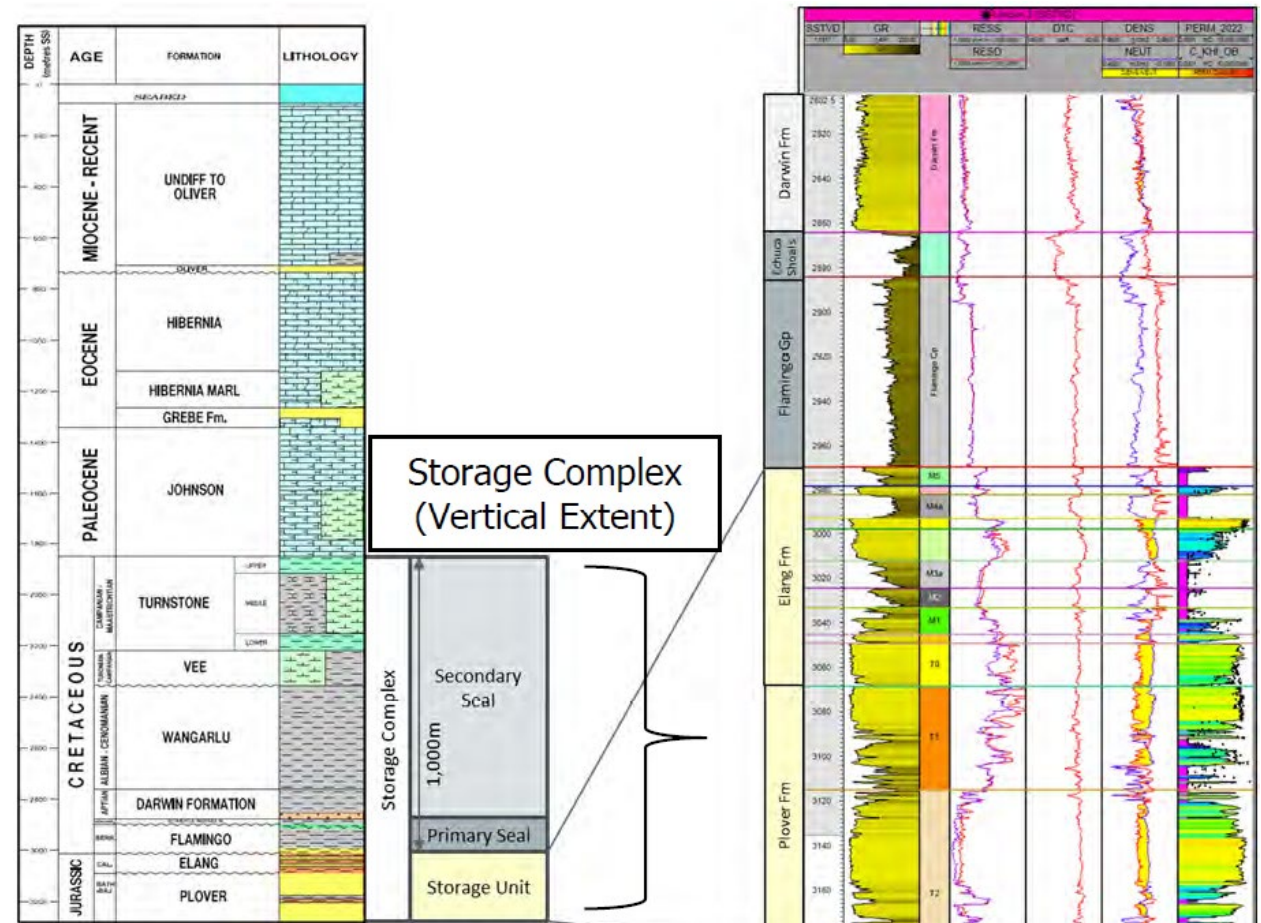
- Legend**
-  NWS Gas Fields
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Scope of the BU-CCS project

- ❑ Re-purpose existing production facilities with modification for CO2 storage
- ❑ Generate revenue for the Government of Timor-Leste
- ❑ Create job opportunities for the people of Timor-Leste
- ❑ Support global CO2 reduction and climate change mitigation

Status of the BU-CCS project

- ❑ Ongoing storage assessment with SANTOS (preliminary results):
 - Storage capacity: >200 MT CO₂ (Jurassic Elang-Plover FM, interbedded sand-shale, average reservoir porosity: Elang (5.5%) and Plover (10.8%))
 - Injection rate: ~10 MTPA with 5 injector wells (average reservoir permeability: Elang (49 mD) and Plover (191 mD))
 - Containment: Cretaceous shale ~1000 m thick
 - Subsurface storage is well understood with proven reservoir seal and high injectivity
 - No geomechanics and geochemistry concerns of the reservoir and seal with the CO₂ injection (lab test)
 - Storage certification by third party (planned)
- ❑ Ongoing assessment of the integrity of the existing facilities (wells, platforms, and pipelines) with SANTOS
- ❑ Ongoing joint study with SK E&S on the CO₂ source from South Korea:
 - Via Timor-Leste onshore temporary storage (further transported via vessel or pipeline to BU storage)
 - Direct injection to BU storage
- ❑ Ongoing engagement with IFC to assess the CCS fiscal, benefit sharing, local participation, carbon market, and mapping of the relevant legal and regulatory frameworks, including knowledge sharing to CCS team and relevant entities
- ❑ Expected start-up injection: initially planned to be 2025 align with the expected end-of-field life in 2022 (to be reviewed subject to the actual production data)



Conclusion

- ❑ BU storage potentially provides the highest CO₂ injection capacity in the world
- ❑ Assessment is ongoing to verify and certify the storage, including MMV
- ❑ The government of Timor-Leste is committed to establishing the CCUS legal and regulatory frameworks in the next 5 years to support CCS operation in Timor-Leste

Obrigado Wai'n!
Thank You!

