SUNDA ENERGY

# Offshore Philippines

## 50 years on, but riches still remain

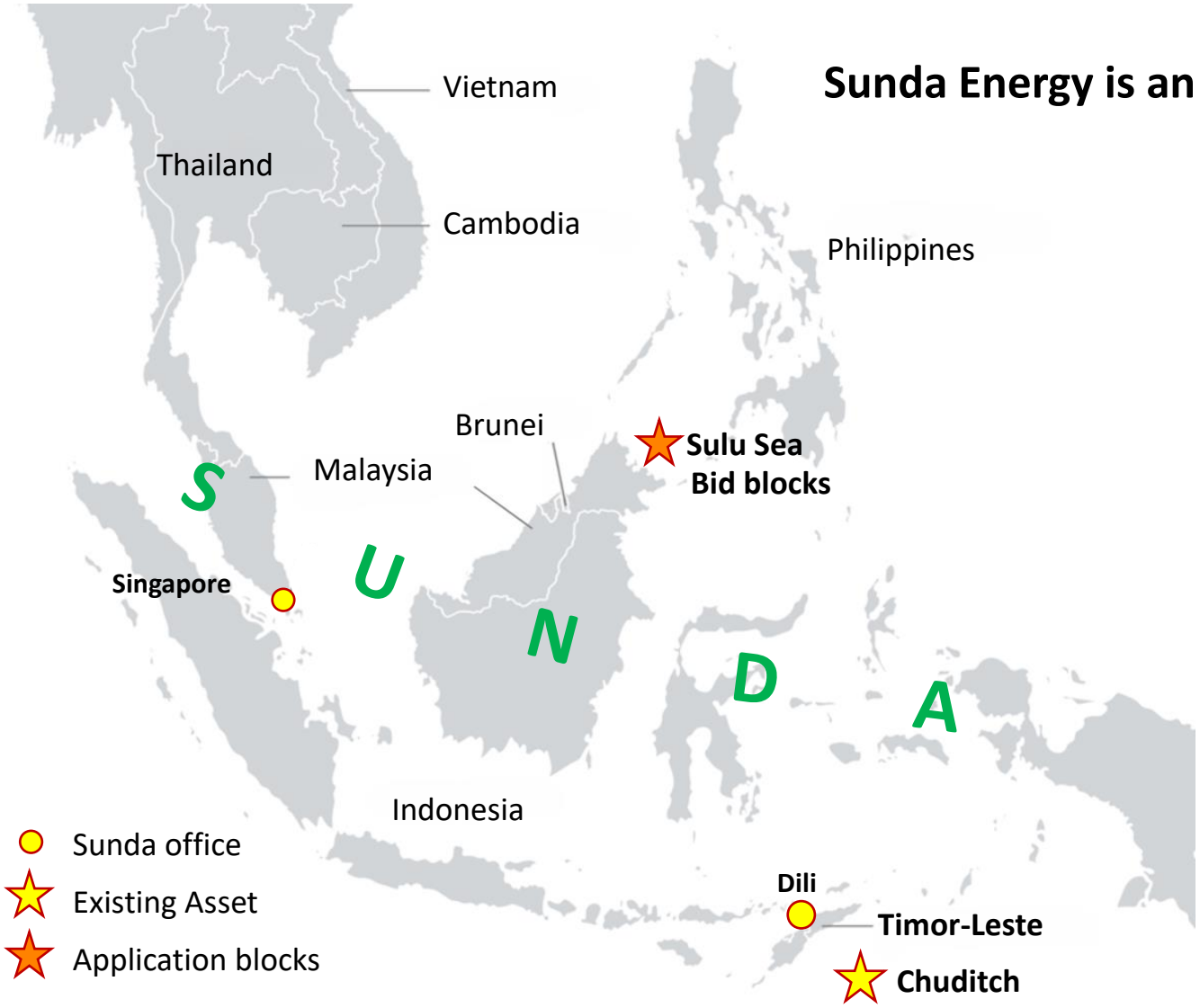
Colin Murray

BEOS 2025

4th March 2025

www.sundaenergy.com

# Sunda Energy Plc (SNDA.L) – SE Asia focussed gas strategy




## Sunda Energy is an independent E&P with a focus on gas in SE Asia and a key asset in Timor-Leste

### Why Sunda and SE Asia?

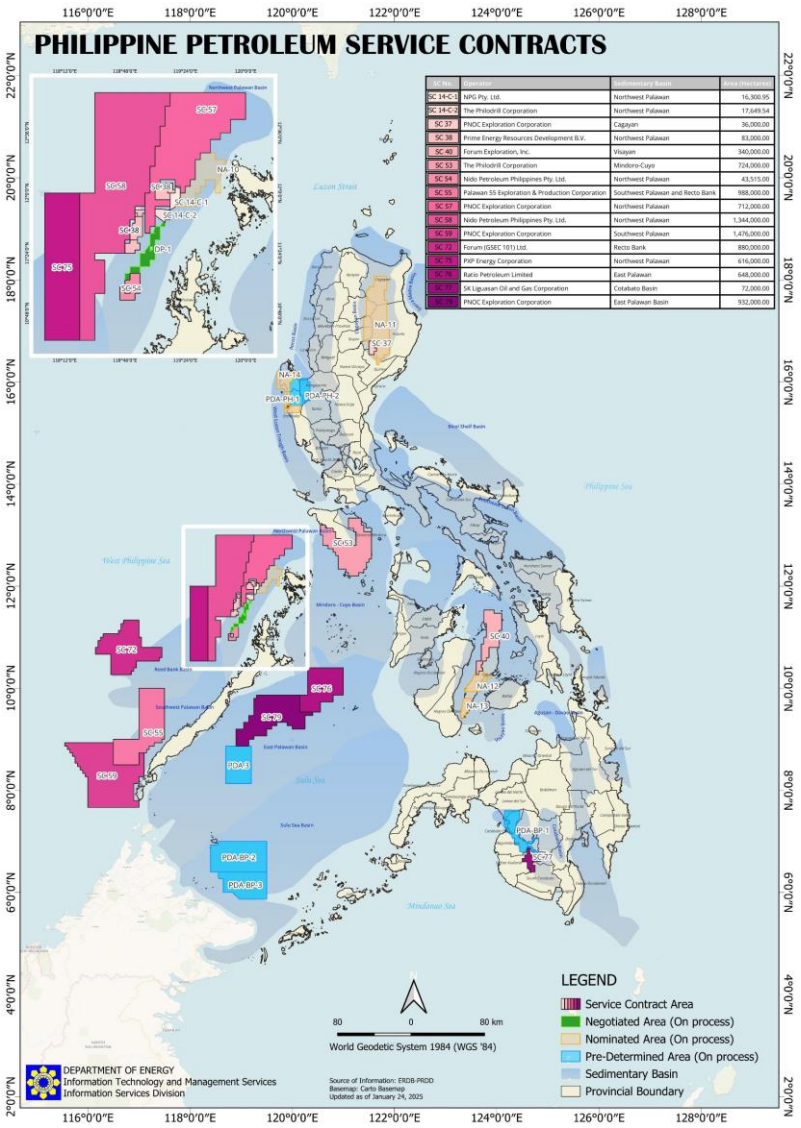
- ✓ Robust energy demand growth
- ✓ Strong government alignment
- ✓ Material anchor asset in Chuditch
- ✓ Established operating platform
- ✓ Excellent networks and reputation
- ✓ Extensive regional knowledge

### Board of Directors

| | |
|---|---|
| Chairman: | Gerry Aherne |
| CEO: | Andy Butler |
| CFO: | Rob Collins |
| Independent: | John Chessher |
| Independent: | Keith Bush |

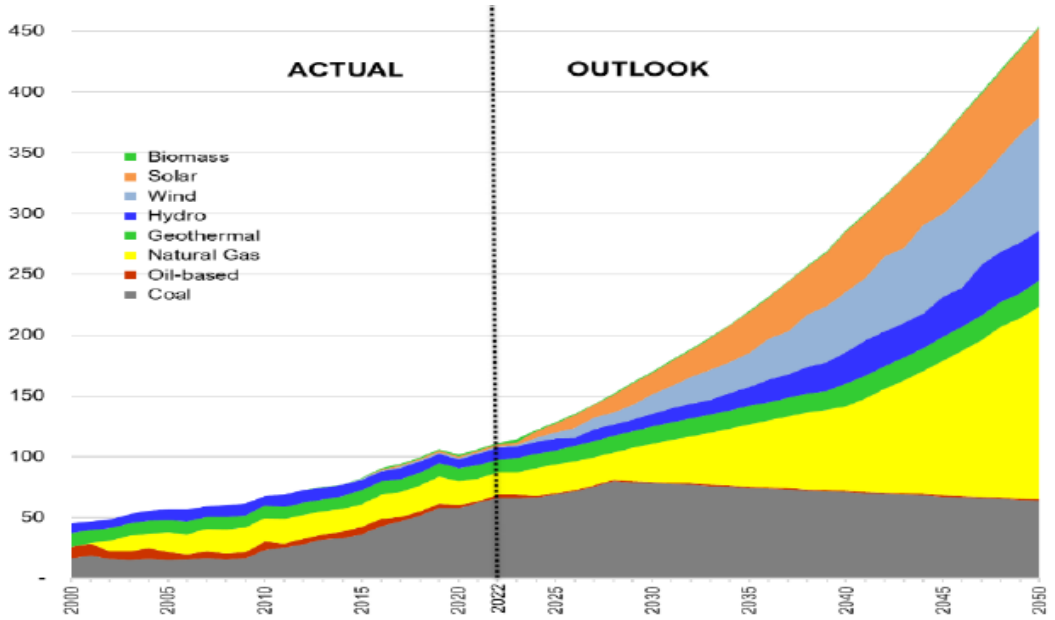
SundaGas Banda UL is Sunda's operating subsidiary in Timor-Leste

# Philippines Overview




Current Petroleum contracts and pending applications

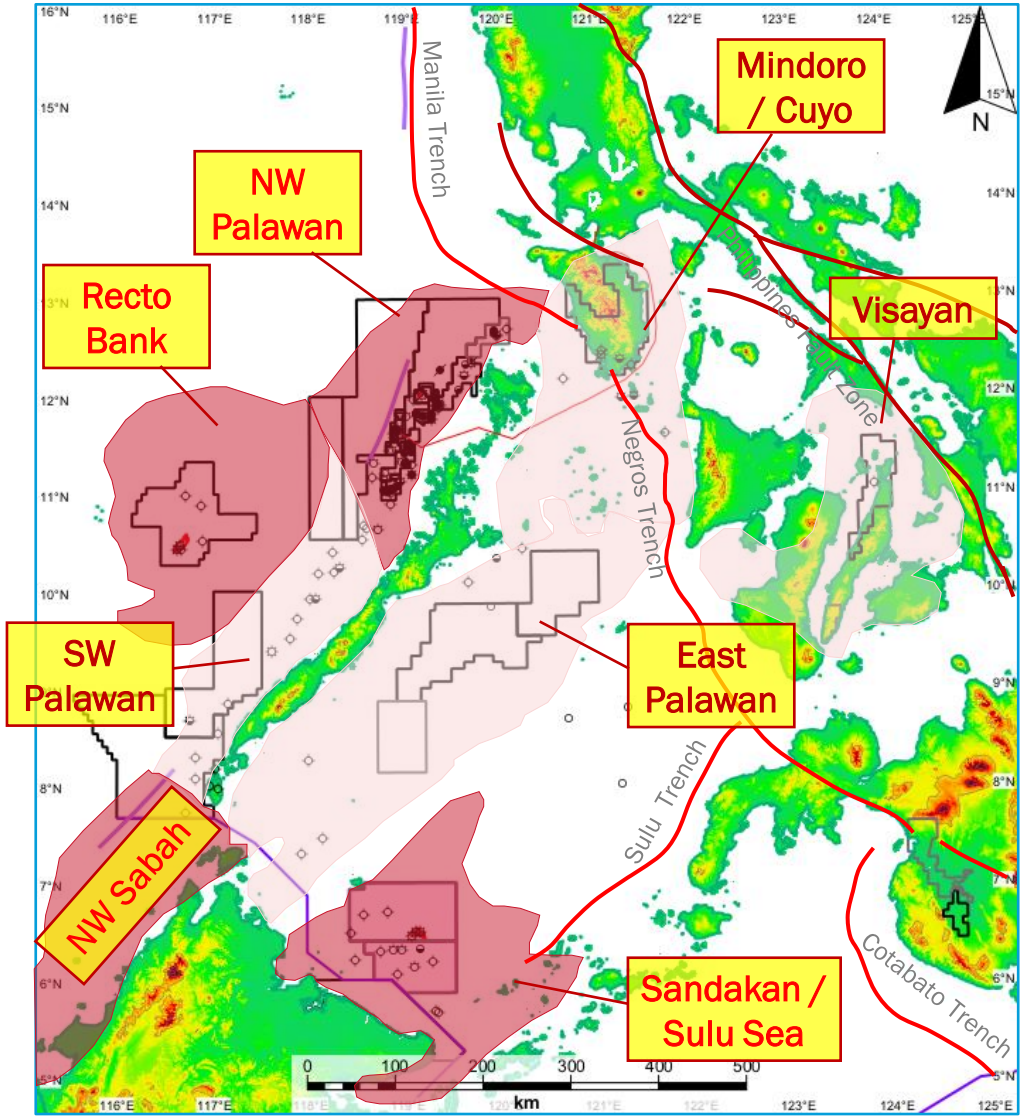
- Rapidly developing nation of > 100 million people
- Mature democracy, strong legal and fiscal regimes
- Relatively poor in indigenous energy
  - Relies significantly on imported coal and fuel oil
  - Malampaya gas field provides c.20% of power feedstock national, but in decline
  - Power demand growth forecast at >300% in next 25 years – c.50% from natural gas




Power generation by fuel: historical and forecast.
Source Philippines DOE

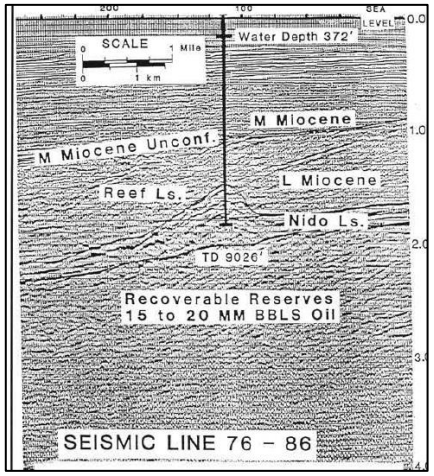
- Despite 50 years of offshore exploration, discovered resources have been modest
- No exploration wells drilled since 2015
- Excellent fiscal terms and supportive regulator seek to reinvigorate activity

# Philippines Petroleum Basins

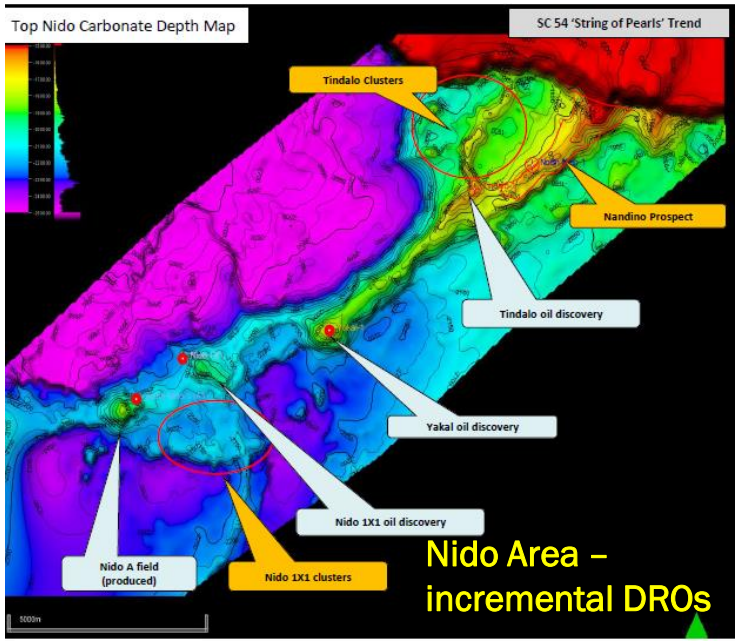



- Exploration focused primarily around Palawan and Borneo margin
- NW Palawan has seen most activity
  - Exploration since 1970's with discoveries in Oligo-Miocene Carbonates – only basin with significant production (Malampaya gas field)
  - Outboard deeper water area unexplored
- Recto Bank activity curtailed due to maritime dispute
  - Sampaguita gas discovery drilled in 1976 –no drilling since 1984
- Sandakan / Sulu Sea Basin
  - Exploration since 1970's – small discoveries in Malaysian sector
  - Deep water exploration only in last 15 years – significant discoveries by ExxonMobil in 2009-10, yet to be appraised
  - Remains under- explored
- Minor discoveries in other basins, limited activity
  - East Palawan
  - Mindoro / Cuyo
  - Visayan

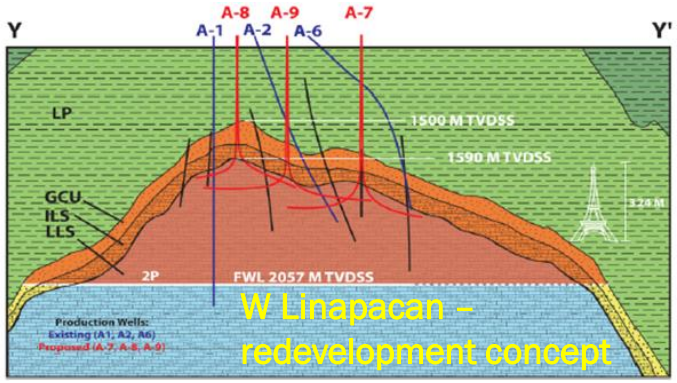
# NW Palawan – oil play: incremental resources remain undeveloped



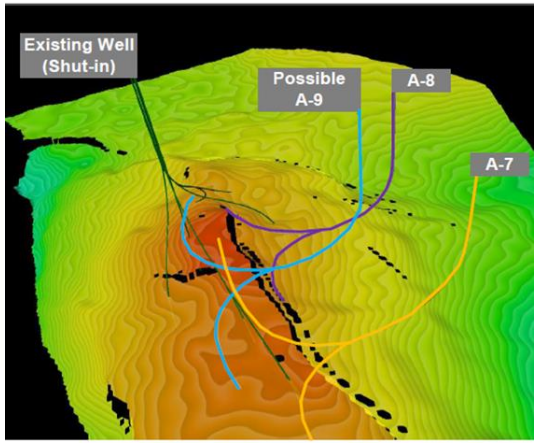

Nido 1 discovery:
1976 seismic




Nido Area –
incremental DROs




W Linapacan –
redevelopment concept

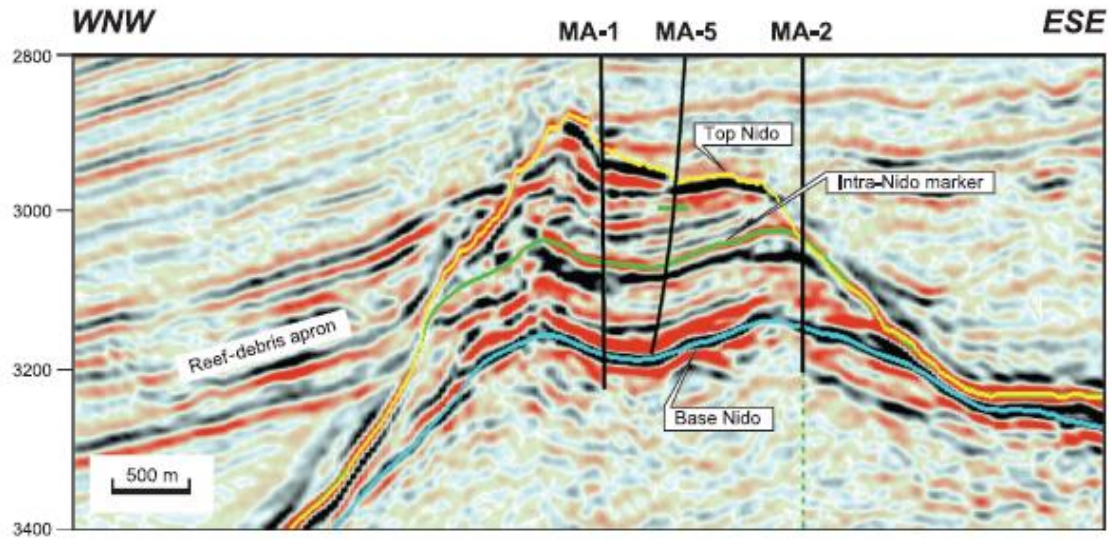


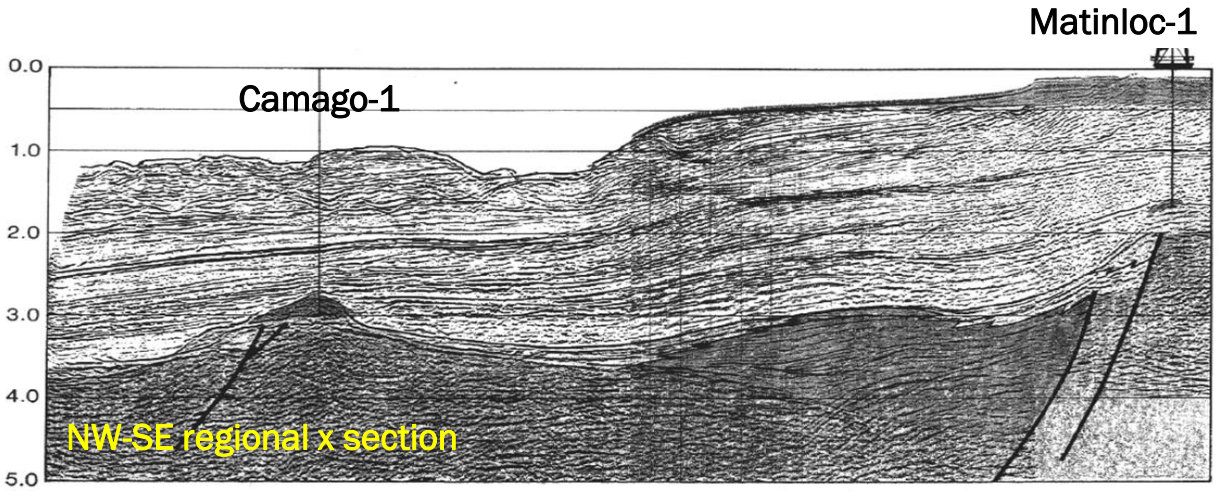

- Shallow water exploration began in early 1970's
- First Service contracts awarded to international companies – notably Cities Service, Phillips, Amoco
- Oil discoveries made in Oligo-Miocene Nido Limestones
  - Nido Field (1976) on production 1979
  - Cadlao Field (1977) on production 1981
  - Matinloc Field (1978) on production 1982
  - West Linapacan (1990) on production 1992
- Issues with early water breakthrough
  - High water cuts – cyclic production
  - Lower recoveries with conventional developments – cumulative production to date c. 55 MMBO
- A number of discoveries unappraised / undeveloped
- Fields abandoned may have re-development potential with modern production strategies – e.g. high angle wells

Sources: Cities Service 1976; Nido Petroleum 2014, Sacgasco 2021

# NW Palawan – deepwater gas: major success but is it alone?

Malampaya seismic interpretation

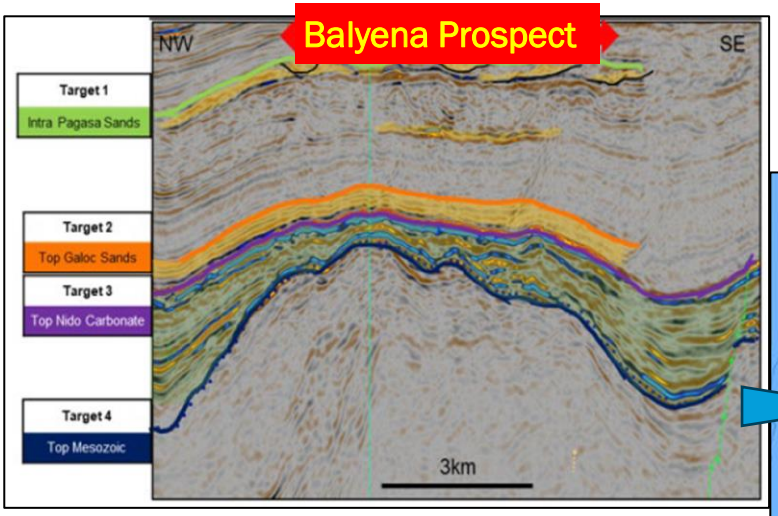


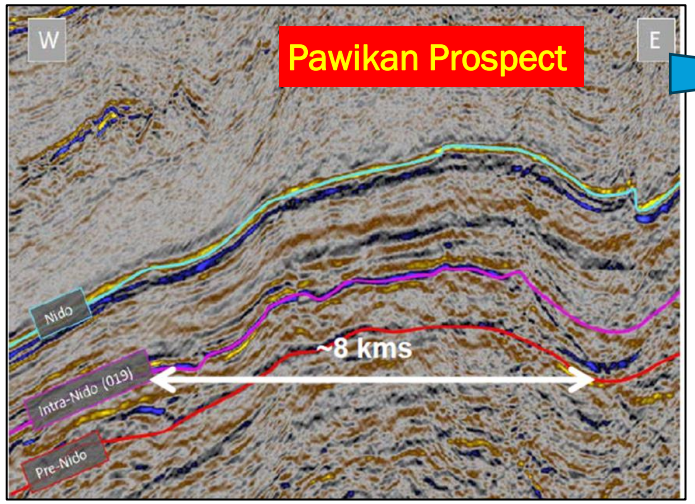



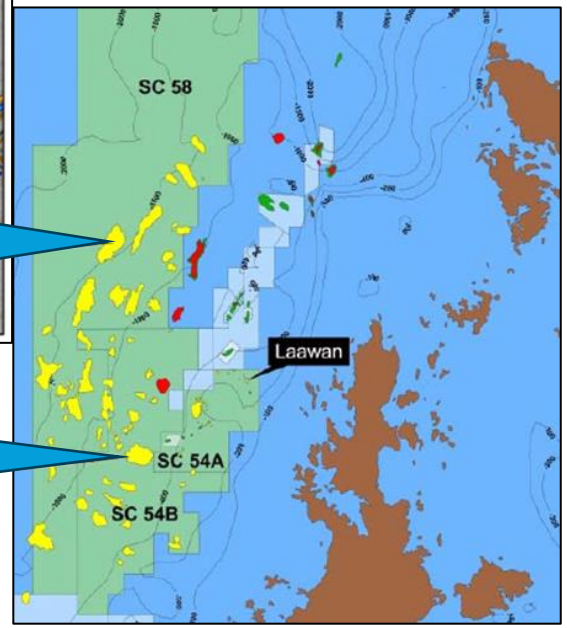

- In the 1980's, exploration extended into deeper waters to test larger Nido Limestone structures
- Occidental's Camago-1 (1989) discovered the nation's one giant, the Malampaya gas condensate field
- Shell developed Malampaya, world's first deepwater gas field (800m water). Export via 500 km pipeline to Luzon
- Production started in 2001, c. 2.7 Tcf of gas and 90 MMBC produced to date, now in decline.
- Beyond Malampaya, few exploration wells have been drilled on this trend
  - Malampaya operator Prime Energy planning further near-field drilling in 2025
  - Prospects in adjacent acreage also remain undrilled

Sources: Occidental 1990; Grotsch & Mercardier, AAPG 1999, Neuhaus el al, AAPG 2004

# NW Palawan: Deepwater prospects, yet to be tested

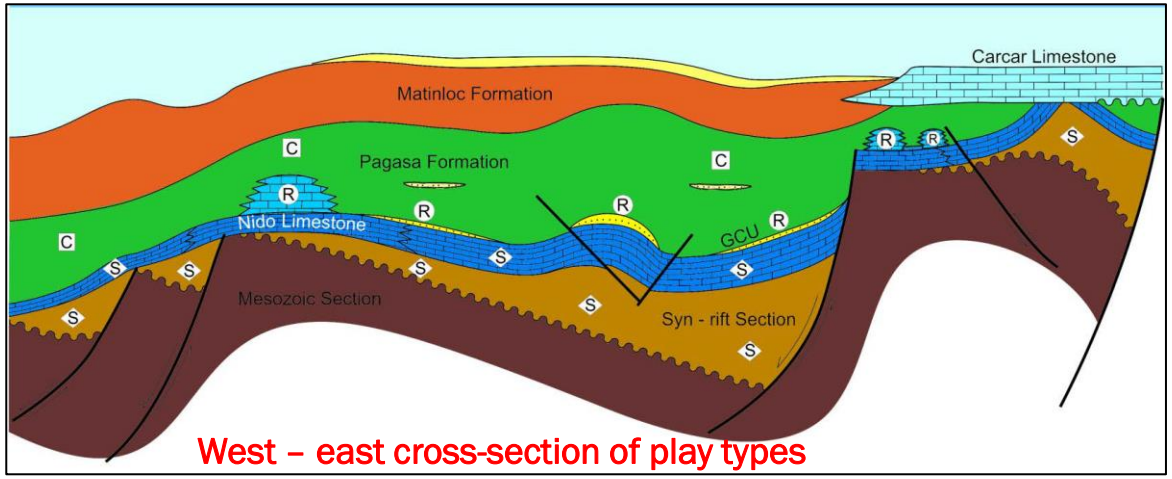



Prospects and leads map

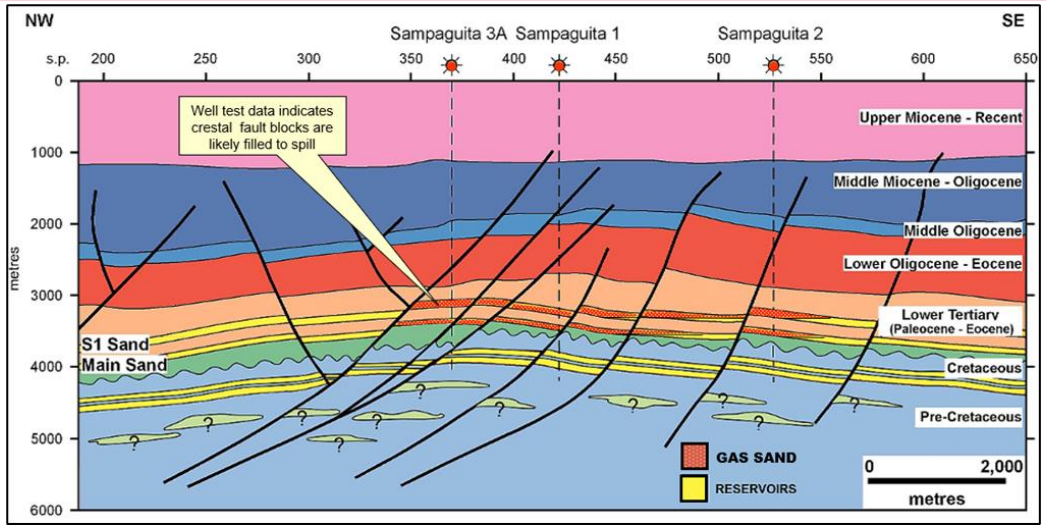
- The area to the west, north and southwest of Malampaya remains undrilled
- Large prospect inventory, some areas unlicenced
- Multiple plays:
  - Nido Limestones – Malampaya look-alikes
  - Clastic turbidites in overlying Miocene section: Galoc Field on shelf margin produces from this reservoir, shallower units also identified
  - Pre-Nido syn-rift section – largely unknown lithologies



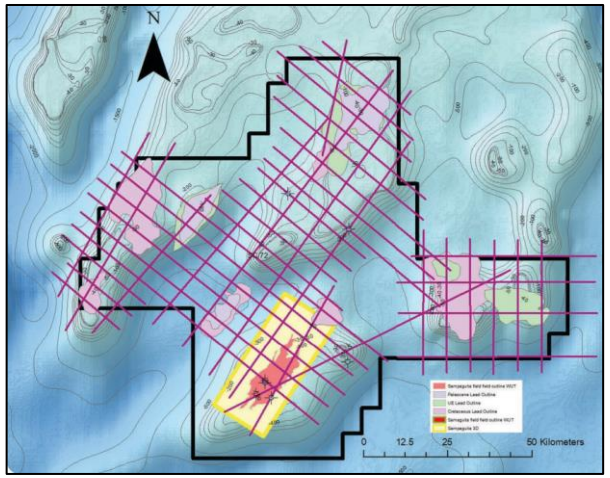

West – east cross-section of play types

Sources: Nido Petroleum, 2012; Sacgasco 2022; Philodrill, Geocon 2019

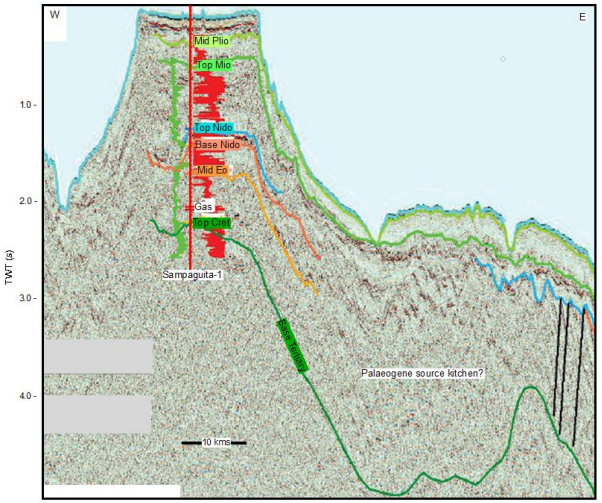
# Recto Bank – huge potential still to be realised




Cross-section through Sampaguita Field




Field and prospects on bathymetry map

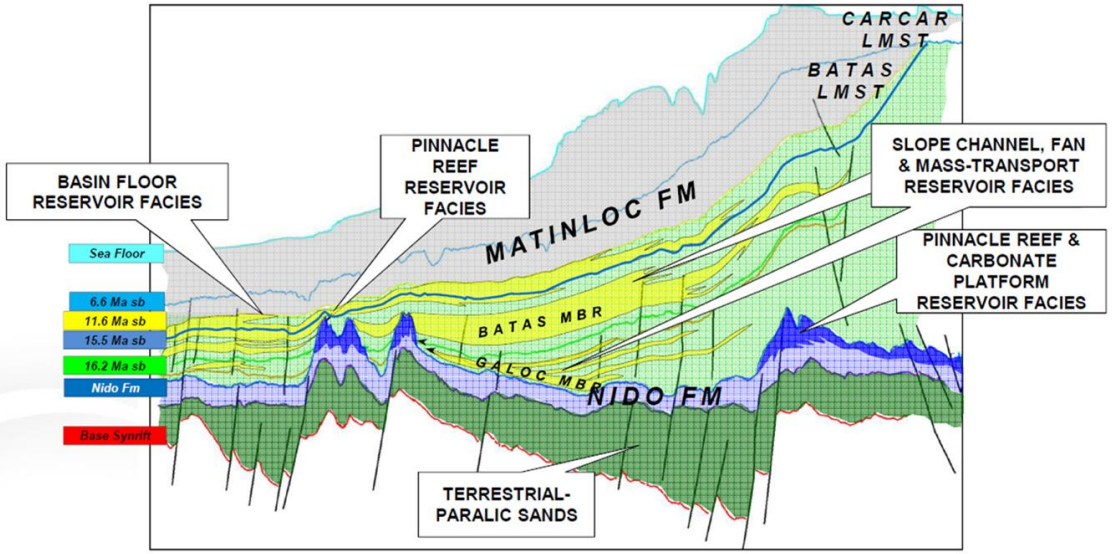



Sampaguita seismic line

- Extensive shallow water micro-continental block outboard of Palawan margin (similar in size to UK Southern Gas Basin)
- Early exploration in 1970's led to discovery of Sampaguita gas field in 1976 by a Swedish-Filipino consortium
  - Two appraisal wells subsequently drilled, plus 3 dry wells on offset prospects (subsequently shown to be off-structure)
- Sampaguita gas is reservoired in Paleocene – Eocene clastics – affinities to South China basins
  - Low flow rates c.4 mmcf/d, but formations appear to have been damaged – analysis indicates rates of c.50 mmcf/d are possible
  - Multi Tcf resource potential
  - Undrilled prospects identified, including Mesozoic potential
- Ongoing South China Sea dispute curtailed further activity – SC 72, operated by Forum Energy, is under *Force Majeure*

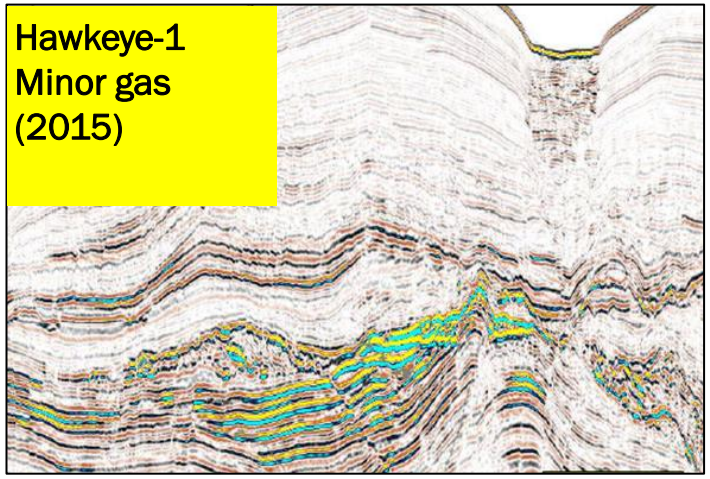
Sources: Otto Energy, 2009; Apex Mining Annual Report, 2020

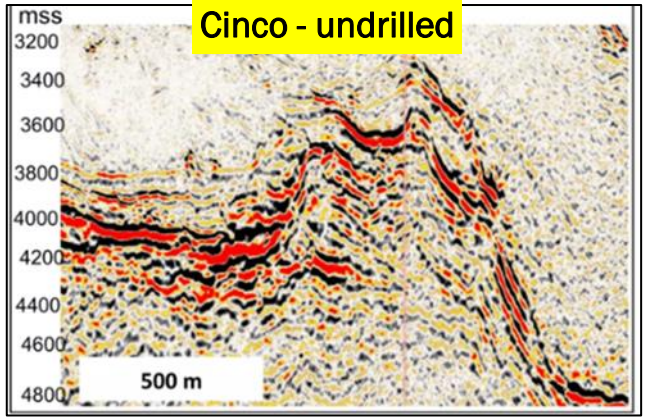
# SW Palawan – extension of NW Sabah trend, little drilling

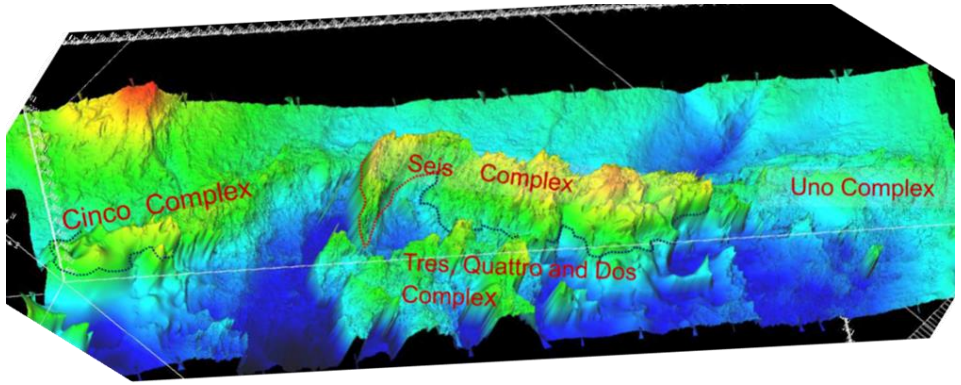



SW Palawan plays

- Continuation of NW Sabah (Malaysia), a major producing basin
- 400km trend, only 18 wells, of which 4 beyond 200m water depth
- Clastic plays in Upper Miocene deepwater fold and thrust belt
  - Analogous to Kikeh, Gumusut, Rotan in Malaysia
  - Hawkeye-1 (2015) last offshore well in Philippines on AVO supported prospect with flat-spot (Rotan analogue) was minor gas discovery
- Carbonates beneath DWFTB – Nido Limestone equivalent
  - Analogous to recent Tepat discovery in Malaysia
  - Potentially giant “Cinco” trend undrilled

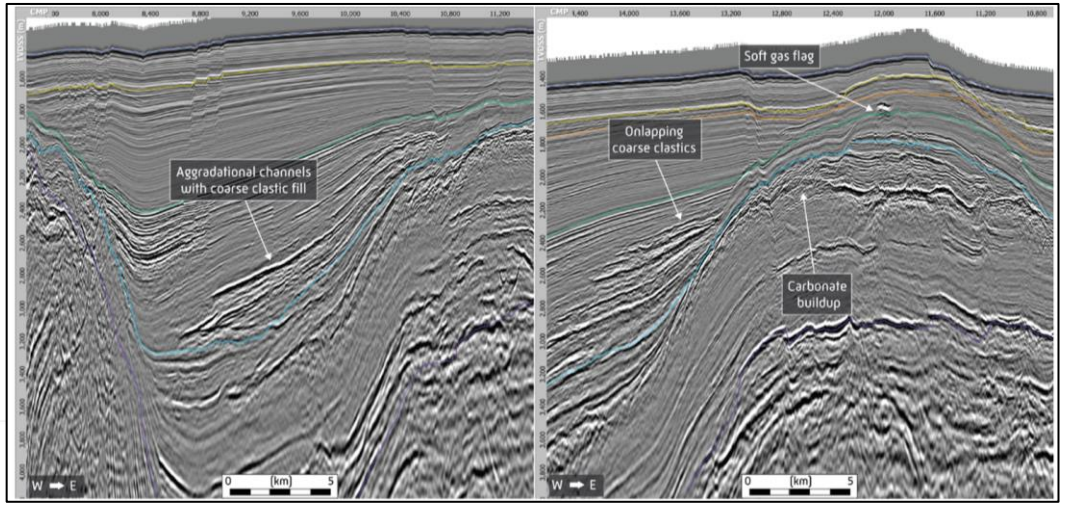


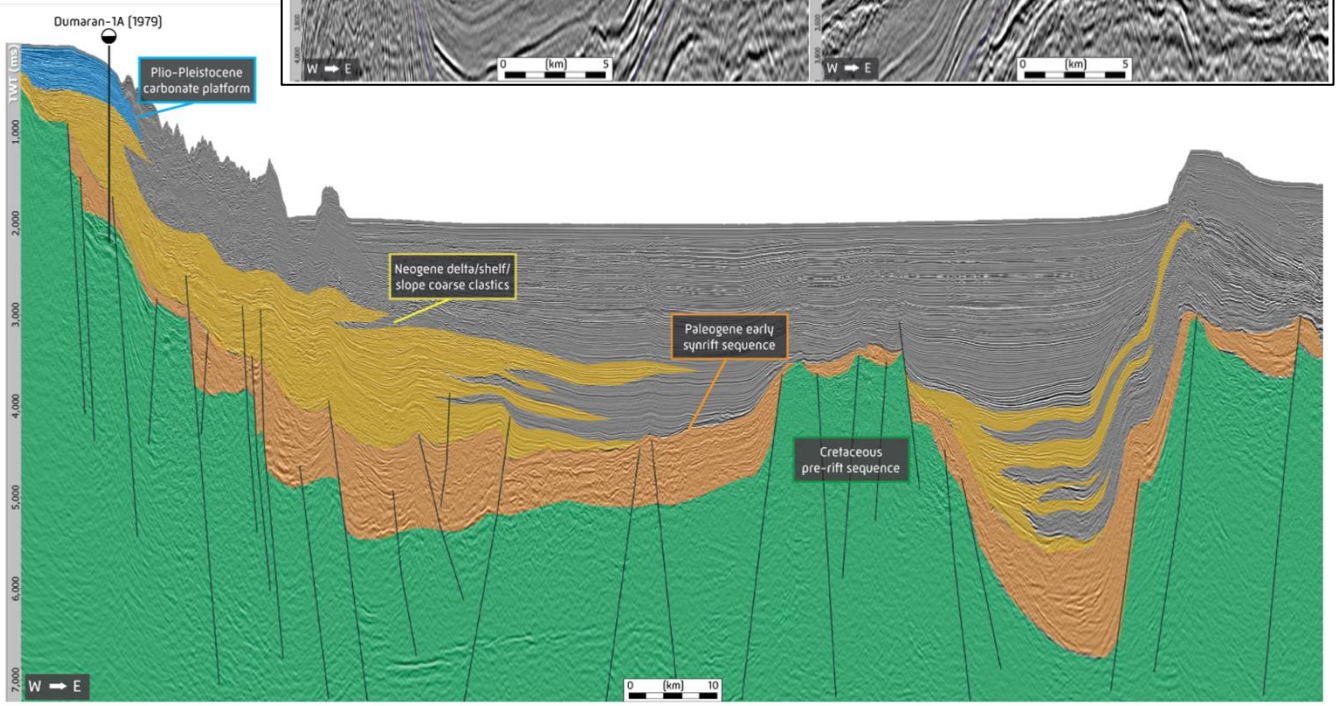




Sources: Otto Energy, 2014

# East Palawan – frontier basin, early-stage exploration

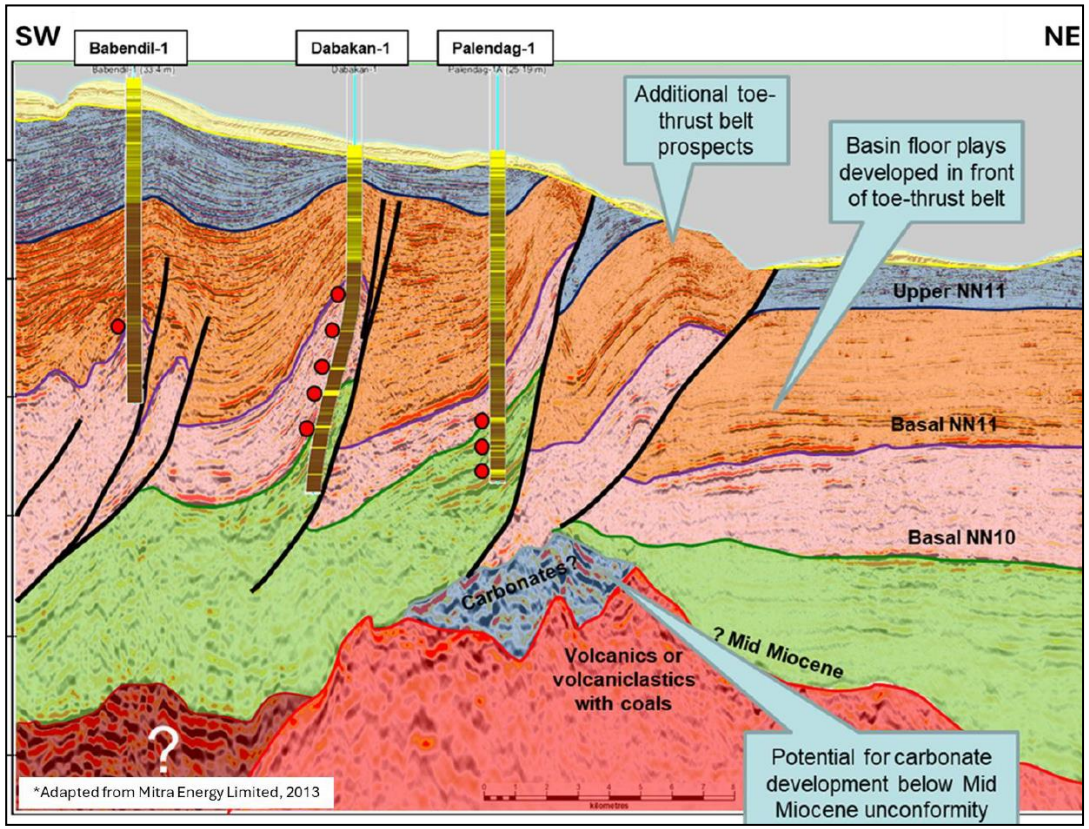


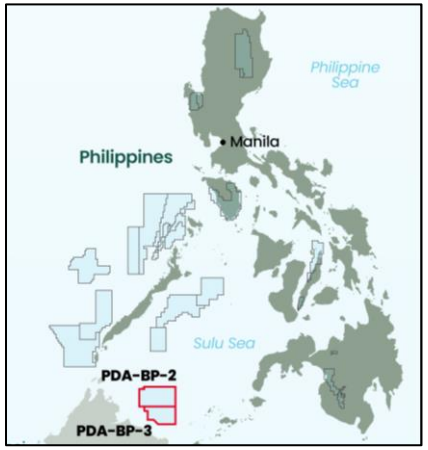

- Basin virtually unexplored; only 5 wells in total (only one in last 40 years)
- Recent multi-client 2D seismic revealed deep grabens and potential targets – carbonates and clastics, plus possible direct hydrocarbon indicators
- Maniguin-2 well to the east on Cuyo platform flowed oil from a Lower Miocene sst
- Dumaran-1 on west margin had gas and oil shows
- Two active Service Contracts
  - recent 3D acquisition
  - possible drilling in future
  - much of the area remains open

Sources: Searcher Seismic, GEOExPro 2019; GEOExPro 2024

# Sulu Sea / Sandakan Basin– giants lurking?



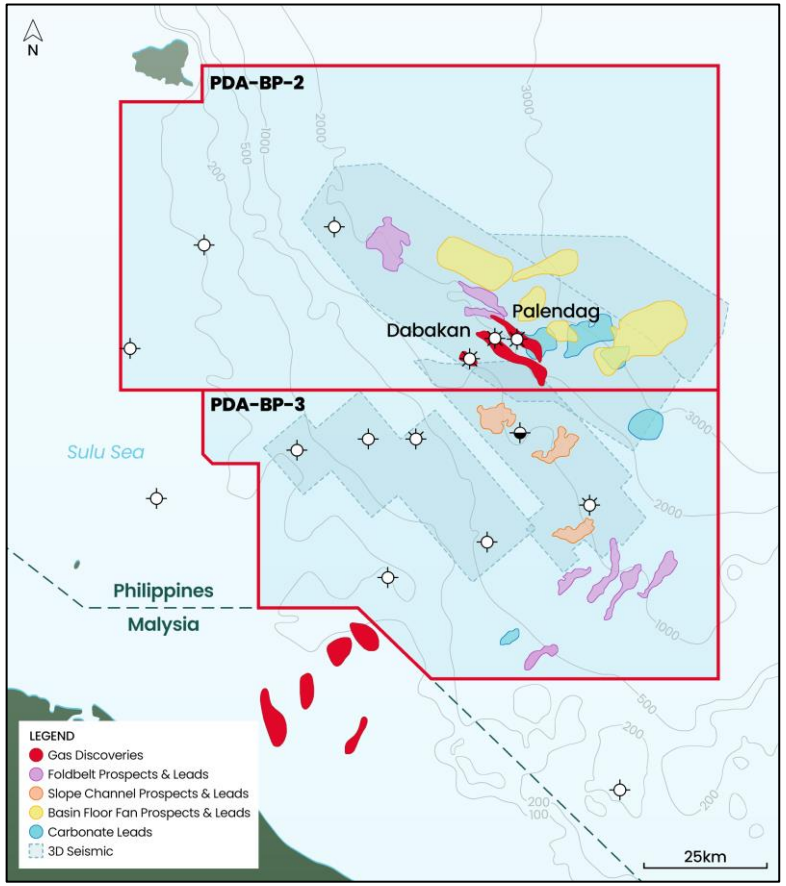

- Analogous to other circum-Borneo prolific regions: Kutei, NW Sabah, Baram and Tarakan Basins
- Shallow water shelf is sand rich with small fields in Malaysian sector – limited seal potential
- Six wells drilled in U. Miocene deepwater turbidite play; two discoveries by ExxonMobil in 2009-10
- Prospectivity also identified in giant basin floor fan play and underlying carbonates
- Two blocks with existing discoveries in 2024 bid round



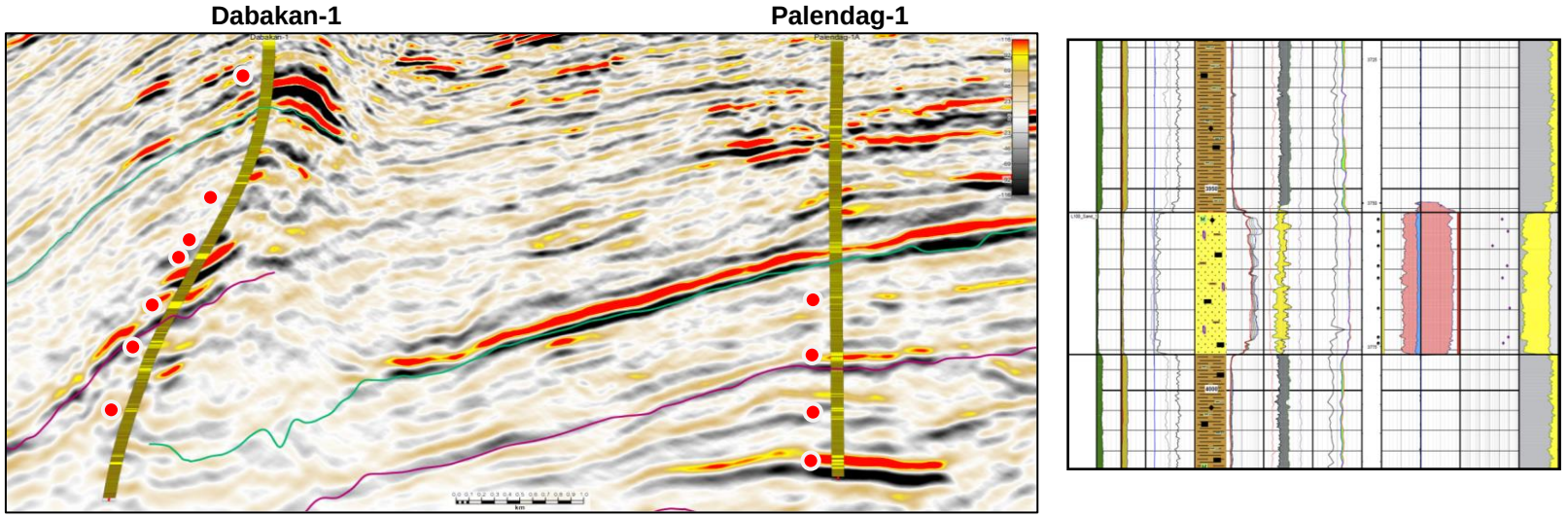

- Sunda Energy and partners bid for these areas, pending award – expected Q1 2025

Sources: Mitra Energy, AAPG 2012, SEAPEX 2015, CPR 2016

# Sulu Sea Basin– deepwater turbidite discoveries

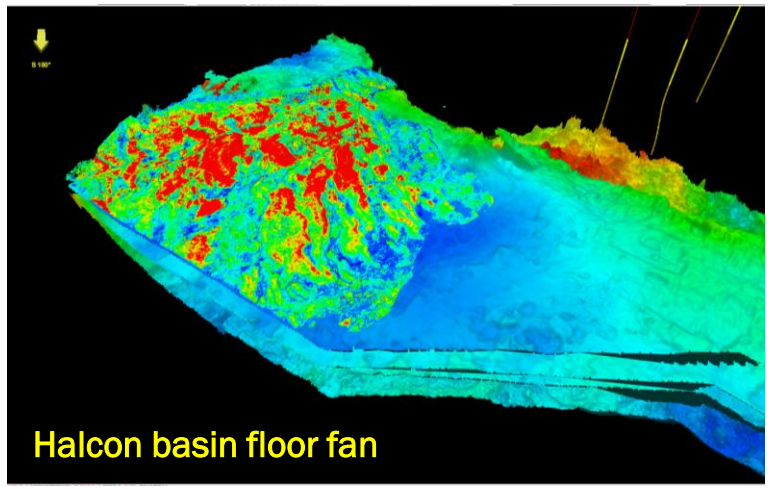


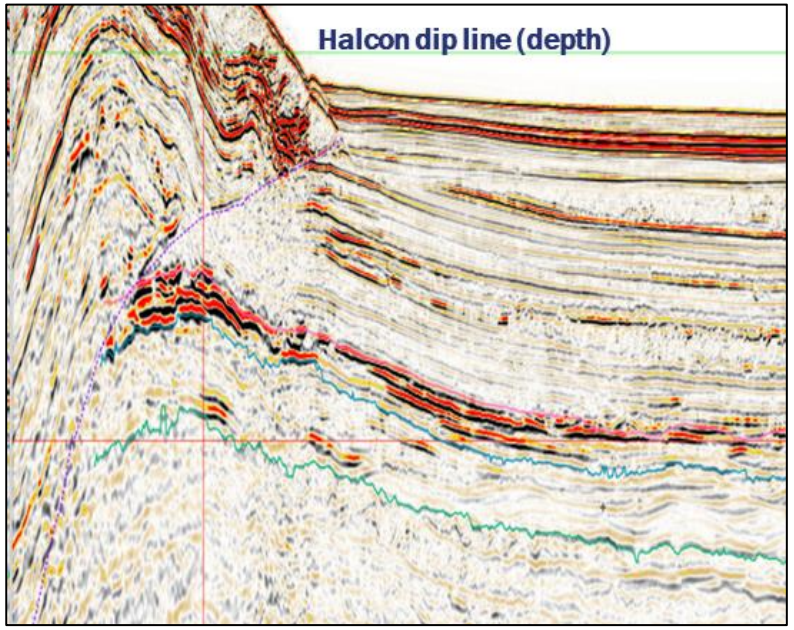

- ExxonMobil Dabakan-1 and Palandag-1A both discovered gas in multiple stacked turbidite sands in deepwater thrusted anticline traps
  - Good AVO response in reservoir intervals / requires further evaluation
  - Dabakan-1 intersected 74m net TVD gas pay, Palandag-1A 46m net gas pay
  - Wells were not tested but extensive MDT data acquired
  - Reservoirs show good poro-perms
- All 4 other wells on trend had shows, Babendil-1 was a minor gas find



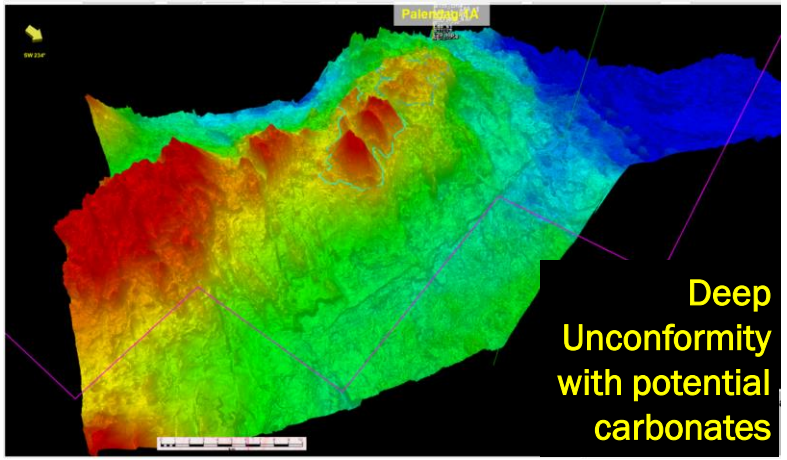

Sources: Mitra Energy, SEAPEX 2015, CPR 2016

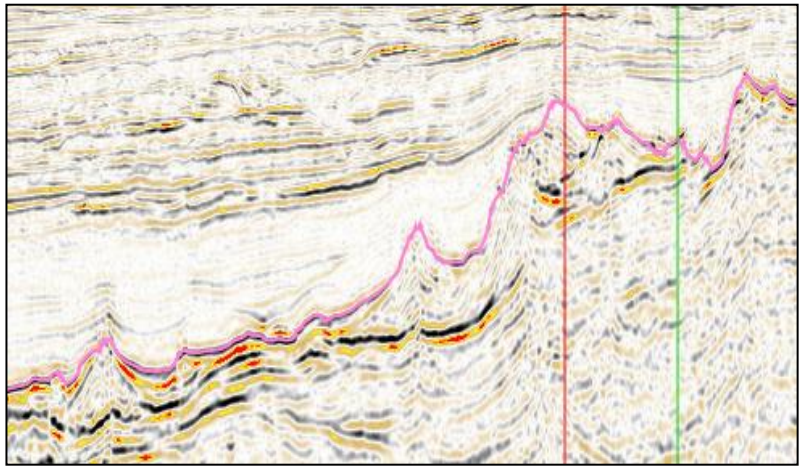
# Sulu Sea Basin– significant upside in deeper plays




- Giant basin floor “Halcon” prospect identified by previous licence group but not drilled – multi-tcf potential
  - located on a structural arch – potential migration focus

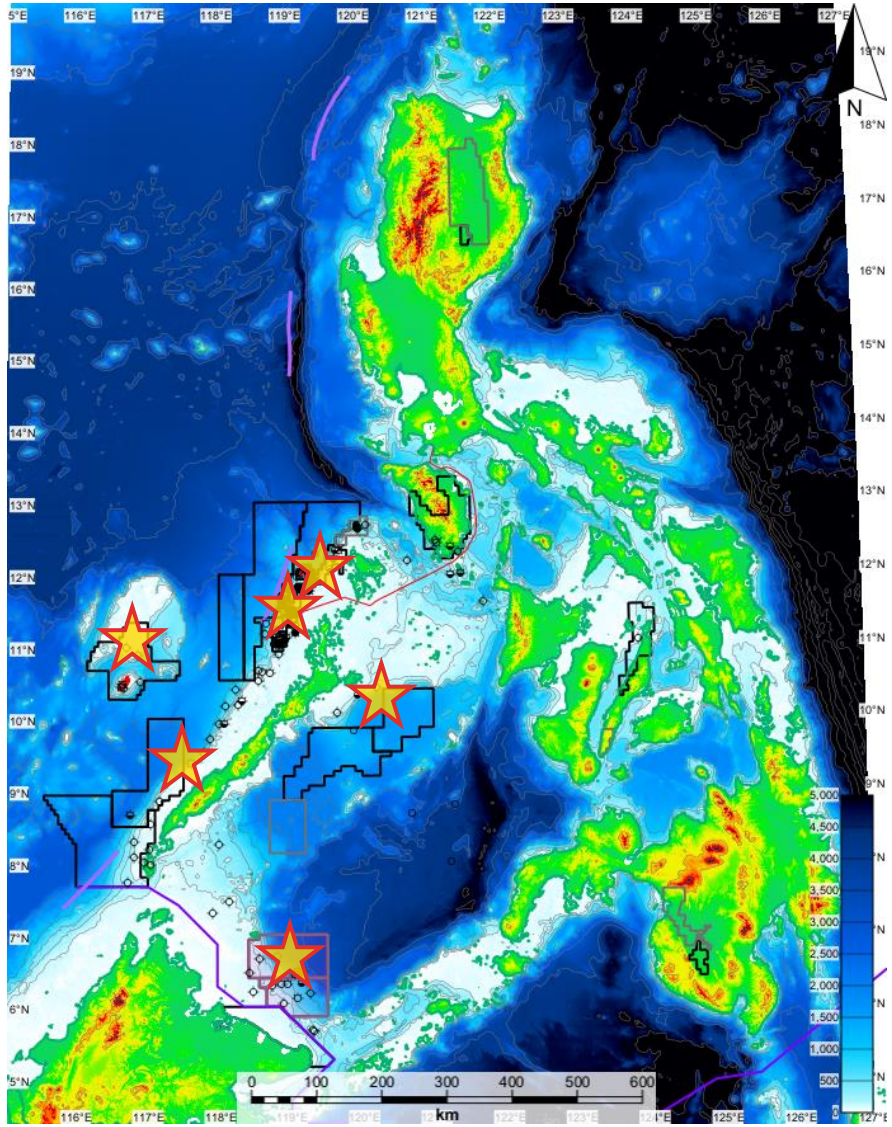


- Deep unconformity surface underlying DWFTB displays seismic character indicative of carbonate development
  - equivalent carbonates drilled inboard encountered gas

Sources: Mitra Energy, SEAPEX 2015, CPR 2016

# Concluding comments – do riches still remain?




- Yes!
- Relatively modest discovered resources and production belie significant remaining potential of offshore Philippines
- Incremental volumes to be produced in proven Nido oil play
- Extension of Malampaya gas trend in NW Palawan with potential clastic targets also
- Recto Bank could provide significant resource base if geopolitical issues can be resolved
- SW and East Palawan virtually undrilled - potential being revealed by recent seismic
- Sulu Sea discoveries and upsides reveal potential to be the next major circum-Borneo producing basin

SUNDA ENERGY

# Thank you

El Nido Bay and Cadlao Island, Palawan