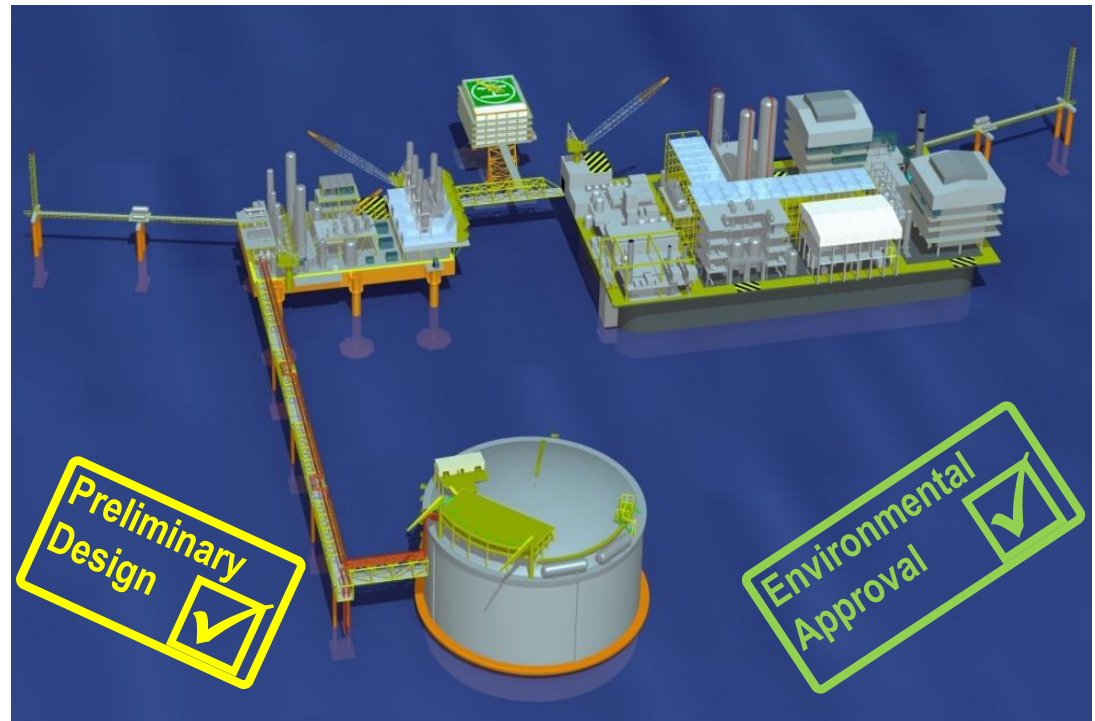


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# Timor Sea GTL Venture Development

4th Australasian Energy Pacesetters Conference

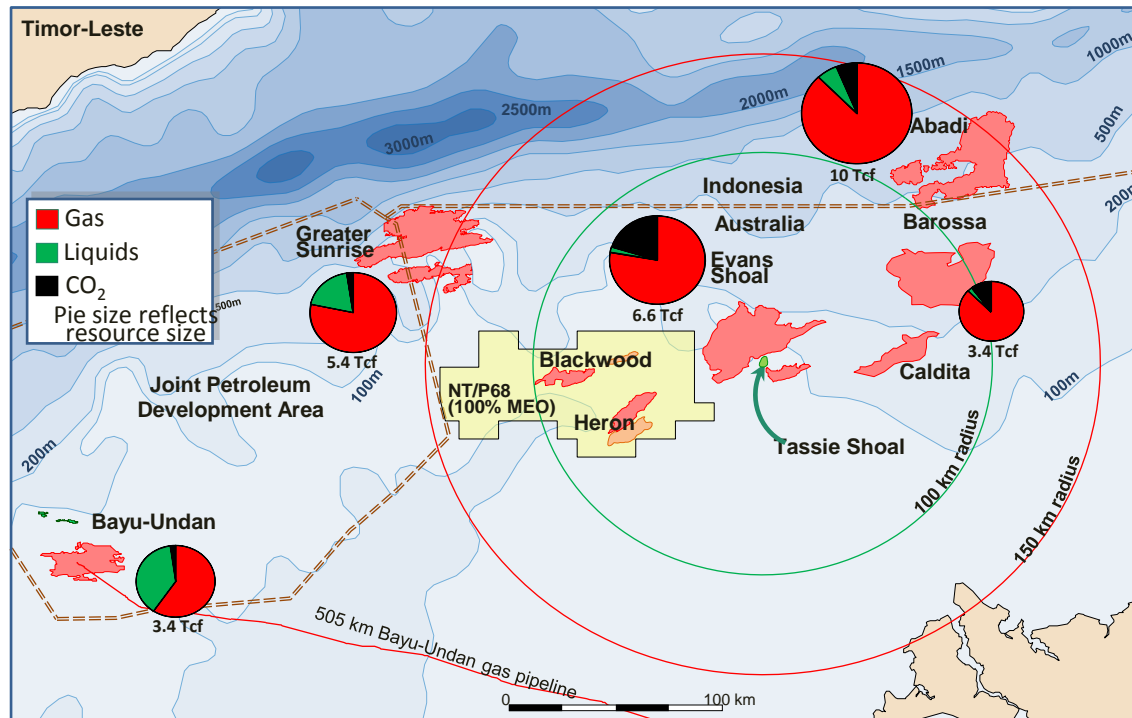
Perth, 3 August 2010

# What is GTL?

## Resources to Revenue

### Gas to Liquids (GTL):

- A process for converting gaseous hydrocarbons to liquids in order to make their development and long distance transportation economic.

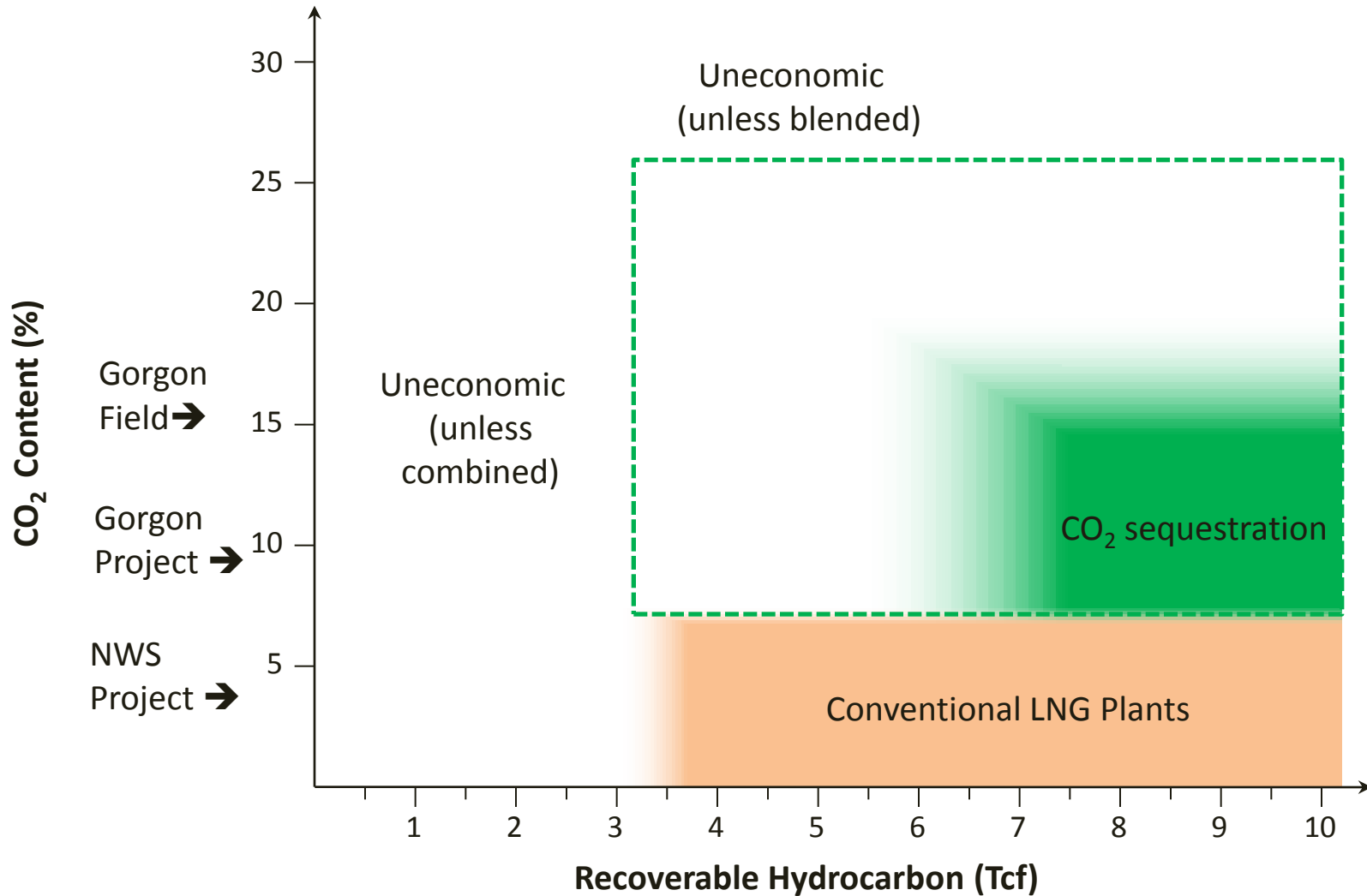


- Question is - what is the best GTL for a particular resource?



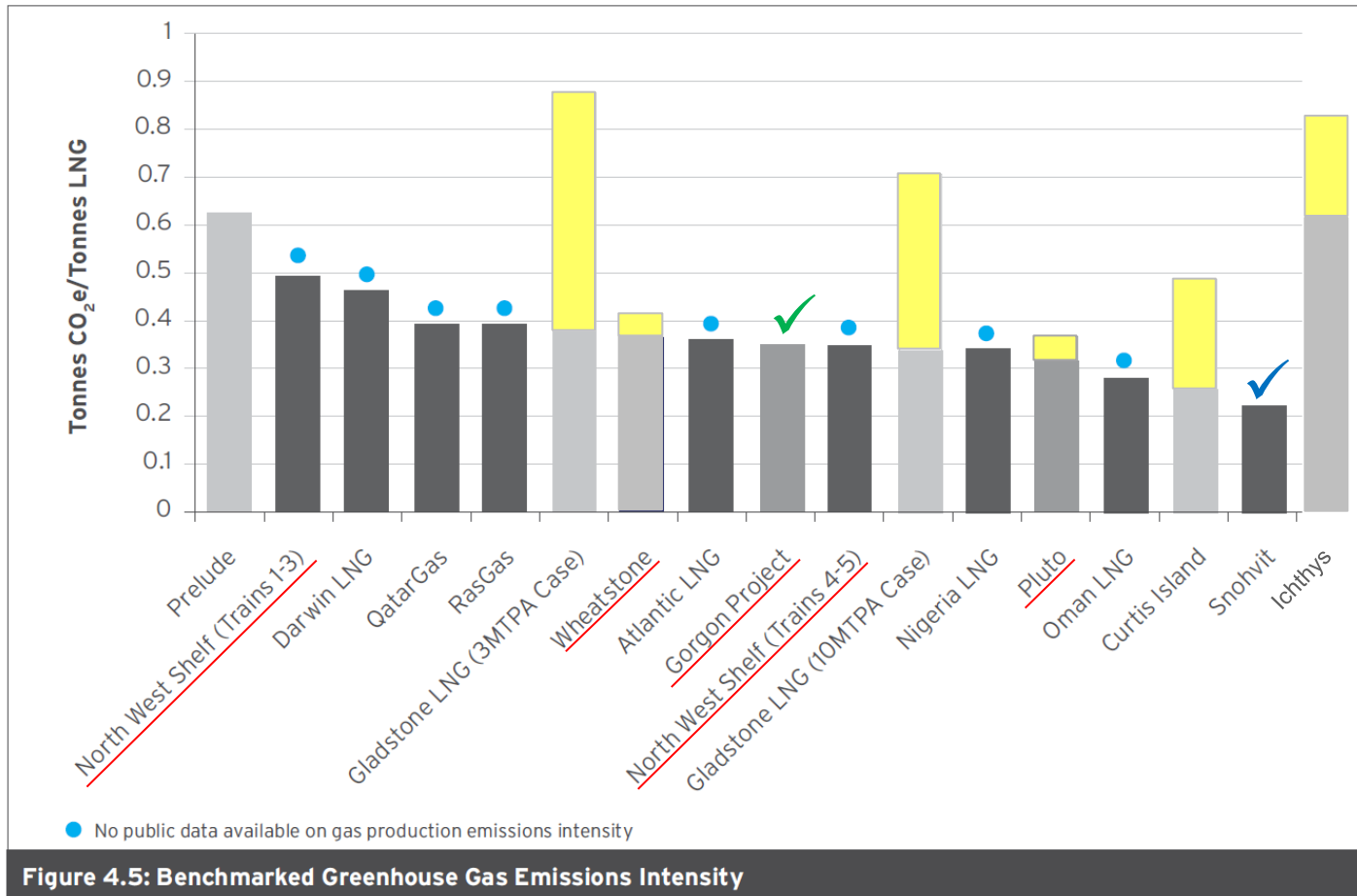
# Resource commercialisation considerations

CO<sub>2</sub> is a challenge



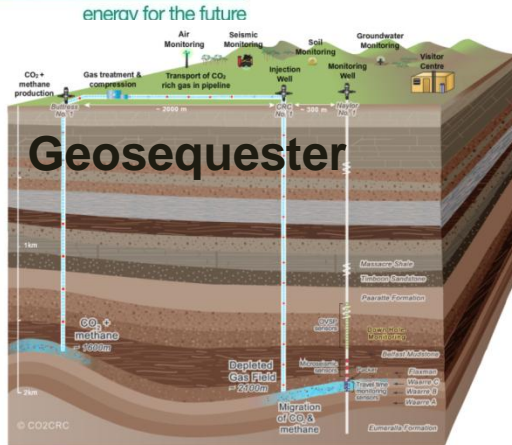
# CO<sub>2</sub> emissions intensity

a significant hurdle for new projects

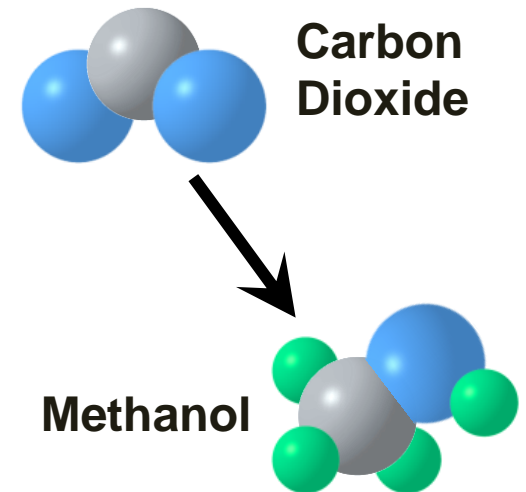
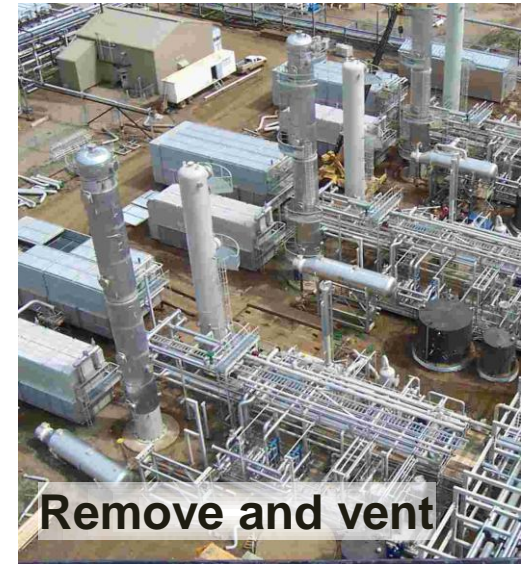


- Primary driver is CO<sub>2</sub> content in reservoir gas, secondary driver is plant efficiency
- Gas production and transportation to LNG plant is hidden challenge
- Gorgon is only project with CO<sub>2</sub> sequestration planned, Snohvit benefits from hydro power

# Options for dealing with CO<sub>2</sub>

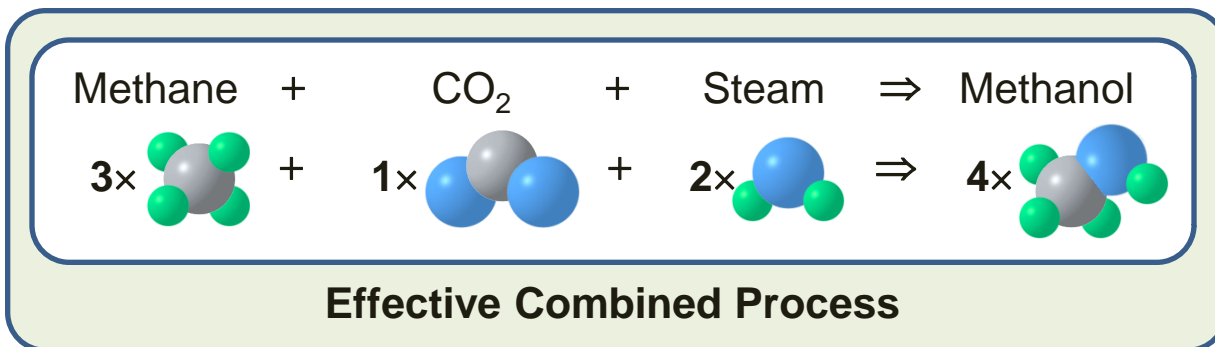
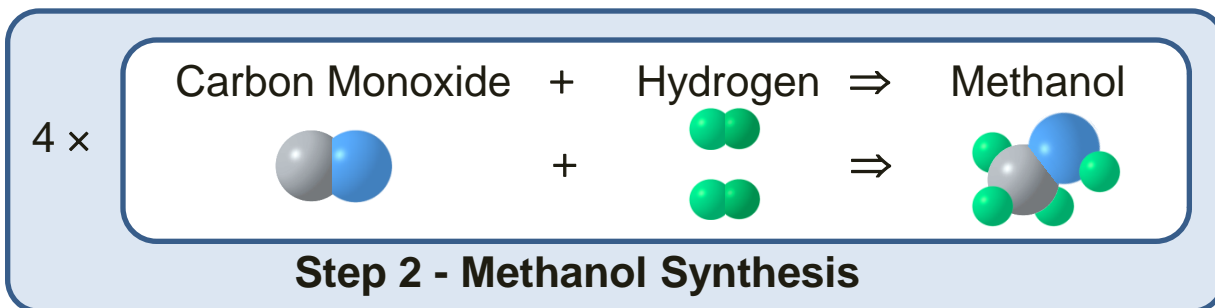
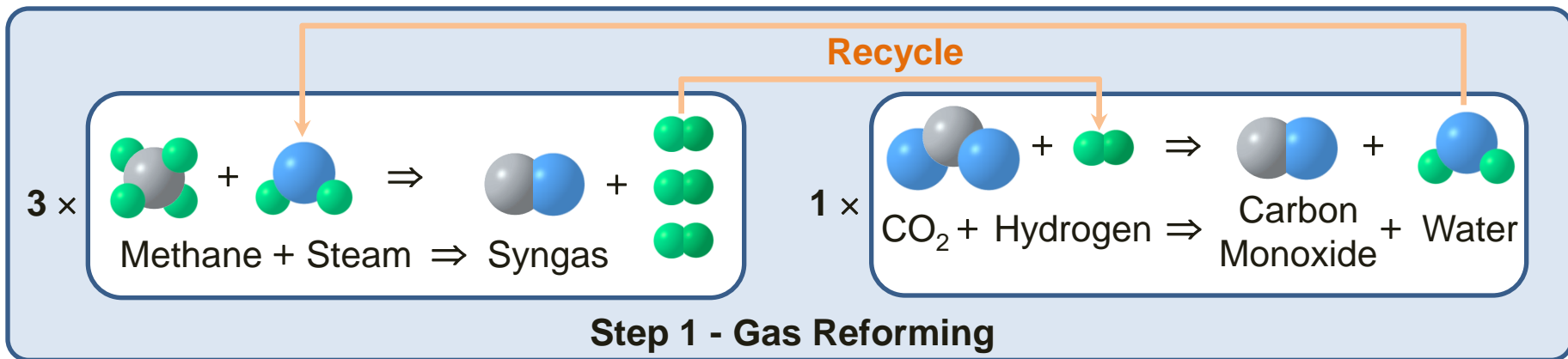


- Geo-sequester (re-inject)
- Bio-sequester
  - Trees (offset emissions)
  - Algae (consume emissions)
- Chemical-sequester
  - Methanol
- Regulatory relief






# The CO<sub>2</sub> → Methanol Story

high school chemistry

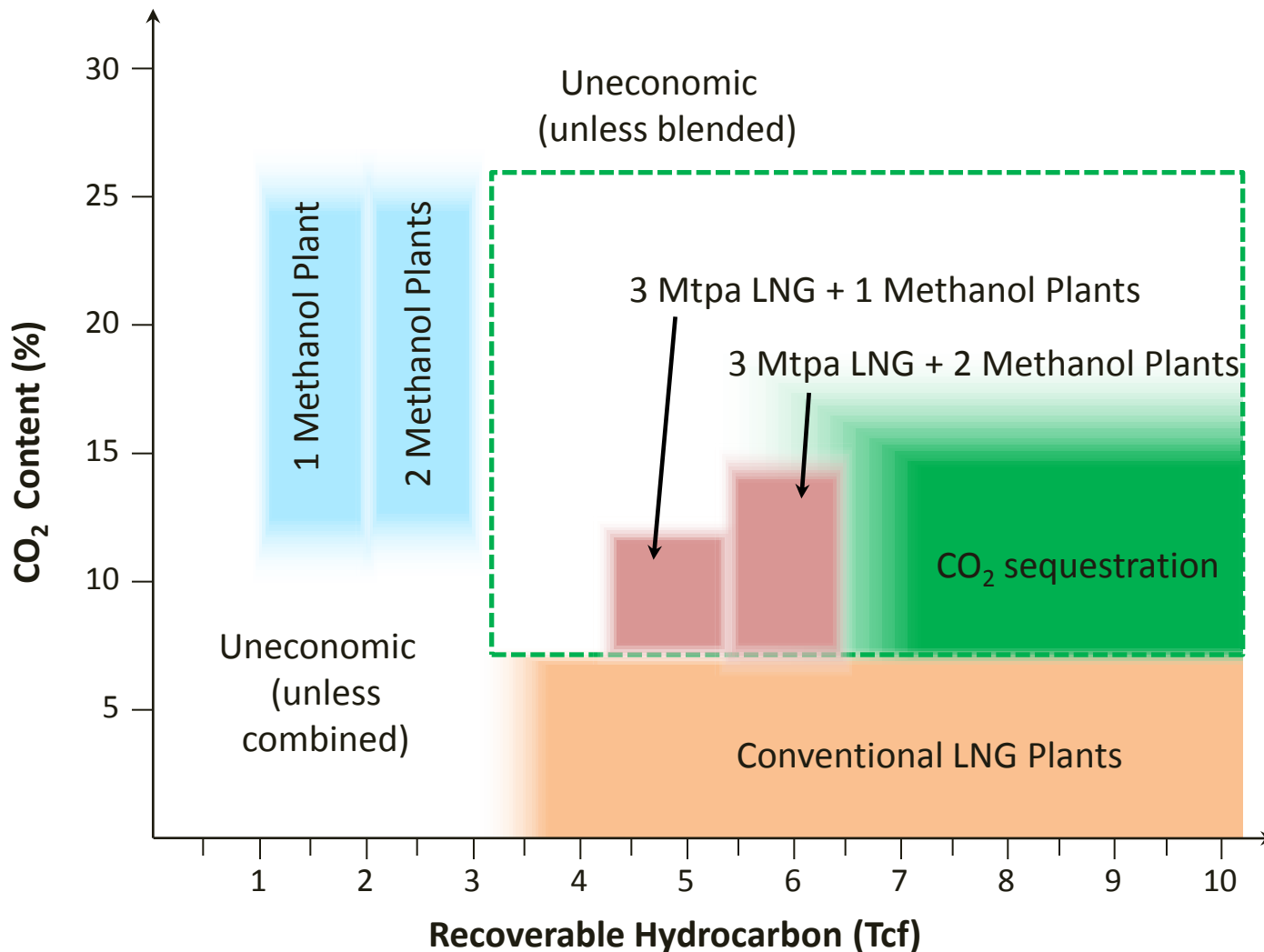


**Legend**

-  = Hydrogen
-  = Carbon
-  = Oxygen

# Methanol – a viable sequestration option

a solution for high CO<sub>2</sub> gas

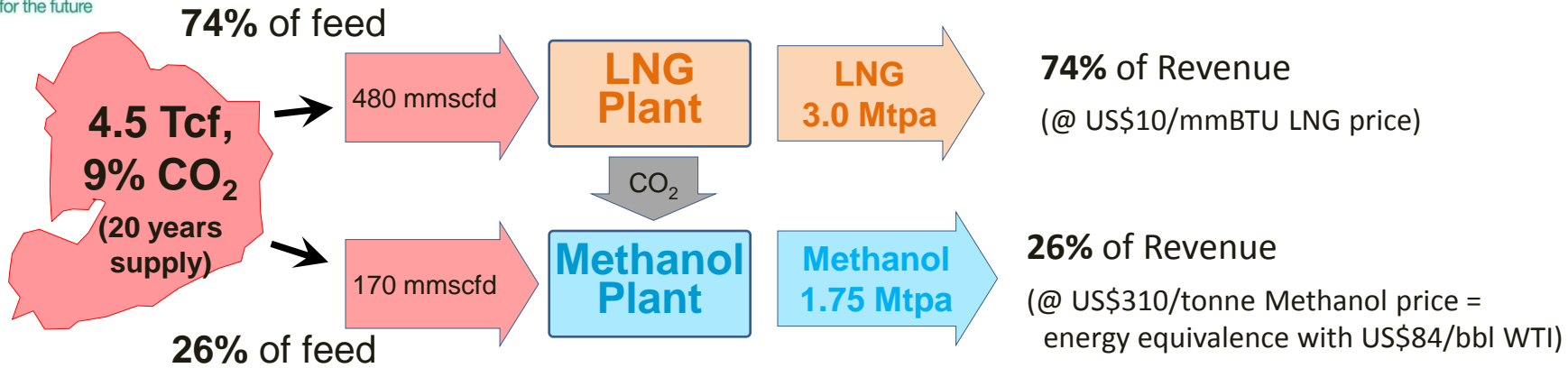




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# Sequestration in companion Methanol plant

## 9% CO<sub>2</sub> Feed Gas Example

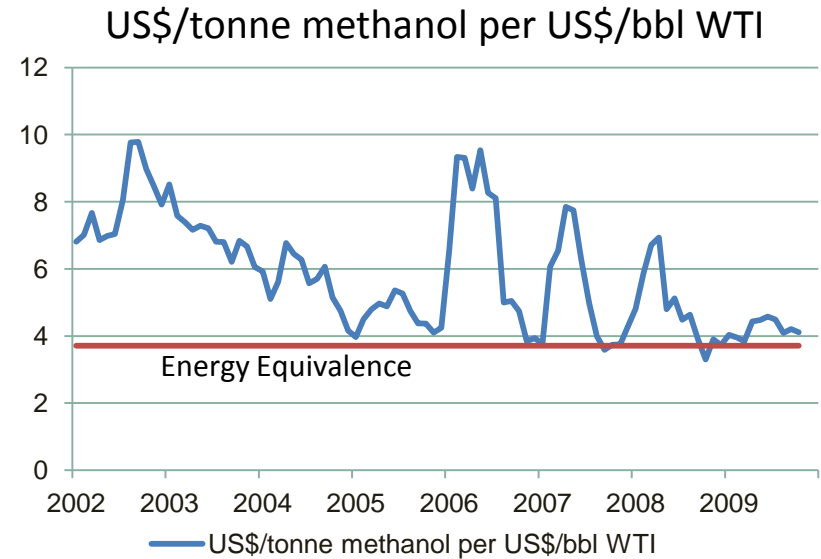
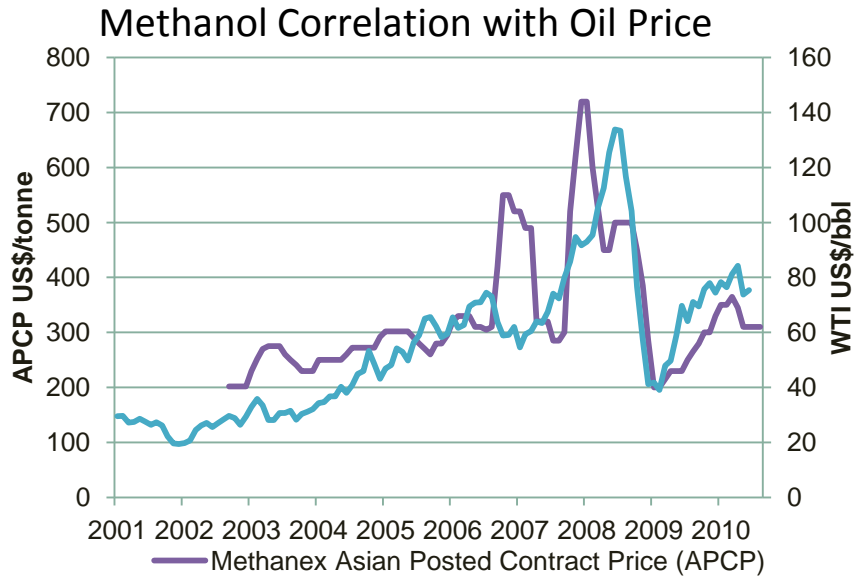


- Yields LNG plant emissions = **0.33 tCO<sub>2</sub>/tLNG**
  - Compare with Gorgon project = 0.35 tCO<sub>2</sub>/tLNG (with geosequestration)
- Methanol plant CO<sub>2</sub> emissions are 40% lower than coal based production (swing producers)
- Methanol is an enabler for the commercialisation of high CO<sub>2</sub> gas and the sequestration of CO<sub>2</sub> from LNG processing



# Methanol prices track oil

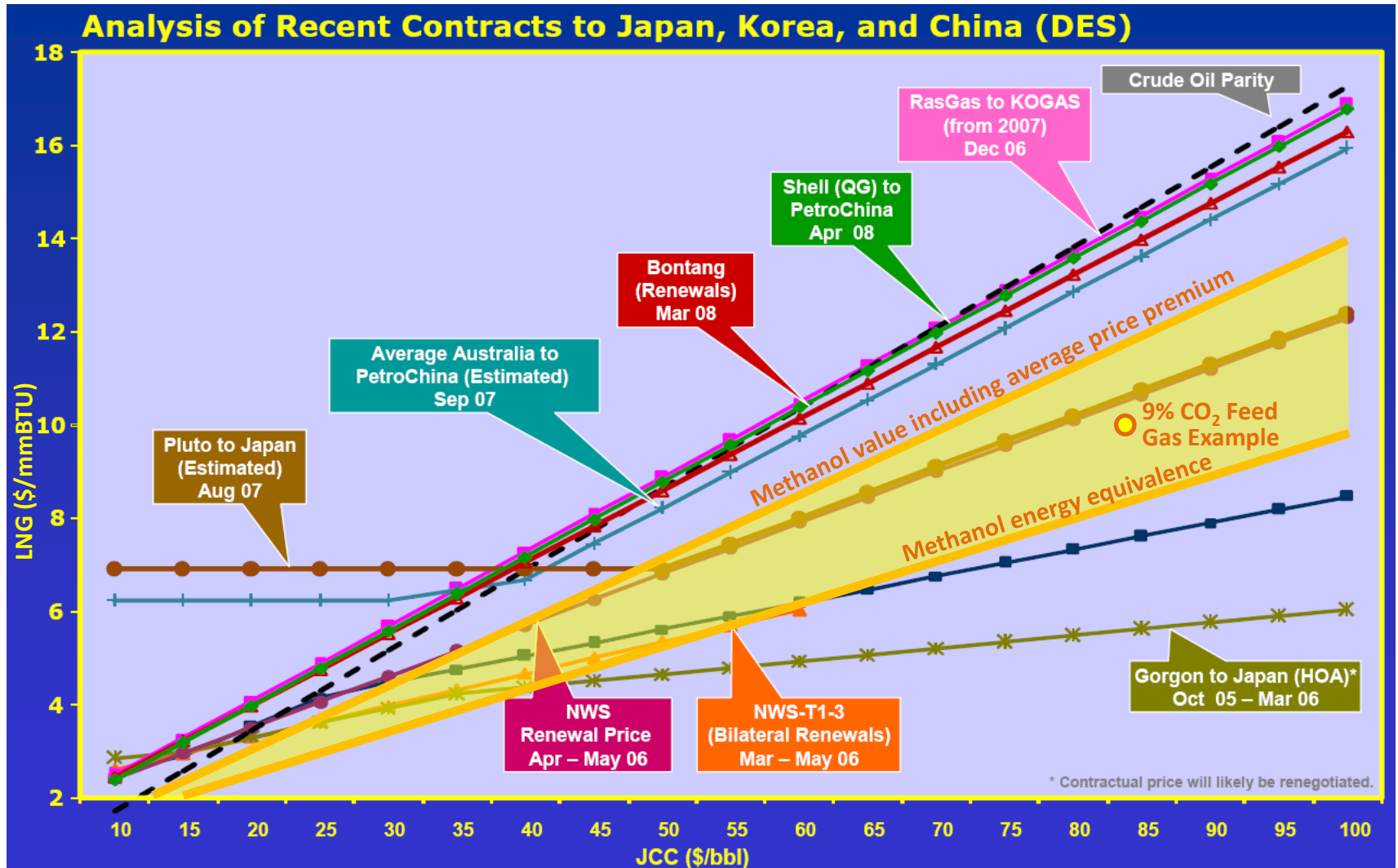
with considerable cyclic upside



- Methanol price shows strong correlation with oil price
- Some erosion of “chemical premium”
- High methanol price cycles provide additional upside
- Price floor remains energy equivalence
  - US\$300/tonne methanol = US\$80/bbl WTI (energy content basis)

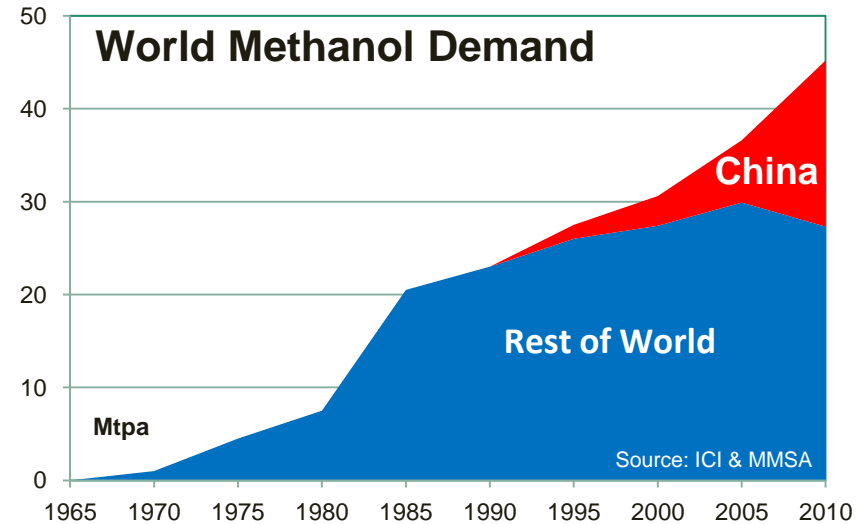
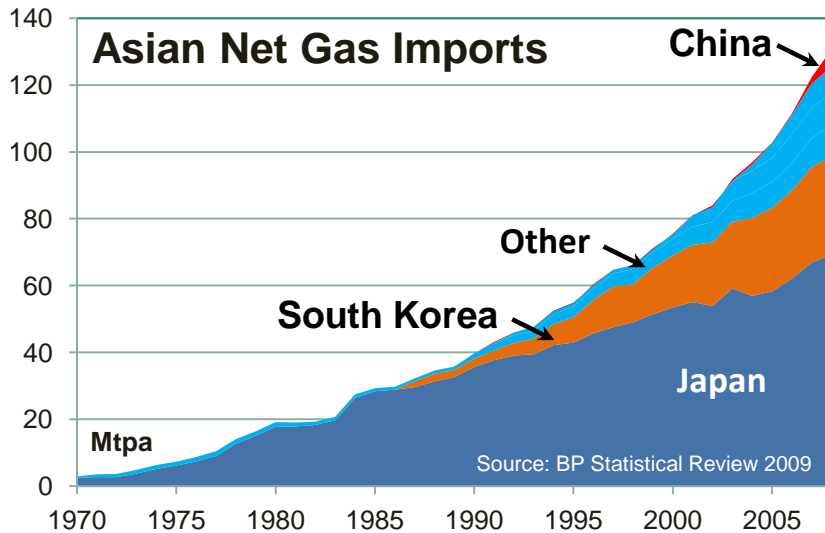
# Methanol price relative to LNG

range of values comparable to LNG



# Established Markets

China is the growth market



↑  
**1985 – North West Shelf LNG Project sales contracts signed,  
project construction commenced**

- LNG was a niche market at NWS Project commitment
- NWS Project represented major portion of identified demand
- Considerable current interest in long term methanol contracts
  - no shortage of offtakers to underpin projects

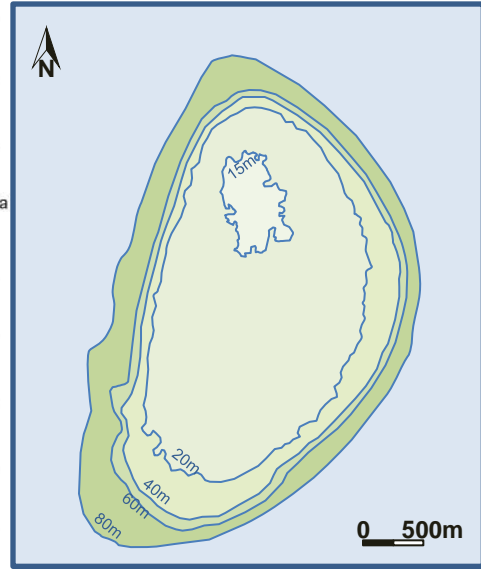
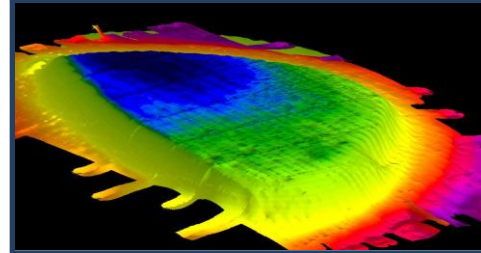
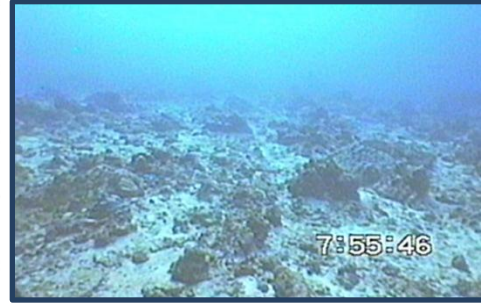
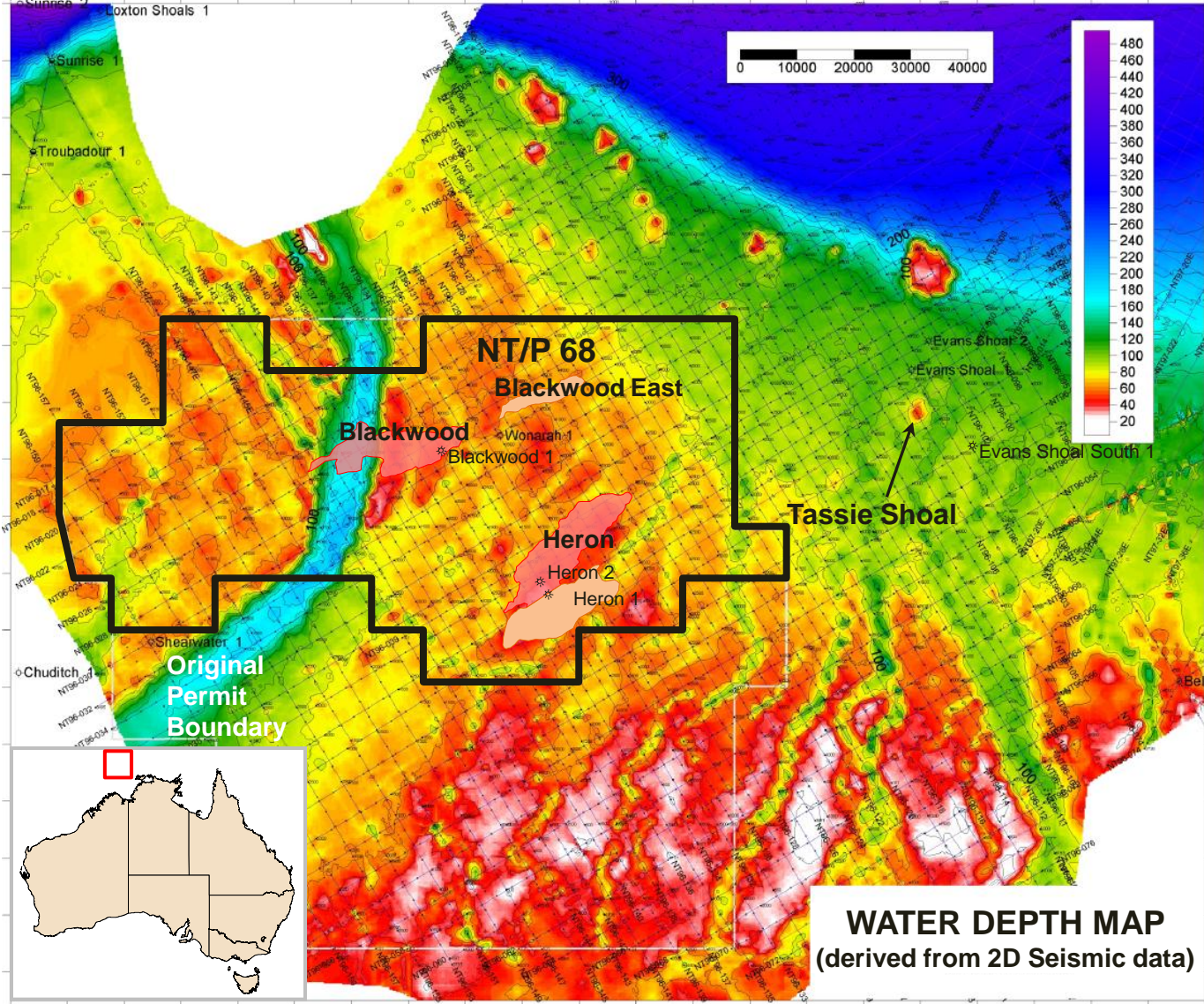


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# Location Map and Water Depth

## MEO's Timor Sea discoveries and projects

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**WATER DEPTH MAP**  
(derived from 2D Seismic data)



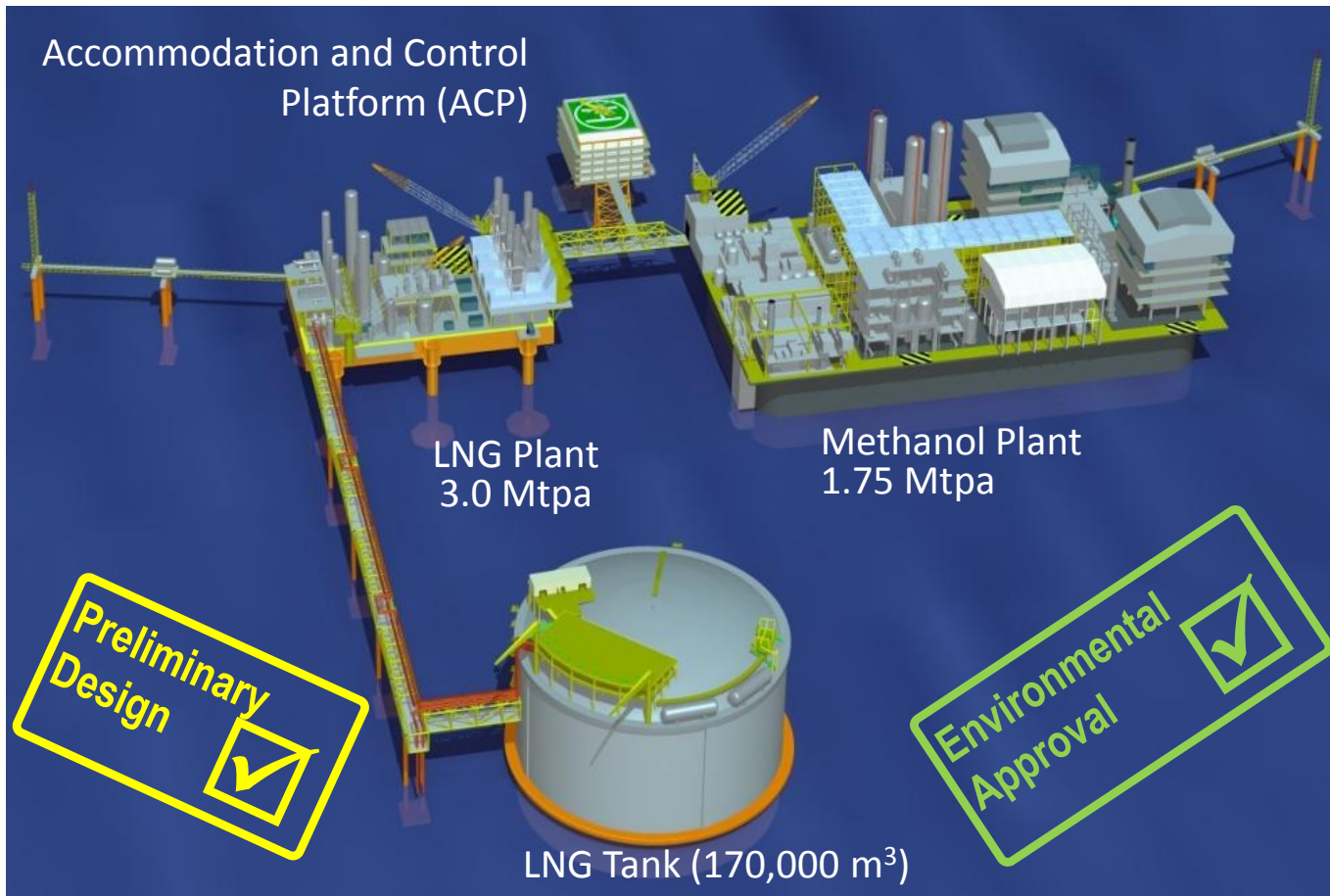
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# Timor Sea GTL Venture Development

ready for confirmed gas supply

- Preliminary design and environmental approvals complete
- Ready to proceed rapidly to development once gas supply confirmed



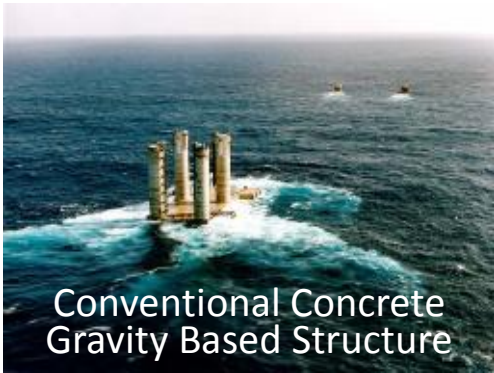


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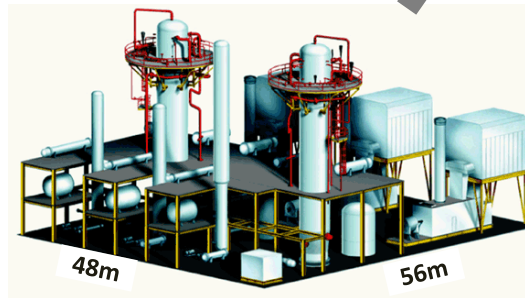
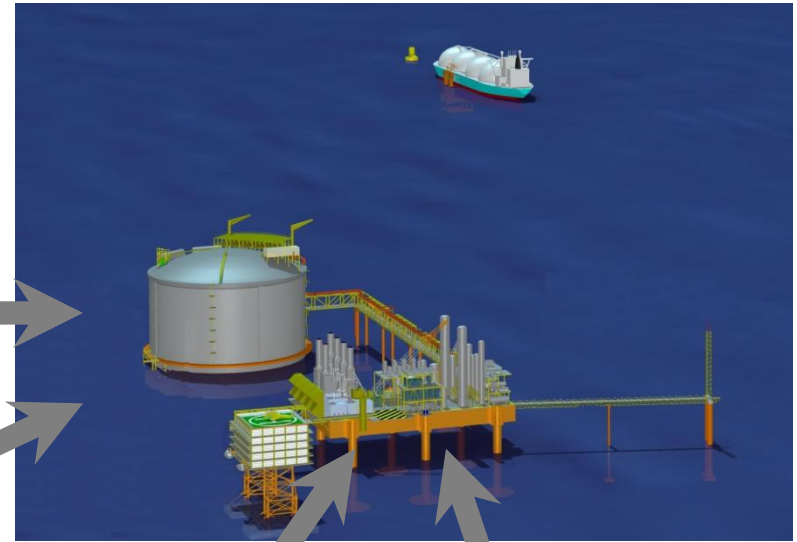
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# LNG Plant - Proven Technology

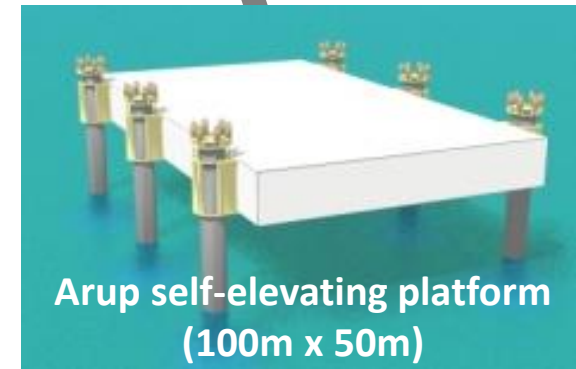
sensible combination



- One 3.0 Mtpa module
- 170,000 m<sup>3</sup> LNG storage
- Arup, Air Products and Worley Parsons designs and costings



**Air Products 3.0 Mtpa LNG Plant**



# Methanol Plant - Proven Technology

located near gas source and LNG plant



+

=



**Methanol Plant on GBS**

- 1.75 Mtpa methanol production
- Davy Process Technology, Arup and Aker Kvaerner designs



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# Timor Sea GTL Venture Development

- Close to gas source
- Grounded in shallow water
- Modular construction
- LNG and Methanol
- Proven technology
- Mature design
- Environmental approvals
- reduces distance challenge
- removes movement challenge
- minimises development cost
- manages CO<sub>2</sub> challenge
- reduces implementation risk
- ready to proceed rapidly
- secured for LNG & Methanol (x2)

## Next Steps:

- Heron & Blackwood reservoir studies now complete
- Complete resource certification (Gaffney Cline and Assoc)
- Farmout and appraise NT/P68 gas resources
- Select and proceed with optimised development



# Disclaimer

This presentation includes certain forward-looking statements that have been based on current expectations about future acts, events and circumstances. These forward-looking statements are, however, subject to risks, uncertainties and assumptions that could cause those acts, events and circumstances to differ materially from the expectations described in such forward-looking statements.

These factors include, among other things, commercial and other risks associated with estimation of potential hydrocarbon resources, the meeting of objectives and other investment considerations, as well as other matters not yet known to the Company or not currently considered material by the Company.

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