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# The Impact Of Oil Price Changes on Project Costs

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7<sup>th</sup> April 2015



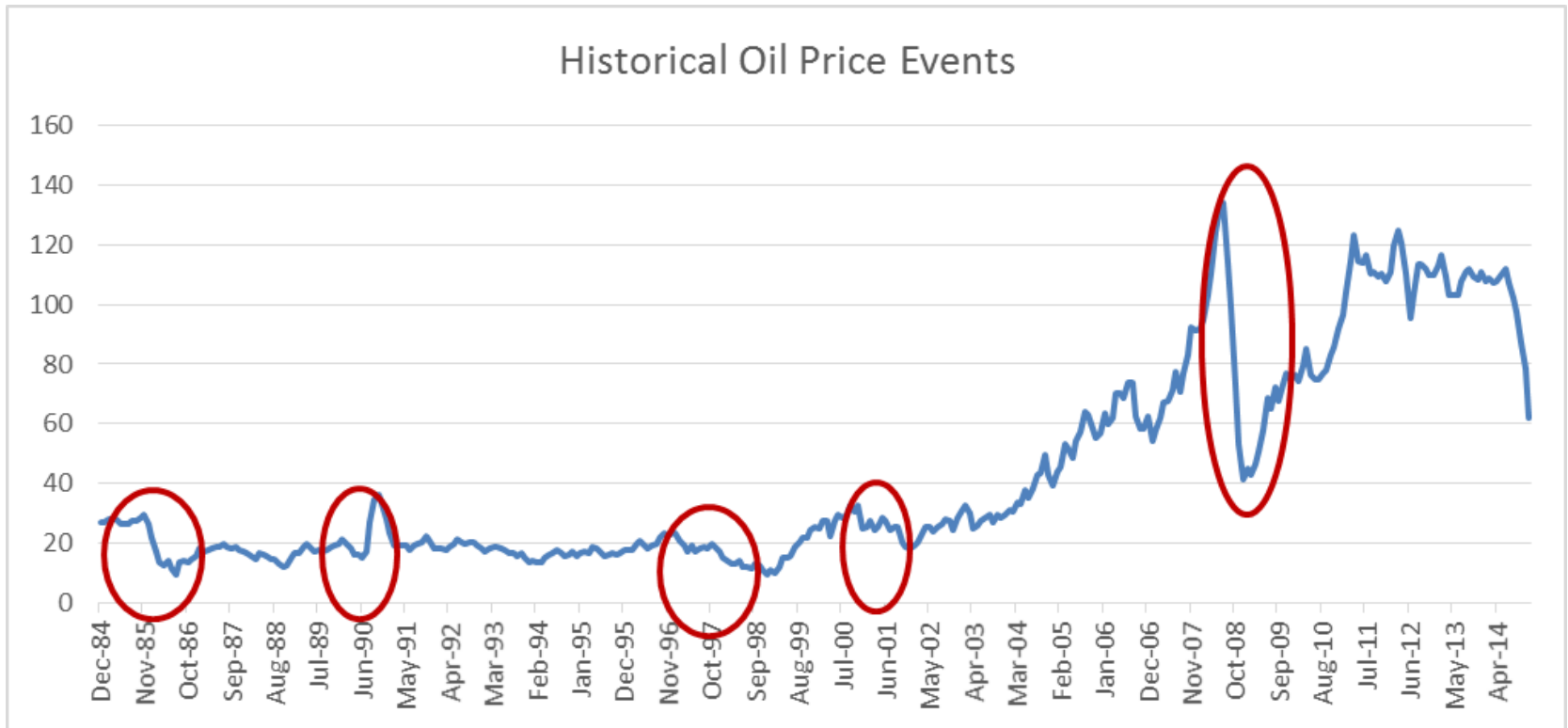
# Oil Price History



The last 9 months have seen the 6<sup>th</sup> major oil price fall in the last 30 years

The most recent fall was triggered by three competing influences;

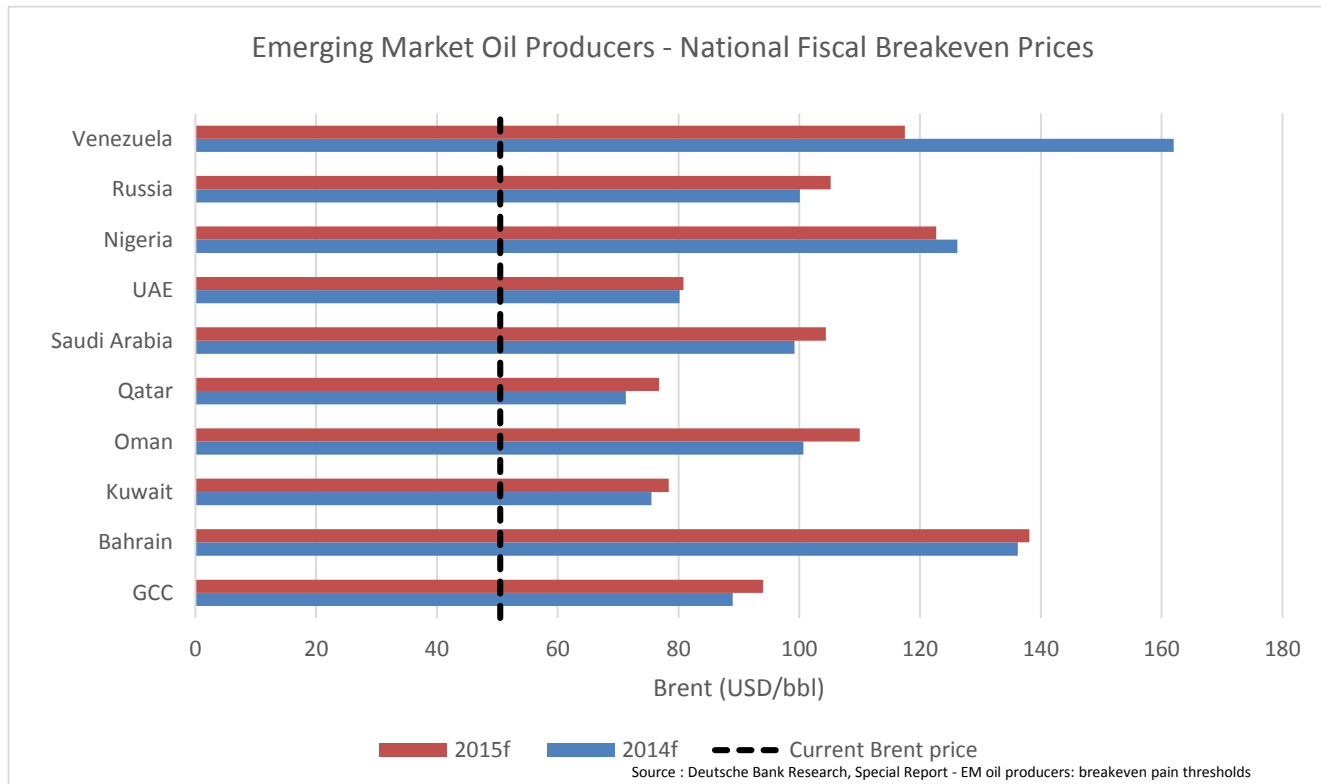
- Increasing US oil production (Shale Oil)
- Subdued Oil demand (China slowdown, continuing European weakness)
- Changing OPEC mindset (Saudi reluctance to cut production alone)



What will the next 12-36 months bring for oil prices?

Potential competing influences;

- Reducing US oil production? (Due to Shale Oil being the highest cost production)
- Increased Oil demand? (Driven by reduced energy costs)
- Changing OPEC mindset? (Some members are facing bankruptcy unless prices rebound rapidly)

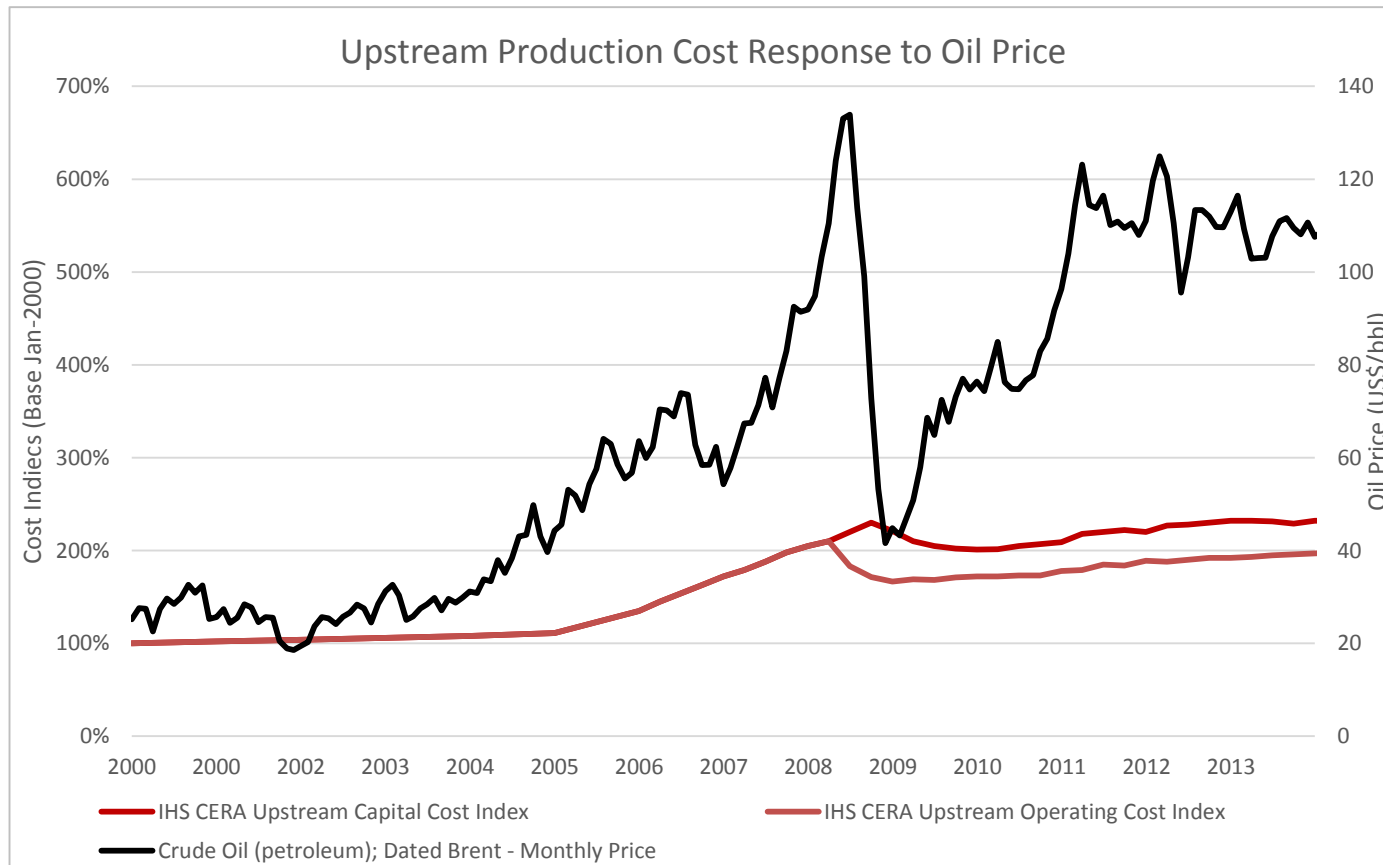


# Oil Price Forecast?

Reality is no one knows what oil prices will do in the future!

Can we predict the impact of the already experienced oil price fall on costs?

Somewhat, by looking at history...



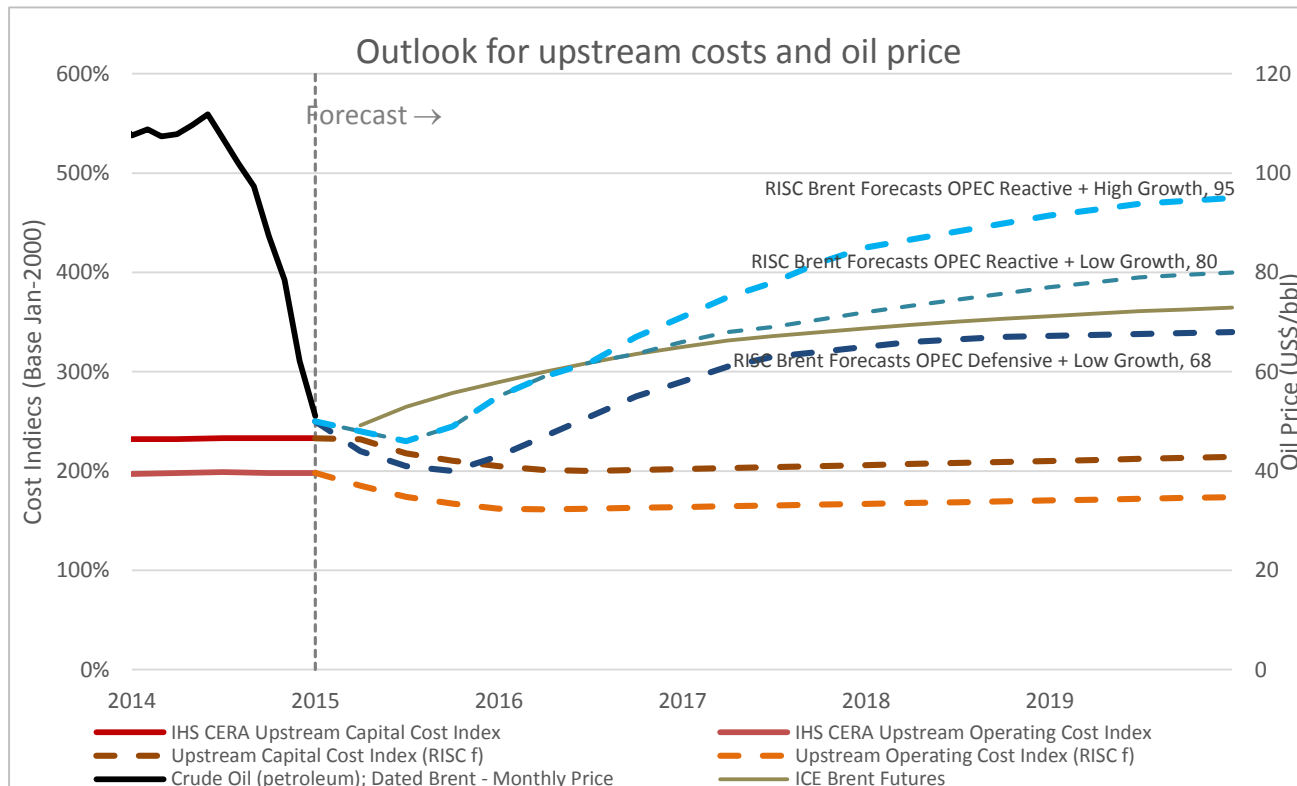
# Possible Cost Forecast?

20% falls in both operating and capital costs can be expected over 2015

Following that the pace of cost inflation will likely be determined by the pace of the oil price recovery

Cost inflation will likely range between 2% and 5% from 2016 to 2020

However this is international cost index analysis. What about Australia specifically?



# Australian Cost Outlook?

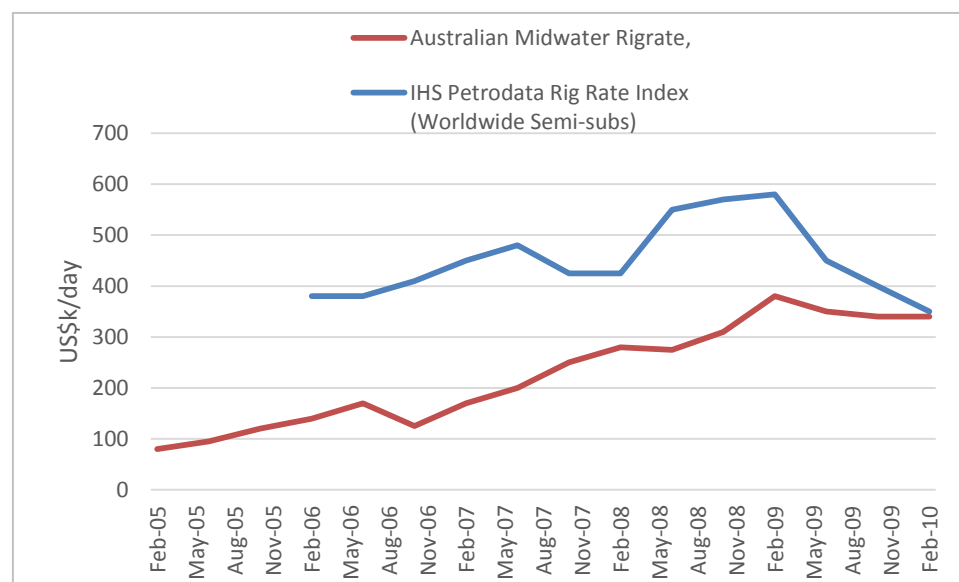


Deeper falls could be experienced than average index performance due to;

- The impact of reduced infrastructure investment as major LNG projects begin production
- The multiplier impact of subdued minerals prices and investment
- Australia largely skipping the major cost price falls in 2008/09 due to mining/LNG investment boom we were experiencing

There could be falls of up to;

- ~30-50% in drilling costs
- ~20-30% in offshore infrastructure costs
- ~20-30% in onshore infrastructure costs
- ~20-30% in operating costs



Examples of this are already becoming apparent in Australia and across the world;

- Offshore Rig rates for a new contract in the Asia/Pacific region have halved since early 2014
- Oilfield service contractors are being asked for cost reductions of up to 45%
- Major redundancy programs have been announced at many of the large O&G operators to cut operational costs

# Australian Cost Outlook?

In addition to these falls in costs the weakening Australian dollar will make US\$ denominated investment (from an offshore entity) in Australian dollar denominated costs (such as onshore infrastructure and operating costs) cheaper still.

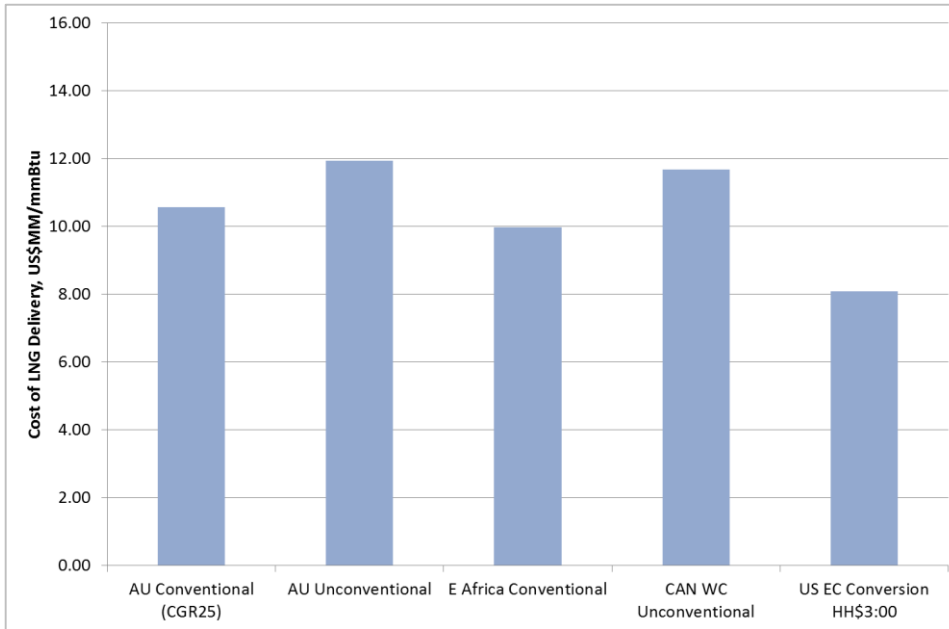
For example an IOC may have budgeted \$300 million for operating costs on a LNG project, based on an exchange rate near parity. If these costs can be reduced by 25% to \$225 million and then converted to US\$ at the new exchange rate of 0.75 USD:AUD the new operating cost budget will be US\$170 million.

Nearly half the previous estimate!

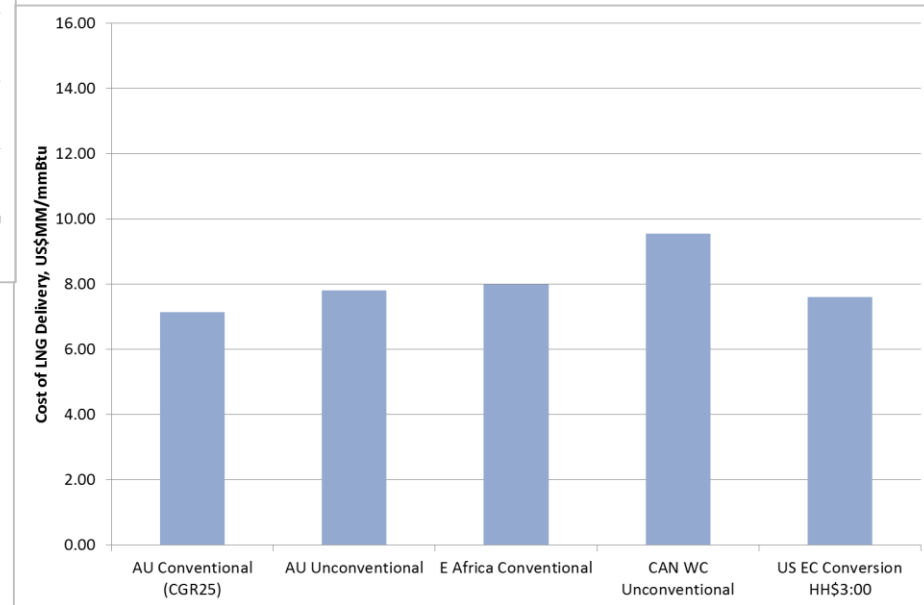


# What could this mean for Australian Projects?

Existing projects could enjoy reduced operating and capital costs to help buffer the impact of lower oil prices,  
Future projects could be far more competitive with international projects than they were previously



With 2014 cost estimates and parity forex conditions



With cost reduction predictions and forex adjustments

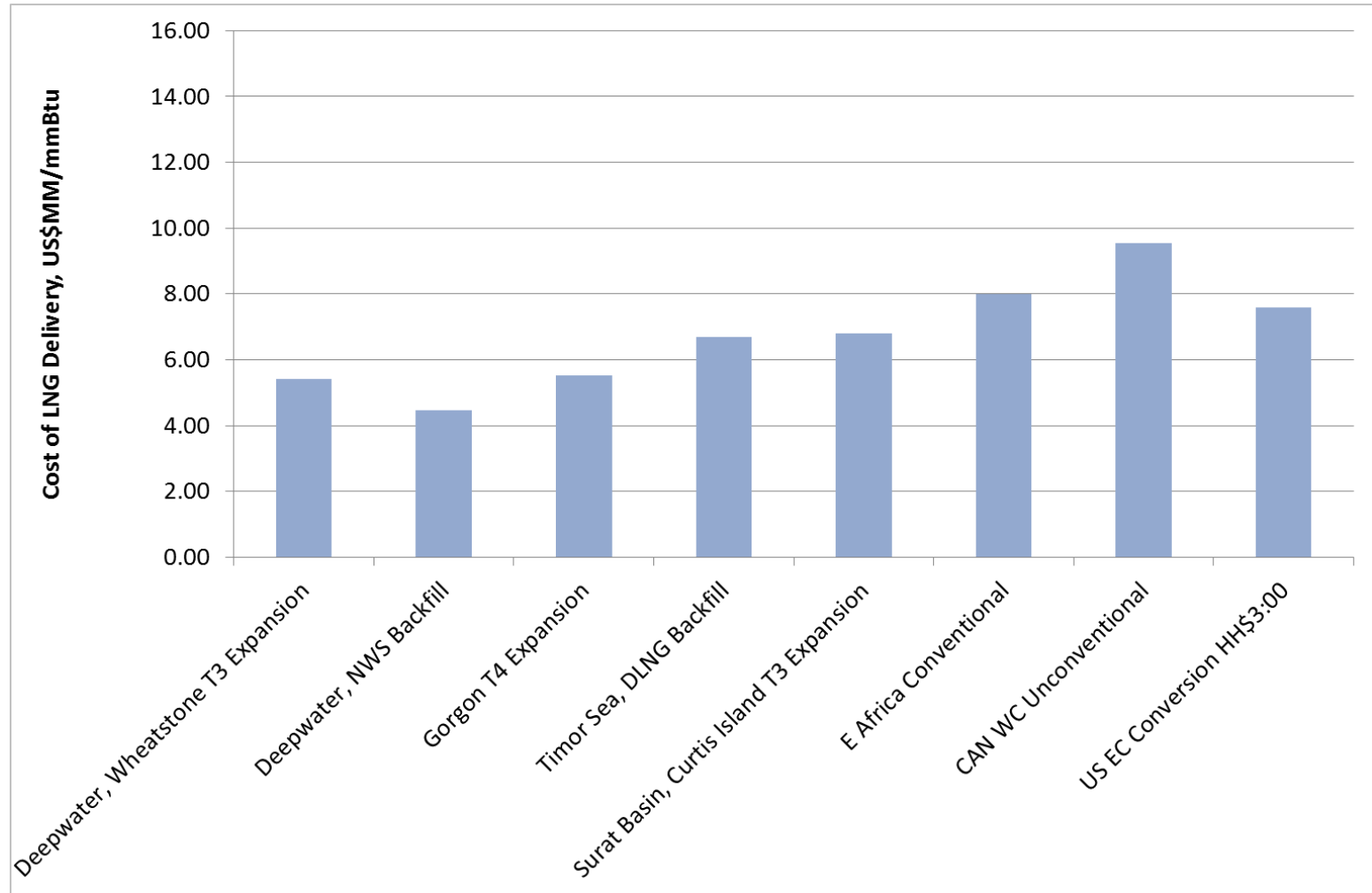


# Brownfields Expansions



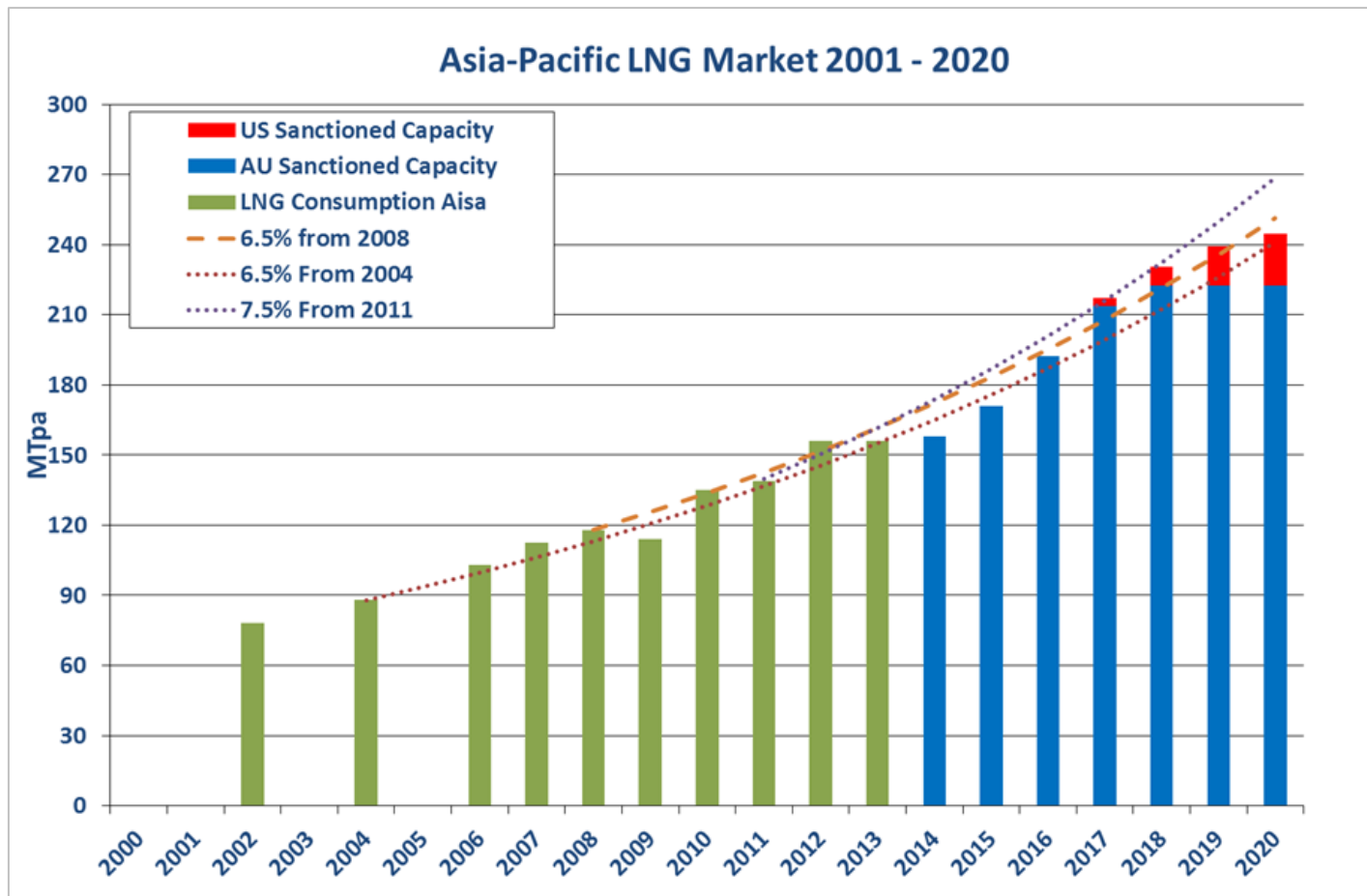
Australia also has the benefit of a lot of LNG project infrastructure that can be leveraged via expansion

Australian brownfields projects are potentially the lowest cost new LNG in the pipeline



# What does LNG demand and price look like?

Demand for LNG is expected to stay strong with multiple new importers (Malaysia, Thailand, Indonesia, Singapore, etc.) starting imports

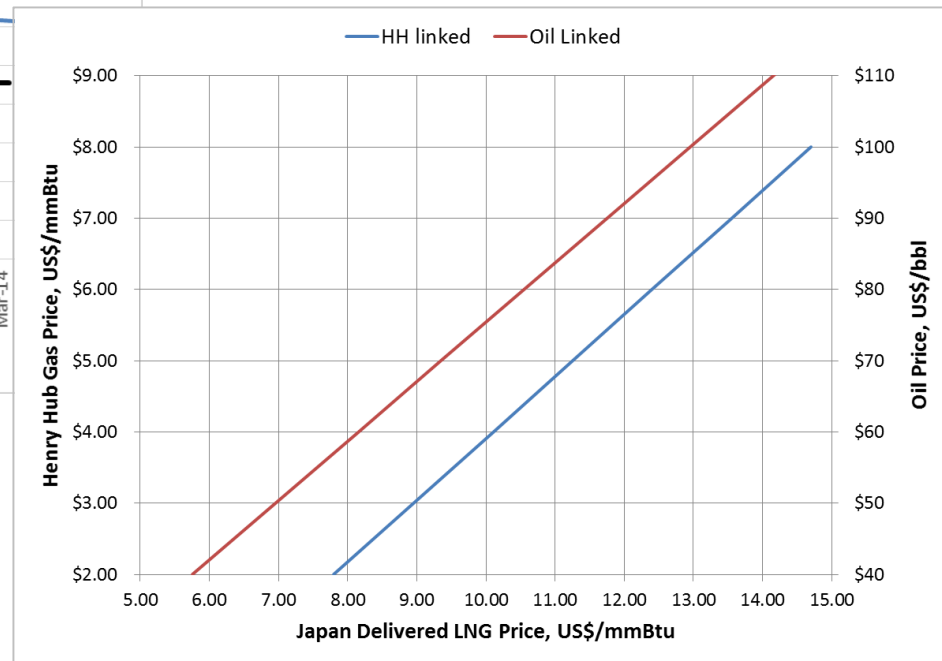
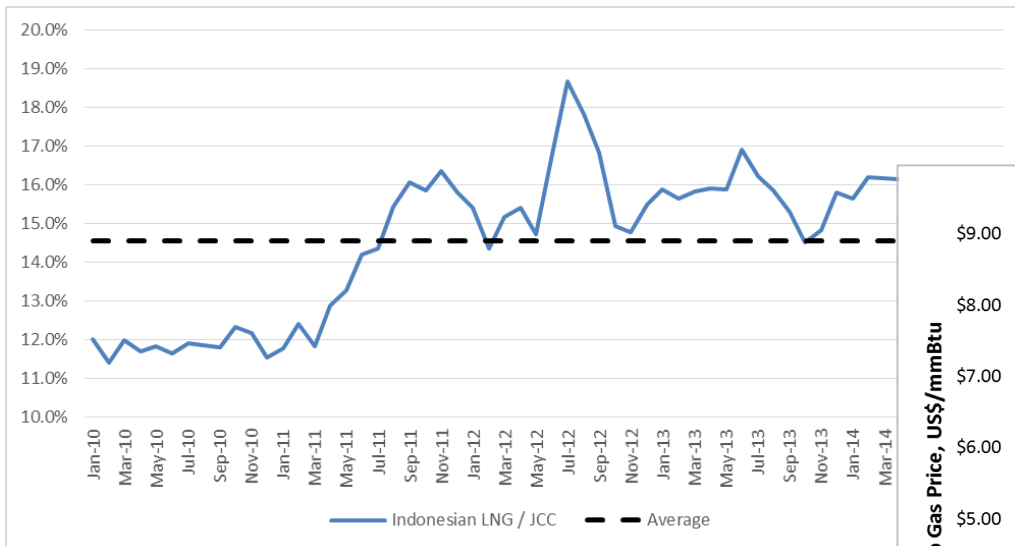


# What does LNG demand and price look like?



Demand for LNG remains strong but prices will come under pressure over the next few years as major new LNG supply comes onto the market. If we assume the LNG price slope will fall to 12% (as it was in 2010/11) the LNG price vs oil price is shown below

Based on this slope LNG prices should suit the cost basis presented for new Australian projects if oil price recovers above \$60/bbl, brownfields expansions could be profitable with oil prices above \$50/bbl



Note that with HH at \$3/mmBtu and a 12% oil slope the oil linked prices are cheaper until oil goes above \$67/bbl.

There is potentially a “sweet spot” for Australian projects while oil is between \$50-70/bbl and HH is \$3/mmBtu

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- The slump in oil prices will likely lead to drops in both capital and operating costs for upstream oil and gas projects over the next 6-12 months
  - The pace of the oil price recovery will significantly impact the pace of cost inflation over the next 2-3 years
  - Australia could see deeper falls in costs than the industry average due to the ending of our long running resource boom
  - The weakened Australian dollar will further help Australian projects to be competitive in the world market
  - New Australian LNG projects can be competitive with international competition on a unit cost basis (landed in Asia)
  - Existing Australian LNG projects with expansion (or backfill) opportunities are potentially the most attractive investment options for the next wave of LNG investment
  - LNG demand is likely to be strong in the future but a supply glut (and low oil prices) will lead to subdued pricing over the next 2-3 years
  - Henry Hub linked LNG pricing will be higher than Oil linked LNG pricing (12% slope) with oil prices below \$70/bbl and HH at \$3/mmBtu
  - A “sweet spot” could open up over the next 2-3 years where new Australian LNG projects will be cheaper than international competition both from a cost and price point of view

The views and forecasts discussed in this presentation are my own and may not reflect RISC's views.

They have been based on my knowledge and experience in the Oil and Gas industry and may not be valid!

The scenarios outlined are based on the assumptions I discussed which in my opinion are all valid and reasonable however the chances of all of the assumptions being correct are slim.

Having said that there are many other ways to get to the same end result and I think the chance of the result being true are reasonably high.

Having said that, what would I know, even experts get it wrong!

*“I think there is a world market for  
about five computers”*

Thomas J. Watson, chairman of  
IBM, 1943



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