Australian Oil and Gas: Where to from here?

The need for innovation and robustness
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How did we end up here?

2006

- “The US is destined to become a key LNG (import) Market” (BG Group presentation)
- “North America emerges as a major importer of LNG” (IEA, IEEJ & others)
- “Natural Gas prices will remain high in the US for the foreseeable future” (EIA)
- “Renewables will increase share slightly, driven by large scale hydro-electric projects…non-OECD (EIA)
Energy use projections from 2006

2006 IEA World Energy Use Projections by Fuel Type

- Liquids
- Natural Gas
- Coal
- Nuclear
- Other
Energy Projections – how did they do?

2006 IEA World Energy Use Projections by Fuel Type, and Actual Energy Use

- Liquids
- Natural Gas
- Coal
- Nuclear
- Other


Actual Liquids: Lower than projections.
Actual Natural Gas: Above projections.
Actual Coal: Close to projections.
Actual Nuclear: Slight increase.
Actual Other: Steady increase.

Energy demand projections and actual usage compared.
Comparison of Future predictions (to 2030)

2006 IEA World Energy Use Projections by Fuel Type, and Actual Energy Use

- Liquids
- Natural Gas
- Coal
- Nuclear
- Other
Comparison of future predictions

2006/16 IEA World Energy Use Projections by Fuel Type, and Actual Energy Use

- Liquids
- Natural Gas
- Coal
- Nuclear.
- Other

- Liquids 2016
- Gas 2016
- Coal 2016
- Nuclear 2016
- Other 2016

Graph showing projected energy use from 2015 to 2030 for different fuel types based on 2006/16 IEA projections and actual energy use.
What the current forecasts are indicating

BP 2016 energy outlook:

- Energy demand grows more slowly than GDP due to increases in efficiency
- Renewables are the fastest growing fuel (6.6% p.a.). Increasing from 5% in 2015 to 16% by 2035. This is a significant increase from last year’s predictions
  - Supported by falling prices, but limited by intermittency
- Oil price recovery is anticipated, and oil demand continues to grow
  - Transport fuel remains dominated by oil
  - Asia dependence on oil imports increases significantly
- Demand for natural gas grows strongly (but lower than last year’s predictions)
  - LNG trade continues to grow faster than gas growth, increasing LNG share of trade
- Coal demand growth slows sharply

Other outlooks (IEA, MIT, IEEJ)

- General consensus with the role of emerging markets as drivers of energy consumption growth
  - Gas fastest growing fossil fuel, modest growth in oil
- IEA WEO 2015: Renewables will become the largest power source by 2030 (30+%)
What might be different

Past and present game changers:
- Shale gas and oil development
  - Continued success in the US, can it be emulated in Australia?

The green, cheap squeeze on gas...
- Gas is not as green as renewables
- Gas is not as cheap as coal
  - Countries could move to a mix of renewables and coal for power generation
- Coal fired power generation emits twice as much CO2 as gas fired generation, and is not as flexible
- Gas is the ideal partner for renewables to maintain stability (intermittent use), and minimise emissions
- Gas needs to be positively promoted as the partner for renewables
  - How do we get over the current moratoria on fracking?

Power storage for renewables may be a game changer
- Demand for oil and gas grows slower than anticipated
  - Further price pressure, prices remain low for the long term
Conclusions, and what we are seeing

Existing and future projects will need to be robust to continued low prices
- Continued focus on costs
- Portfolio rationalisation and focus on core strengths

Recognition of limitations of viability by many companies
- LNG projects shelved
- Marginal oil field developments cancelled/abandoned
- Cost reduction

Re-emergence of end of life transactions
- Large organisations are looking to divest ageing assets
- Small, lower cost, operators are taking on assets that large organisation can no longer make money from
- Is this transferable into development opportunities?

Opportunities for new players and new ideas
- Opportunities to produce and trade small scale gas in domestic markets
- New International LNG markets on a smaller scale (FSRU’s in new areas)
- LNG buyers looking for smaller and shorter term contracts
- Small scale (F)LNG