Gas threat to Australia?

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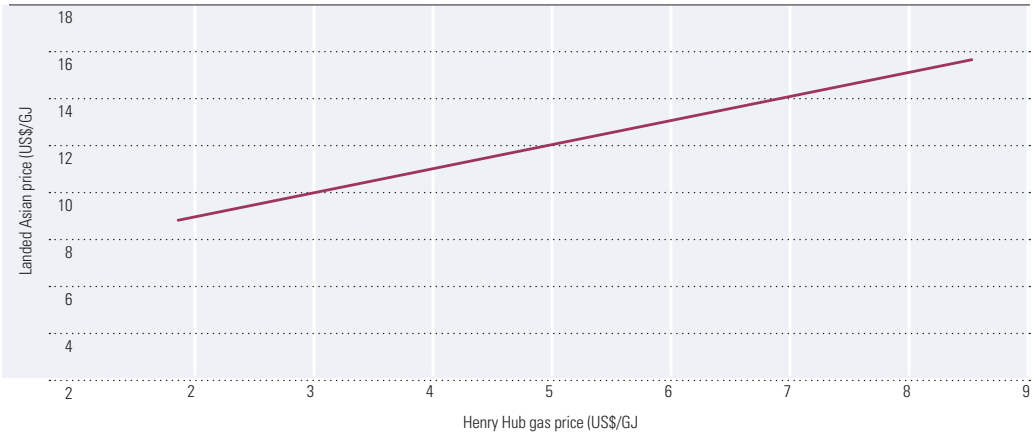
The shale gas revolution, and in particular gas from the US, is regularly touted as a threat to Australia's fledgling LNG industry. The US$14 per million British thermal units (mmBtu) gas price delivered Asia versus near US$4/mmBtu Henry Hub price could be a powerful motivator for US exports. There are a number of points to consider. Firstly if the US is serious about energy self sufficiency, its gas is of little threat to Asian export markets. Secondly, that gas price differential could quickly resolve even with only modest US exports. US gas to LNG becomes marginal at a Henry Hub price of USD6/mmBtu, coincidentally the estimated average US shale gas producer's cost – most are currently under water. Thirdly gas markets internationally aren't stagnant, but rather grow very strongly. World gas consumption increased at an average 70Mtoe per annum over the last 10 years, the equivalent of 15 new LNG trains annually were all that gas earmarked for export. Fourthly gas is a depleting asset - projects don't only have to be added to for growth, they also have to be replaced just to stand still. And finally gas consumption could accelerate. Globally, oil production flat-lined last decade despite record prices. Has conventional output peaked? Were oil to go into decline, gas would have to pick up even more slack, particularly if carbon restrictions constrain coal.

China's shale gas also warrants mention. Over the last decade China's overall energy position has fallen from one of excess capacity to a deficiency of around 6% of consumption. In the mix, gas consumption is comparatively small at less than 5% of primary energy used and is increasingly reliant on imports. In 2011, 20% of Chinese gas was imported. We think it highly likely China will want to diversify away from coal which represents a massive 70% of energy consumed. This alone may limit potential for gas exports. The Chinese shale gas opportunity though is large. EIA estimates 33bntoe of technically recoverable resource, almost half its equivalent in coal reserves. But even here, this represents just 13 years of China's 2011 hydrocarbon consumption and only 9 years if prolific 10-year annual hydrocarbon consumption growth rates of 10% persist. At 2toe per person, China's current energy intensity is still only a quarter of the US' at 7.5toe.

We expect Chinese gas consumption will rise in line with per capital GDP. Wealthier citizens will want to be able to breathe. And a country short natural resources is likely to covet promised gas reserves rather than export them. Shale gas to us does not look like the solution to the world's energy problems. No wonder China's nuclear ambitions have grown with 15 reactors

Figure 1: US LNG export prices to Asia



Source: BREE

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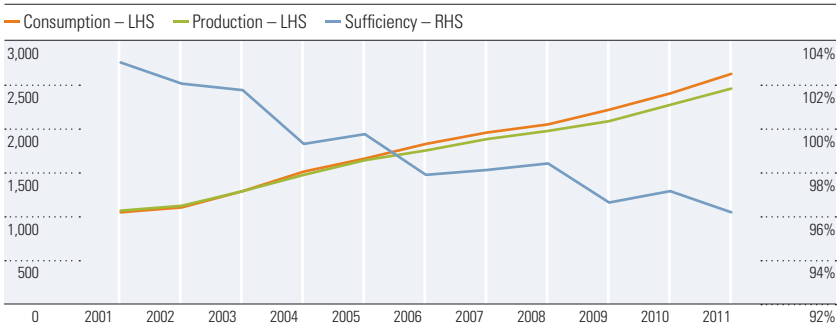
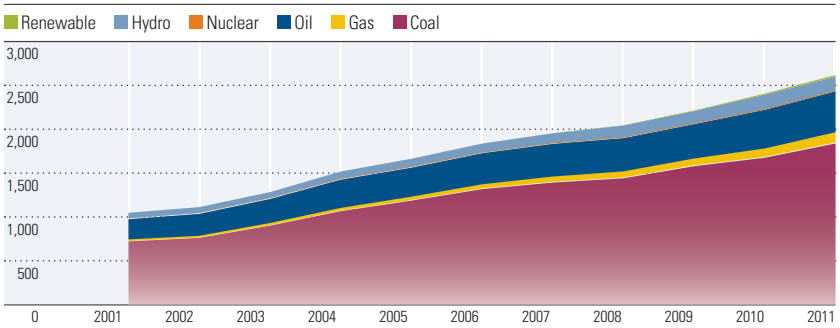
Figure 2: China primary energy (Mte)



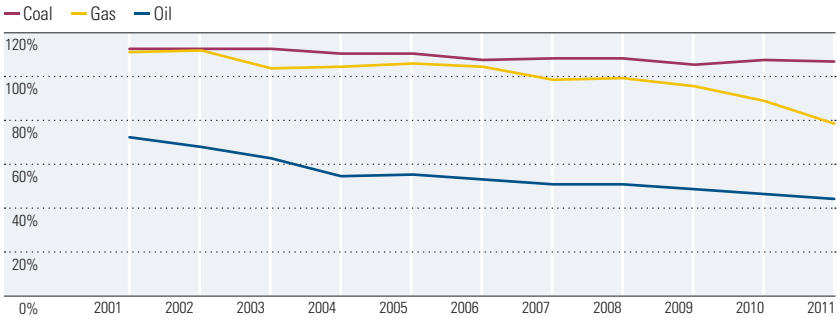
Source: Morningstar Analysts

Figure 3: China energy consumption (Mte)



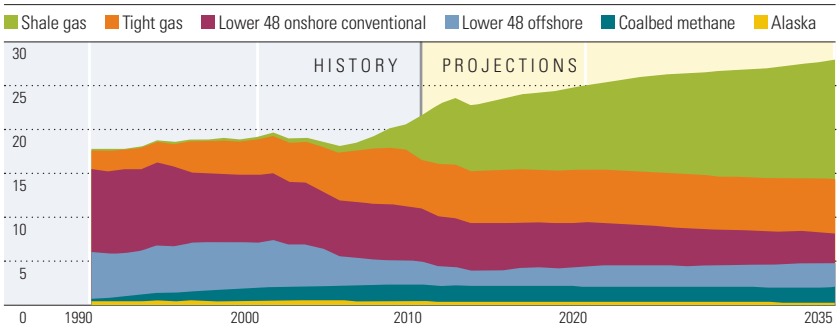
Source: Morningstar Analysts

Figure 4: China energy self sufficiency



Source: Morningstar Analysts

Figure 5: US Natural Gas Production (trillion cubic feet)



Source: EIA AEO2012

in operation and 26 under construction. Nuclear accounted for less than 1% of the country's primary energy consumption in 2011 though a five to six-fold increase is anticipated by 2020. And in addition to the 41 reactors now operating or under construction, the country has a further 51 at planning stage and 120 proposed. Is nuclear power the real threat to fossil fuel demand?

The evolution of shale gas as a force in primary energy is undoubted. But it will need to be a force just to offset declining conventional gas production, let alone account for stagnant to declining oil production and ongoing growth in primary energy demand in general. Shale gas is not the solution to the world's energy problems but it will form a larger share of the picture for a period. Short term imbalances aside, we don't see US or Chinese shale gas as any real threat to Australian LNG. There are more than enough holes developing in the energy supply map where shale gas can find a home. More so if carbon emissions remain a factor! Shale gas is more technical, costly and time consuming to produce than conventional sources. And in China, as a fledgling industry with large doubts surrounding geology and expertise, even more so. These features will slow its regardless inevitable progress to market.