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Economic Bulletin

99P PETROL WILL NOT LAST FOREVER

Act now to ensure shale gas can fill the UK energy gap

- Current low oil price being driven by production exceeding demand by just over 1 per cent.
- Low oil and gas prices will make many extraction sites uneconomic and reduce supply in medium term.
- Current low oil price is unsustainable for oil producing nations. Saudi Arabia ran a budget deficit of 15% of GDP last year.
- Gas prices are the key consideration for UK shale investors. Importing gas by LNG tanker can also add up to 50% in costs.
- UK shale investors are concerned about prices in 2020s, not the current price.

1. INTRODUCTION

The current low oil price has led some to question whether UK shale development is economically viable. This concern would appear unjustified, considering investment decisions will be based on gas prices in the 2020s by which time prices are likely to rise. Moreover, the cost of transporting gas by LNG tanker can add up to 50% to the cost, offering a further reason for promoting UK shale gas development.

The Government must continue to prepare the ground for UK shale development in the 2020s by ensuring that exploratory drilling takes place by the end of this year. More than 80% of UK homes are heated by gas and modelling by the Department for Energy and Climate Change suggests that the UK will need 26GW of new gas capacity by 2030. Without indigenous shale production, around 75% of the UK's gas will need to be imported.

2. THE GLOBAL OIL MARKET TODAY: 'A SPONGE THAT CANNOT ABSORB ANYMORE'.

Figure 1: World Oil Price Vs World Oil Supply

Source: Economist link

The global oil market has been likened to 'a sponge that cannot absorb anymore'. UK consumers have benefitted from the resulting fall in petrol prices, which has acted like a cut of more than 1 percentage point on the basic rate of income tax.

Since 2014 the price of oil has fallen by around 75%, dropping from $115 a barrel to around $27 currently. This has been driven by supply consistently outperforming demand. Forecasts from the International Energy Agency suggest that average worldwide oil demand for 2016 is nearly 96 million barrels per day with production at around 97 million barrels, leading to a margin of just over 1 per cent. Although the margin is modest, each day around 1.8m barrels go into storage tanks. The capacity to store oil is now said to be becoming increasingly strained.

The oversupply of oil is primarily being driven by Saudi Arabia's aggressive geopolitical strategy against US shale producers and Russia. Saudi Arabia has been consistently pumping around 10 million barrels a day for the past few years, and this shows little sign of abating in the immediate future.

Saudi Arabia's aggressive strategy has been accompanied by a marked increase in US oil production. According to the US Energy Information Administration, the US shale revolution has boosted US oil production by 73% since 2010, tipping the balance on global markets as the US begins exporting. The lifting of sanctions on Iran will probably further increase production.

While oil production has increased, global demand for oil has been stagnant, growing by just 1.6% over the past year. China's demand for oil has increased by 3.5% this year despite a broader slowdown in economic growth across emerging economies. This slight increase in demand has, however, failed to keep up with the growing oil supply on global markets.

3. MEDIUM TERM OIL PRICE: POLITICS AS IMPORTANT AS ECONOMIC EQUATIONS

The current low oil price will begin to make many oil extractions uneconomical. There is already evidence of this occurring. For example, according to the Financial Times, the number of UK North Sea conventional oil rigs has fallen from 57 to 27, and is likely to fall to just 19 by the summer. Moreover, the law firm Haynes & Boone claims that 42 oil and gas companies filed for bankruptcy in North America in 2015 – despite there being evidence of major improvements in the productivity of US shale plays. As supply comes off stream, price pressures on oil are likely to emerge.

Furthermore, the current price of oil is not sustainable for the major producers, who rely heavily on income from oil and gas. The Russian Federation is highly dependent on hydrocarbons, with oil and natural gas revenues accounting for more than 50% of the federal budget revenues. Saudi Arabia's aggressive geopolitical strategy is also having a detrimental impact on its budget. The Saudi Government ran a record budget deficit of $98 billion, amounting to 15% of Gross Domestic Product (GDP). Saudi Arabia's government spending as a percentage of GDP leapt from 40.8 per cent to 50.4 per cent from 2014 to 2015, according to the International Monetary Fund,

Paradoxically, those countries that need the oil price to gain in price are those which are most responsible for its current low price: because of the low price, producers such as Saudi, Russia, Nigeria and Venezuela have increased production to make up for their falling revenue. How long this will last is uncertain – and is likely to be as much a political decision as a simple supply and demand equation.

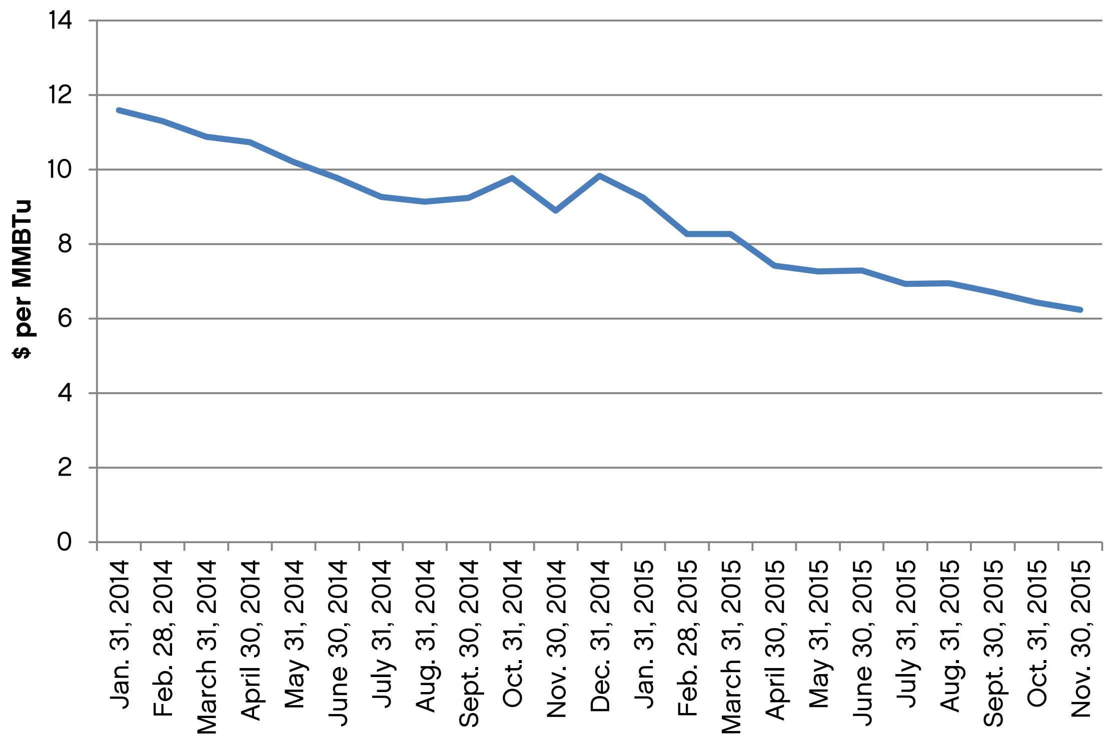
4. IT'S GAS PRICES THAT MATTER FOR THE UK

The British Geological Survey estimates that the UK's potential lies in its unconventional gas reserves, which are mostly located in the North of England's Bowland region. It is estimated that extracting 10% of the shale could supply the UK with over 40 years of gas supply – although the lack of exploratory drilling means that recovery rates have yet to be determined. The UK's potential for shale gas mean that gas prices are a key consideration of the UK's shale industry.

Gas prices are linked to oil prices. However, it is notable that gas prices have not observed an equivalent decline. In Europe, for example, the EU's natural gas import price has fallen from a peak of $11.59 per MMbtu in 2014 to $6.24 per MMbtu, which is a fall of 46% compared to oil's 75%.

The EU's natural import gas price is high compared to US prices. This is mostly accounted for by the fact that transportation, liquefaction and regasification of gas can add up to 50% to the wholesale price, according to UKOOG. The Lords Economic Affairs Committee has therefore concluded that, although price cuts are not likely to be as great as those observed in the US, indigenous production of shale is likely to be cheaper than imports of Liquefied Natural Gas (LNG).

Figure 2: EU Natural Import Gas Price



Source: Y Charts link

5. THE NEED TO PREPARE GROUND FOR UK SHALE

Investment decisions relating to UK shale gas will be based on estimates of future prices as much as today's gas price. It is expected that large scale UK shale gas production will only emerge in the 2020s. As marginally efficient gas supply comes off stream, global gas prices can be expected to rise by this time.

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Reducing the UK's reliance on gas imports would also be beneficial in terms of security of supply. In 2003, the UK was a net exporter of gas – exporting 8m tonnes of oil equivalent – but in 2015 the UK imported 29 million tonnes of oil equivalent, according to the Department of Energy and Climate Change. It is estimated that without any UK shale development, 75% of the UK's gas will need to be imported by 2030. Data shows that around 25% of the UK's gas is currently imported from Qatar – a figure that is likely to increase without indigenous shale production.

The UK will need to make major investments in gas for the 2020s. The UK's residential heating market is dominated by gas – over 80% of UK homes are connected to the gas grid, according to the Heating and Hotwater Industry Council. Furthermore, the Government is committed to phasing out coal fired power stations, meaning that a substantial increase in gas plant is essential to ensure reliable baseload capacity. Modelling by the Department for Energy and Climate Change suggests that 26 GW of new gas plant will be required by 2030.

6. CONCLUSION

Current low oil and gas prices should not be used as an excuse to delay preparations for a growing UK shale gas industry in the 2020s. As outlined above, investment decisions will be based on future prices rather than current ones.

To date, there has been a lack of exploratory drilling and hydraulic fracturing to assess the true potential of shale gas in the UK. The Government must ensure that such exploratory drilling can take place in a timely fashion, so the UK can realise the full benefits of shale.

The Government has already made a number of important steps to help ensure that the planning system – a key barrier to the industry – works more smoothly. In August 2015, the Government pledged to:

- Identify councils that repeatedly fail to determine oil and gas applications within the 16 week statutory timeframe requirement, with applications in those areas determined by the Communities Secretary;
- Consider calling-in shale gas applications on a case-by-case basis;
- Consider recovering shale gas appeals.

In the autumn, the Government confirmed that it would recover Cuadrilla's appeal in Lancashire, meaning that the Secretary of State, rather than the Planning Inspector, will make the final decision over the appeal.

It is also welcome that the Infrastructure Act 2015, which permits shale gas exploration to access private land below 300m, with hydraulic fracturing allowed below 1,000m, has been passed. This means that landowners are now unable to block shale gas development from taking place deep underground (although operators will still need permission for their surface site from the landowner.) Furthermore, the successful 14th onshore round licensing has shown the Government is taking the right steps to promote the industry.

Exploratory drilling at various sites should begin to take place towards the end of this year and early 2017. It is vital that this drilling takes place so that a true assessment of the UK's shale can be realised. The Government must ensure that there is no slippage from this timetable.

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