

ENERGY BAROMETER

Energy and price drivers

Energy prices and the factors that drive them are hugely influential within the sector. At the heart of the global energy trade are dynamic and complex commodity markets, trading in oil, natural gas, power and so on. One aim of the *Energy Barometer*, an annual survey by the Energy Institute (EI) of UK energy professionals, is to gain a greater understanding of energy prices and price drivers, quizzing energy professionals about crude oil, natural gas, electricity and transport fuel. Now in its fifth year, the *Energy Barometer* provides a valuable outlook on where the industry is headed, through the eyes of those that work in it.

Crude oil

The price of crude oil is not only of interest to commodity traders and investors; fluctuations in the price can have a knock-on effect across the economy. Crude oil's importance to modern society cannot be overstated – being used to make a wide range of essential fuels and petrochemical products, from petrol and kerosene to plastics and solvents. Throughout the five years of the survey, EI members have on average predicted modest price increases of \$10–15/b for Brent crude oil in the coming year, while acknowledging price volatility over the same time period. Members are generally

Daniel de Wijze, Energy Analyst, Energy Institute Knowledge Service, looks at five years of the EI's *Energy Barometer* survey data to explore energy price trends and key industry price drivers.

in agreement with each other, regardless of their area of expertise or career stage.

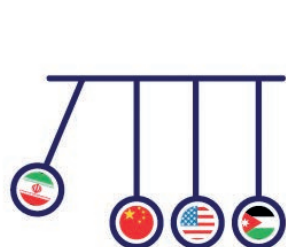
However, looking ahead to 2030, EI members are divided in opinion – 47% predict that crude oil prices will remain steady at \$85/b or below over the next decade, while 53% predict that prices will reach \$90/b or higher, with a grouping around the \$100 price point. Indeed, in the latest *Energy Barometer*, former EI President Malcolm Brinded emphasised that the polarisation between respondents' price predictions is unusual. As a vital service provider, the energy industry requires long-term investment decisions (particularly upstream) in order to discover new assets, build infrastructure and maintain supply lines, and has a spread of views on where the price will be trending for this key raw material.

Respondents to the 2019 *Energy Barometer* highlight three key drivers of crude oil prices, namely

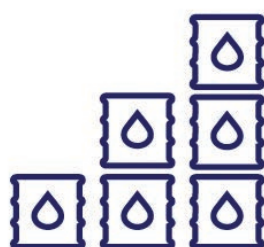
'geopolitical instability', 'actions and policies of oil producing nations' and 'demand levels in developing countries' (see **Figure 1**). The same three drivers have been the most popular consistently since the survey began in 2015, with each option chosen by at least 44% of respondents every year. Reviewing the fluctuating price of crude oil over the past few decades highlights the volatile influence of these drivers.

Oil prices rose steadily in the early 2000s, driven by a buoyant global economy and strong demand from developing economies such as India and China. This was tempered by a marked reduction in demand, caused by the financial crisis of 2007–2008. However, in the years that followed, prices recovered and rose to over \$100/b by January 2011, amid worries about supply (due to political unrest in Egypt and the so called 'Arab Spring').

Prices remained high for the next three years, until 2014, when the market saw a huge increase in US and Canadian shale oil and gas production as well as the lifting of sanctions on oil-producer Iran. This, coupled with reduced demand from China as its economic growth slowed, caused an oil glut and subsequent price crash. Prices plunged from the \$100–120/b level in 2014 to below \$30/b in January 2016. The price crash damaged the



Geopolitical
instability
53%



Demand levels in
developing
countries
50%



Actions and
policies of oil
producing nations
45%

Figure 1: Drivers of crude oil prices
Source: EI Energy Barometer, 2019

economies of oil-producing nations such as Venezuela. Although prices have recovered from the 2016 low, they have failed to reach previous heights, fluctuating between \$60/b and \$70/b in 2019 so far.

One factor that has risen in significance in the eyes of energy professionals is 'actions due to environmental concerns'. Over the past five years, as recognition of the impact of climate change and the need for a sustainable energy system has grown, the proportion of members picking this option as a price driver has quadrupled from 6% to 24%. Oil companies are recognising the need to become active participants in the energy transition, be it for environmental, ethical or economic reasons. Patterns of consumer behaviour are changing, with greater numbers seeking alternatives to plastics, conventional fuels and energy sources that are environmentally sustainable. For example, over a third of EI members think that 'tariffs for entirely renewable power' are likely to be the most attractive energy service offers to domestic customers in the UK market by 2030.

Transport fuel

When considering transport fuel retail prices in the UK, EI members have remained consistent over the past five years, selecting 'crude oil prices' and 'taxation and duties' as the top two price drivers (chosen by at least half of respondents). 'UK transport fuel demand' is considered a price driver by fewer members, perhaps reflecting the slow pace of change in the types of vehicles on the UK roads.

The UK government has stated its commitment to decarbonise transport by ensuring no new petrol or diesel cars are sold after 2040 and is aiming for zero carbon by 2050. However, there is little sense among members that this transition will affect fuel prices in the short term.

Meanwhile, since its introduction as an option in 2018, just under one third of EI members have chosen 'actions due to environmental concerns' as a price driver. According to the RAC, there are 38.4mn licensed vehicles in the UK as of March 2019, though merely 200,000 (0.55%) are fully electric. Unless falling costs, new government incentives or an Irish-style carbon tax on petrol and diesel encourage a rapid rise in the use of zero-emissions vehicles, it remains unlikely that transport fuel demand will change drastically in the short term.

Natural gas

According to the Committee on Climate Change (CCC), the vast majority (85%) of UK households use natural gas for space and water heating; natural gas also provides over 40% of the UK's electricity supply (BEIS). EI members think that retail gas prices are primarily driven by 'UK and European demand' and 'supplier costs'.

The UK is able to meet 44% of its gas demand from internal production in the North Sea and East Irish Sea. Some 47% comes from European pipelines, carrying gas from countries such as Norway, Turkey and Russia. Finally, the remaining 9% is imported as LNG carried by tankers from countries further afield (US, Qatar etc). Compared to other European countries such as Germany, which only produces 7% of the gas it needs internally (importing the remainder from Russia, Norway, the Netherlands and so on), the UK is less reliant on foreign imports and therefore enjoys greater supply security. It is likely that this perception of reliability of the UK's gas supply has resulted in the potential price drivers of 'geopolitical factors' and 'global natural gas demand' to be seen as less of a concern.

While the proportion of EI members citing 'actions due to sustainability/climate change' as a price driver has almost doubled from 6% in 2015 to 11% in 2019, the figure remains low when compared to the crude oil or transport fuel questions. Natural gas is less carbon polluting than coal or oil, and it plays a key role in the UK's electricity and heating energy mix. Nevertheless, concerns about climate change and sustainability are not seen to be factors affecting natural gas prices in this instance.

Electricity

The past decade has seen a dramatic increase in competition in the UK retail electricity market, with the market share of the 'Big Six' energy companies dropping from 100% in 2009 to 74% by the end of 2018, according to industry regulator Ofgem. Newer 'medium-sized' suppliers such as Shell Energy, OVO and Bulb have acquired 3–4% market share each. Despite this, just 18% of EI members believe changes in market competition are having the greatest impact on electricity prices.

As with retail transport fuel, EI members flag up the 'cost of primary fuel' as the primary price driver for electricity. Electricity

suppliers tend to shift their prices up and down as a response to changes in wholesale energy prices, regardless of the source. 'Government policy' is seen as another key factor that can have an impact in a complex market, such as the Ofgem price cap (introduced in January 2019).

As with natural gas, respondents are less concerned that 'geopolitical factors' or 'network reinforcement and investment' will drive electricity prices. The electricity grid is viewed as having good supply security (thanks to a diversity of generation sources such as nuclear, offshore and onshore wind, solar and natural gas) and reliability. The UK's network reliability was over 99.9% for both electricity and gas in 2017/2018, according to Ofgem.

In summary

The *Energy Barometer* has shown a high degree of consistency and agreement across the industry over the past five years. Survey findings indicate that the pricing of energy commodities is sometimes more strongly affected by supply (electricity, transport fuel) or demand (natural gas, crude oil). 'Geopolitical instability' remains a concern for energy professionals. And often countries with significant energy production or usage become unstable or substantially alter their foreign or energy policies.

Notably, factors such as 'sustainability' and 'environmental concern' have figured more and more prominently in driving prices over the past five years. For now, EI members remain cautious in their price predictions, but given the unpredictable nature of the oil price and the speed of new technology development and the energy transition, prices and their drivers are expected to continue to transform over years to come. ●

See www.energyinst.org/barometer to explore the results of the 2019 *Energy Barometer* in detail or to access the archive of past reports