



## Highlights

- UK wholesale energy prices levelled out at nine-year lows for power during Q1 2016, and more than ten-year lows for gas.
- Gas-fired generation in the UK is at its highest share in Q1 for more than five years, due to lower gas prices and the cost of emissions making coal-fired generation more expensive..
- The UK's energy supply is getting greener, with more gas instead of coal, but also more installed renewable generation. Additional wind and solar supply is undermining traditional times of peak demand, and reducing opportunities for conventional plants to generate.

## Price trends

UK wholesale energy prices during Q1 2016 averaged their lowest in more than a decade for gas, and nine years for power.

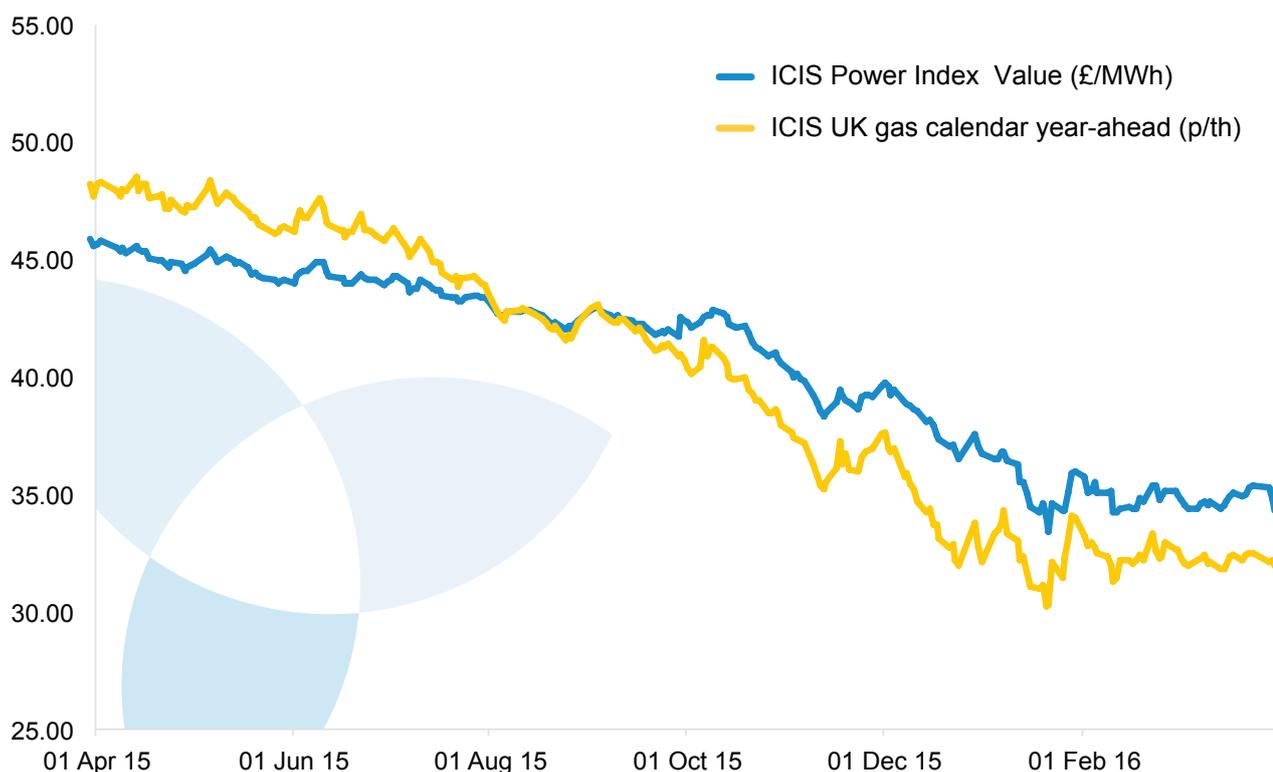
The ICIS Power Index (IPI) averaged £35.00 per megawatt-hour (MWh) over Q1, the lowest quarterly average since Q1 2007, and down 12% from the Q4 2015 average.

This is the sharpest quarter-on-quarter fall in forward prices since Q1 2009, and reflects market expectations that power delivered over the next two seasons will be less valuable than at the beginning of the year.

The picture for gas was even more pronounced. Gas to be delivered the following year averaged 32.351 pence per therm (p/th) – the lowest quarterly average in at least 10 years.

The quarterly average for Q1 was 12.5% below the average for Q4 2015, although the previous quarterly fall was more pronounced.

However, price movements during Q1 itself were comparatively stable, without the downward trend seen in recent quarters. The IPI was valued at





£34.31/MWh on 31 March, 6.7% lower than the end of last year, and gas valued at 31.99p/th, 0.5% lower over the same period.

## Underlying price trends

UK wholesale gas and power prices remained stable during Q1, helped in part by a recovery elsewhere in the energy commodity markets.

Wider energy markets in Q1 2016 generally recovered some of the losses in value seen during 2015, with both the price of Brent crude oil and coal to be delivered in the next calendar year finishing 31 March higher than their price at the start of the year.

More stable prices compared to the decline in previous quarters has in turn helped to stabilise UK gas and power values.

## Gas supply stable

Oil and gas prices have fallen to a point where operators in the North Sea are struggling to make money, and market participants holding excess gas are reluctant to sell at lower prices. This reluctance has helped to stabilise market values, although while oil production continues, associated gas in oil fields will need to be extracted and sold.

Any reduction in gas supply from the North Sea as one of several sources of pipeline supply would have been offset by plenty of liquefied natural gas (LNG) cargoes coming to the UK from elsewhere in the world.

Data from ICIS' LNG Edge tracking and analytics platform shows 23 cargoes coming to the UK during Q1, compared with 22 the previous quarter. Over the winter period as a whole, from 1 October to 31 March, 54 cargoes came to the UK, compared with 40 a year earlier.

Most of the LNG vessels coming to the UK originated in Qatar, but some LNG was also imported from Nigeria, Norway and Algeria. Higher demand from Asia a year earlier meant that this

production had been sold elsewhere. So more diverse sources of supply to the UK in Q1 this year reflects the changes in global LNG flows, as a combination of weaker demand in Asia and new production sources ramping up in Australia and the US leaves more LNG available for the European markets.

Healthy gas storage levels also erased any lingering supply concerns. On 3 April, Britain's gas storage stocks were 25% full at 1.16 billion cubic metres (bcm), compared with 16% at the same time last year.

## Gas demand boosted by power

Gas demand for Q1 2016 rose 3% year on year at 26.8bcm, although mild winter temperatures kept household demand lower.

Some of this lower residential heating demand was offset by additional gas-fired power generation during Q1, which has helped to support gas and power prices for long-term delivery.

In recent years, there has been less demand for gas-fired power generation, as coal-fired plants have been more economic to run.

However, the UK's carbon price support scheme taxes fuels for power generation at a rate of £18.00 per tonne of carbon dioxide generated. Coal emits more carbon dioxide than gas, and this additional levy, on top of the cost of complying with the

	Q1 2016 production (TWh)	Year on year production change	Q1 2016 proportion
Gas	29.6	50.7%	37.7%
Coal	13.6	-52.5%	17.4%
Nuclear	16.1	-4.7%	20.6%
Wind	6.4	-11.5%	8.1%
Others	12.7	31.7%	16.1%
<b>Total</b>	<b>78.4</b>	<b>-4.5%</b>	<b>100.0%</b>

Source: Elexon



EU's emissions trading scheme, has penalised coal-fired generation and made gas-fired plants more profitable.

Gas-fired generation accounted for nearly 40% of UK power generation during Q1 – its highest share in at least five years.

### Power supply margin supports prices

Long-term power price values have been more resilient than gas prices for another quarter, prompted by concerns over tighter supply margins during the winter to come.

The UK lost 5GW of older coal-fired generation from the wholesale market at the end of Q1. This total would be equivalent to 10% of the UK's total consumption at peak times – this winter, demand reached 51.7GW on 18 January.

Three coal-fired plants have closed during March – ScottishPower's Longannet plant, the one remaining unit at SSE's Ferrybridge and the Eggborough power station. ENGIE also announced

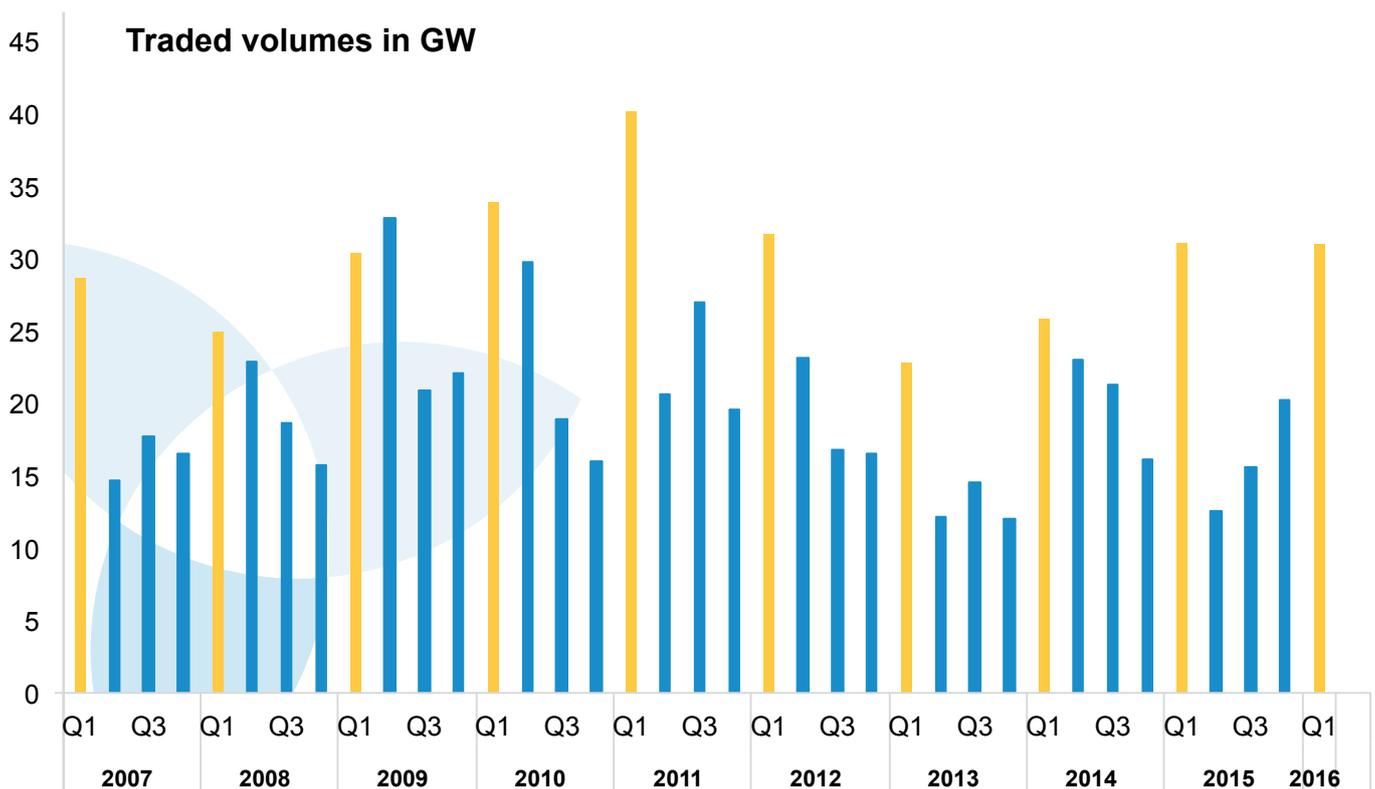
plans to close its Rugeley plant this summer, with one unit not returning to the market after maintenance. These plants were not considered to be worth upgrading to the modern emissions standards required by the EU's Industrial Emissions Directive.

However, SSE decided to reverse its decision to close the Fiddler's Ferry power station at the end of March, leaving it open to sell capacity into the wholesale market. One unit is used by transmission system operator National Grid for its reserve capacity scheme and is not available to the market.

### Investment signals

While gas prices have lost value because the market is oversupplied, and therefore able to meet unexpected rises in demand, low power prices have affected profitability in recent years, and affected the industry's ability and willingness to invest in new generation.

Additional renewable generation continues to meet more demand, curtailing opportunities for





conventional generation to generate at a profit. Wind generation declined year on year, accounting for less of the UK's power mix over Q1, but more generation is expected online over the next few years.

Solar generation has also made more of an impact on pricing over Q1, changing the price signals within the market. Power prices respond to changes in demand and supply hour by hour, and peak demand during the afternoon of working days has traditionally encouraged the highest prices. For the first time at the end of March, the price for hours of peak demand on one day was lower than the average, because of the additional solar generation during daylight hours.

While this is still an unusual event, market participants expect these trends to continue, which is keeping expectations for the power price for future delivery low, and deterring investment.

Tighter supply margins have led to National Grid expanding its schemes to provide emergency back-up capacity, awarding contracts to power generation totalling 3.6GW for next winter as part of its supplemental balancing reserve (SBR).

In response to this, the government has also brought forward the introduction of a capacity market under the Energy Market Reform plan.

The UK government is also expected to bring forward the launch of its capacity market to winter 2017. Generators will compete to take part in the capacity market, and those qualifying will be entitled to sell power at the market price, alongside a top-up payment to ensure that enough gas-fired and coal-fired plants can operate to make sure that demand can be met.

These measures will be paid for as additional charges on energy retail bills, reducing the impact of the wholesale energy price as a proportion of the final cost to consumers.

### Liquidity

Traded volumes making up the IPI for Q4 remained stable in Q1 2016, with 31GW of power trading for delivery over the next two seasons.

The total value of the transactions included in the ICIS Power Index for Q1 was £9.3bn.

### Outlook

Market participants expect gas and power prices to remain low, but there is debate over whether prices will fall further.

- Much depends on the future movement of crude oil and whether production freezes are agreed and then adhered to, as the oil price has provided direction for gas and power prices in recent quarters. Oil rose during Q1 after hitting 13-year lows in January, as many oil producers are close to maximum production levels, although questions over future output from oil producers such as Iran remain.

Low oil and gas prices are making production from the North Sea less profitable, both for UK and Norwegian operators of associated and non-associated fields. However, for now, producers must continue to extract gas to meet their supply obligations under long-term contracts. Lower prices are making exploration and production less viable, and will deter future investment.

- To offset a possible reduction in supply, volumes of gas in storage after the winter are higher than usual, and more gas storage capacity is expected to return to the market for next winter, keeping prices low.

Operator Centrica Storage Limited (CSL) has investigated returning the Rough storage facility to full usage after reducing storage capacity last year, and expect the site to offer additional storage after September this year.



The site's maximum capacity is currently 2.7-3 billion cubic metres (bcm), compared to 3.8bcm before the technical issues arose last year.

Rough accounts for more than 80% of the UK's gas storage.

- Global LNG supply is expected to continue to outstrip demand, with additional liquefaction capacity in the US and Australia due to ramp up over Q2 and Q3. Recent buying interest from Mexico and Argentina, purchasing LNG for the rest of 2016, and strong demand from the Indian market are not expected to offset the extra supply length, with demand still depressed from the world's largest buyers Japan and South Korea.
- Long-term wholesale power prices continue to be impacted by additional renewable generation, although tighter supply during Q1

2016 with low wind and cooler weather has helped to support expectations for higher prices in future winters. More local installed solar generation has caused National Grid to forecast the lowest peak demand for the national transmission system in its Summer Outlook for 2016 ever. While underlying demand from households and industry is expected to be flat, more of this is met by solar generation locally, so there is less demand for plants supplying the wholesale market at a national level.

- However, margins are expected to remain tighter this winter, with forecasts as low as 150MW for some weeks, although Ireland's ESB began testing its new 880MW Carrington plant at the end of Q1, the first new conventional UK power plant for four years, and the only one confirmed until after 2019. It is expected to come online during September this year.



### About the IPI

The ICIS Power Index (IPI) gives homes and businesses an insight into price trends on the UK wholesale electricity market.

Robust energy markets are vital to the UK economy, and the IPI makes electricity price trends and activity more visible and accessible to household consumers and commercial buyers, as well as media and policy-makers.

The IPI is published daily by ICIS, an independent authority on UK electricity market pricing, and is available at:

[www.icis.com/energy/electricity/icis-power-index/](http://www.icis.com/energy/electricity/icis-power-index/)

### About ICIS

ICIS is an independent price reporting agency focusing on global energy, petrochemical and fertilizer markets, and we have covered the complex UK electricity market for nearly two decades. Every day, we assess electricity contracts for more than 40 different delivery periods in the UK market alone. The analysis and data that we produce is widely used as a reference price in energy contracts.

It is our aim to give companies in global commodities markets a competitive advantage by delivering trusted pricing data, high-value news, analysis and independent consulting, enabling our customers to make better-informed trading and planning decisions. With a global staff of more than 800, ICIS has employees based in Houston, Washington, New York, London, Montpellier, Dusseldorf, Karlsruhe, Milan, Mumbai, Singapore, Guangzhou, Beijing, Shanghai, Yantai, Tokyo and Perth. ICIS is a division of Reed Business Information, part of Reed Elsevier Plc.

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