CATALYST ENERGY SOLUTIONS

Energy Element / February 2016

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Power prices hit lowest levels since 2007

Record low oil prices continued to drag UK gas and power contracts down in January.

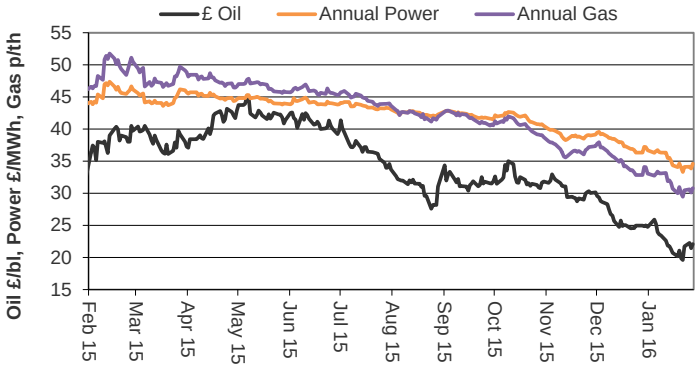
Sharp falls in oil prices, which dipped below $30/bl in January, remained the primary driver of gas contracts throughout the month. The summer 16 gas contract dropped 10.3% to average 29.3p/th, hitting a record low of 27.4p/th on 21 January. Furthermore, a strong UK gas supply outlook provided additional pressure, with global LNG capacity forecast to rise significantly in the coming years. Seasonal power contracts followed gas prices down, with summer 16 power slipping 7.5% to average £33.1/MWh, and reaching a new low of £31.4/MWh on 21 January. Seasonal gas and power contracts are now at their lowest levels since 2007. With oil prices forecast to fall further in 2016, gas and power contracts are likely to follow.

Spot gas and power prices experienced diverging trends in January. The day-ahead gas contract fell 6.0% to average 32.1p/th, hitting a near six-year low of 28.8p/th on 26 January. Falls came as increased supplies more than offset higher demand levels, which resulted from colder temperatures and reduced wind output. In contrast, day-ahead power rose 9.0% to average £37.4/MWh, hitting a nine-month high of £48.4/MWh on 18 January. Prices climbed as lower wind output and colder temperatures tightened supply margins during the month.

Oil prices fall below $30/bl, coal prices keep declining

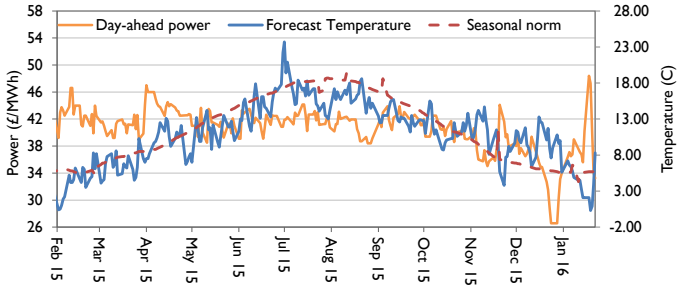
Brent crude oil tumbled 18.5% to average $31.9/bl in January, hitting a 12-year low of $27.8/bl on 21 January. Prices fell as the Chinese economy continued to slow and international sanctions on Iran were lifted. Iran holds the fourth largest oil reserve in the world, and the country insists it can ramp up production levels by 500,000 barrels per day immediately, adding to an already oversupplied market. The International Energy Agency said that the oil market could "drown in oversupply" in 2016, with some analysts forecasting that prices could slip below $20/bl.

Crude oil and annual wholesale gas and power prices



API 2 coal declined 7.9% to average $41.0/t, hitting a fresh low of $38.3/t on 26 January. A stall in global coal demand growth has caused prices to plummet 32% compared with January last year. Most notably, coal demand in China, the world's largest coal consumer, has fallen as its economy slows and shifts toward consumer-led growth and the government seeks to cut industrial overcapacity and curb pollution levels.

Spot power prices and temperatures



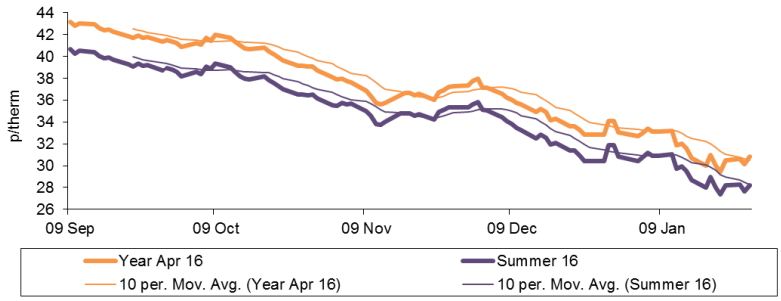
EU ETS carbon fell 14.3% to average €7.1/t, hitting a 15-month low of €5.9/t on 26 January. The sharp decline has been attributed to weak demand from utilities following a mild start to the winter, but also to industrials coming under pressure from the recent economic slowdown.

The month ahead: US LNG supply

UK gas prices are expected to remain low amid prospects of additional supplies. These may come from the US, where exports of LNG could start within weeks. With shipments to Asia becoming less profitable, it looks likely that US LNG is destined for European shores.

Catalyst Commercial Services' independent approach enables clients to manage their exposure to energy price risk, while at the same time benefiting from a first class service from a range of major and independent suppliers. Catalyst Commercial Services' procurement solutions make it simple, so contact a member of the team to discuss requirements.

Annual gas prices

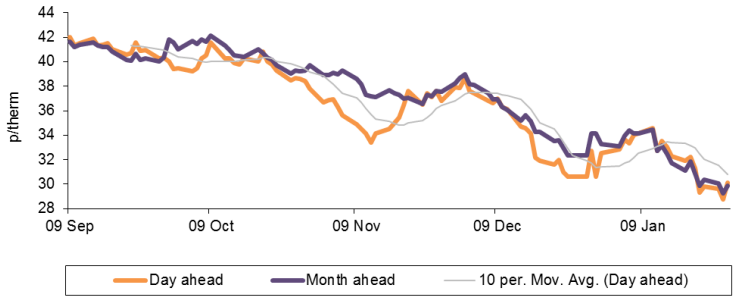


Sharp falls in oil prices, which dipped below $30/bl in January, dragged seasonal gas contracts down to record lows in the month. Furthermore, a comfortable gas supply outlook has remained a key feature of low gas prices. Global LNG capacity is forecast to rise sharply in the coming years

The annual April 16 contract declined 9.8% to average 31.5p/th, hitting a record low of 29.5p/th on 21 January. Summer 16 gas dropped 10.3% to average 29.2p/th.

Seasonal gas contracts are now at their lowest levels since 2007.

Spot gas prices

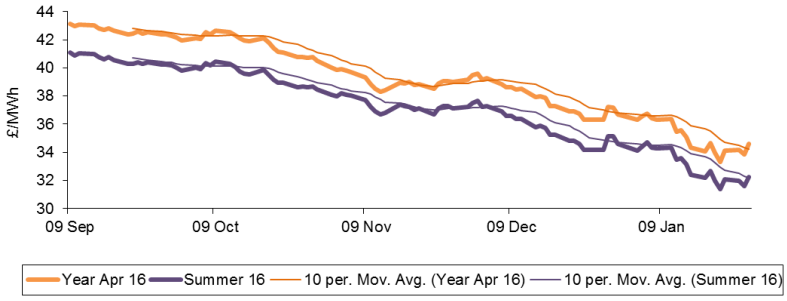


Day-ahead gas prices slid 6.0% to average 32.1p/th in January, hitting a near six-year low of 28.8p/th on 26 January.

Prices rose early in the month as colder weather and lower wind output increased gas demand for both heating and power generation. However, prices later fell as temperatures climbed back above the seasonal norm, wind generation picked up and gas supplies increased.

The month-ahead contract slipped 10.2% to average 32.1p/th, finishing the month at 29.9p/th.

Annual power prices

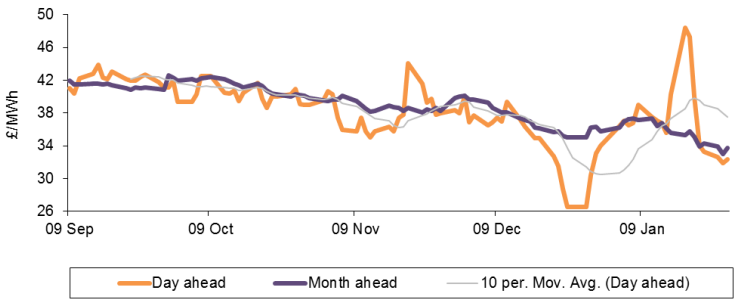


The annual April 16 power contract also fell to record lows in January as falling commodity markets continued to drive prices down.

Annual April 16 power reduced 7.1% to average £35.1/MWh. The summer 16 contract fell 7.5% to average £33.1/MWh, while the winter 16 contract trimmed 6.8% to £37.2/MWh. Seasonal power contracts are also at their lowest levels since 2007.

Backwardation remained in the power market in January, meaning further-out contracts were lower than those in the nearer-term.

Spot power prices



In contrast, spot power prices climbed in January.

Day-ahead power lifted 9.0% to average £37.4/MWh, and hit a nine-month high of £48.4/MWh on 18 January. The contract rose as temperatures fell below the seasonal norm for much of the month and lower wind output tightened supply margins.

The month-ahead contract slid 5.9% to average £35.7/MWh, and is now 11.2% below the equivalent contract last year (£40.4/MWh).

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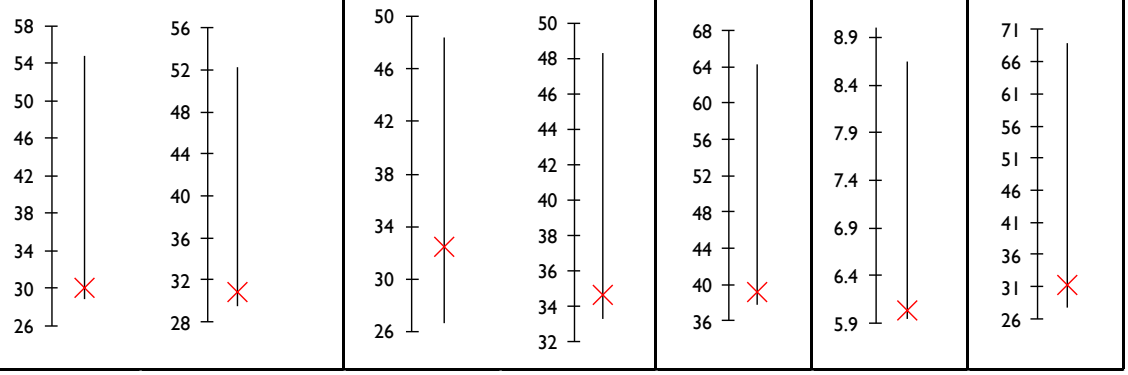
Key market indicators: 27/01/2016

	Gas (p/th)		Electricity (£/MWh)		Coal	Carbon	Brent crude
	Day-ahead	Year-ahead	Day-ahead	Year-ahead	($/t)	(€/t)	($/bl)
This month 27 Jan 16	30.10	30.81	32.40	34.60	39.25	6.04	31.35
Last month 31 Dec 15	32.55	33.08	34.00	36.70	44.30	8.30	36.71
Last year 27 Jan 15	44.75	46.02	36.40	44.08	58.50	6.93	47.89
Year-on-year % change	(33%)	(33%)	(11%)	(21%)	(33%)	(13%)	(35%)
Year high	54.75	52.22	48.40	48.33	64.20	8.64	68.94
Year low	28.75	29.46	26.56	33.31	37.80	5.94	27.83

This table shows the price at the end of this month compared with prices from the previous month and year. The graphs show the position of this month's prices with a red X and the range of prices over the year is represented by the black line.



Commodities

Carbon: EU Emissions Trading Scheme carbon is quoted as over-the-counter (OTC) latest opening prices. All carbon prices are in euros per tonne (€/EUA).

Coal: Coal is quoted as OTC latest opening prices. All coal prices are in US dollars per tonne ($/t).

Electricity: UK power base-load and peak-load are quoted as OTC latest opening prices. All UK electricity prices are in pounds per megawatt hour (£/MWh).

Gas: UK National Balancing Point (NBP) gas is quoted as OTC latest opening prices. All UK gas prices are in pence per therm (p/th).

Oil: Brent crude oil is quoted as OTC latest opening prices. All Brent crude oil prices are in US dollars per barrel ($/bl).

Language/ terms

Bearish: A bearish market shows a general decline in prices over a period of time.

Bullish: A bullish market shows a general increase in prices over a period of time.

Curve: A graph of forward prices over a future time period.

Margin: The indicated UK imbalance of a given settlement period. It is the difference between the sum of the indicated generation available, and the national demand forecast made by National Grid.

Over-the-counter (OTC): The trade of a commodity directly between two parties, often on standardised terms.

Spark/ Dark spread: The theoretical net income of a gas-/ coal-fired power plant from selling electricity having purchased the necessary fuel. The clean spark/ dark spread is this net income adjusted for the cost of carbon.

Government progresses energy reforms

The government's *Energy Bill* has been approved in its first key vote in the Commons, and its provisions will now be closely scrutinised by MPs.

Parliamentary debate

The bill, which has already been approved in the House of Lords, has two key components: it will establish a new regulator, the Oil and Gas Authority (OGA), for the North Sea industry; and will close the Renewables Obligation, a green subsidy scheme, to new onshore wind projects from April this year.

Opposition parties want to introduce changes to the bill, and have proposed a number of amendments that MPs will now debate. The Labour Party has suggested that the government should be required to report, within six months of the bill coming into law, on how its cuts to subsidies for onshore wind will impact on the UK's progress towards renewables targets. The party also believes that the OGA should look at the potential to reuse defunct North Sea infrastructure for carbon capture and storage (CCS) technology.

Meanwhile, the Scottish National Party has tabled amendments that would require the government to produce a new strategy for CCS development. It also wants to force the government to hold auctions for renewables subsidy contracts on an annual basis, for as long as the carbon intensity of UK electricity is above a certain threshold.

A new emissions plan

Speaking during the debate on the bill on 18 January, energy and climate change secretary Amber Rudd announced that the government would introduce a new emissions reduction plan by the end of the year. This will focus on energy efficiency, and decarbonising heating, transportation and the industrial sector. She said the plan would be "long term" and use "new thinking" to address these areas.

Confidence for industry

Concerns have been raised that UK climate policies are undermining the competitiveness of its firms on the international stage. But Rudd said the Paris Agreement meant the UK could be confident that all its trading partners were taking action, and so UK firms would not be disadvantaged by new domestic policies.

The two core components of the bill encapsulate the focus of the government's energy policy: reducing costs by cutting renewables subsidies, while bolstering energy security by encouraging domestic oil and gas production.

Parliament

Energy-savings guide aims to help businesses

The government has released a new guide for businesses on how they can best take advantage of the new Energy Savings Opportunity Scheme (ESOS).

ESOS is an energy efficiency scheme that is compulsory for organisations with over 250 employees or an annual turnover of €50mn. Firms have to complete a self-assessment of their energy use and submit it to the Environment Agency every four years. The first deadline for compliance was 5 December 2015, but the Environment Agency said it would not take action against companies that complied between then and 29 January so long as they provided notification of the delay.

On 13 January, the government published a guide primarily intended for companies participating in ESOS, but also applicable to other forms of energy audit. It is aimed at those companies that have little experience of energy savings and may lack an energy manager. The guidance seeks to help organisations quantify the savings that energy efficiency measures would provide, to make the business case for them (especially in contrast to other projects with which the firms may be more familiar), work energy efficiency into the business strategy, and to ensure resources are available.

Government

Battery storage already viable for investors, report claims

In a study published on 18 January, Consultants Eunomia examined the potential of battery electricity storage in the UK.

Storage benefits

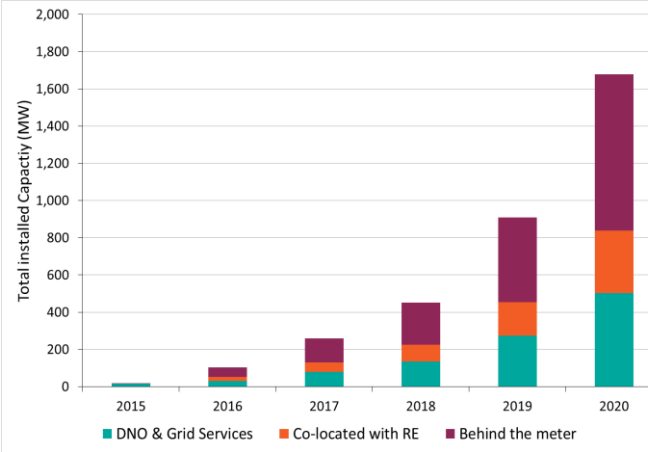
Storage systems allow electricity to be stored so that it can used at a later time. There are a wide range of storage measures - but at present the technology's role in the power sector is largely limited to pumped hydro storage. This sees hydroelectric dams using turbines to pump water to their upper reservoirs when electricity is plentiful, and then releasing it to generate power when there is a lull.

Storage is particularly relevant to the growth of intermittent renewables generation like wind and solar power, allowing their electricity to be stored for use on cloudy or still days.

These systems offer significant cost-saving opportunities for businesses. By storing generation on-site they could effectively go "off-grid" during peak periods, and therefore avoid paying higher power prices.

By storing excess power, batteries can also help to prevent the congestion and voltage fluctuations on power lines that currently make reinforcement necessary. This could save consumers money on network infrastructure spending in the long term.

Known and forecast installed capacity of battery storage in the UK



Source: *Eunomia*

Potential growth

Eunomia's report focused on lithium-ion batteries as these are already at a commercial scale, and easier to deploy than alternatives. Currently, the UK has 24MW across 24 sites, most of which are government-funded proof-of-concept projects. The largest is AES's Kilroot array, which at present has a capacity of 10MW, but is to be expanded to 100MW.

Eunomia estimated that the UK's battery capacity could increase dramatically over the next few years, hitting 1.6GW in 2020. This was based on a view that the costs of the technology would fall see the kind of sharp decreases as has been experienced in the solar sector over the past decade.

We are currently seeing a real surge in interest among policy-makers in the potential of energy storage, but significant hurdles remain.

Eunomia

EU carbon trading activity falls in 2015

A report by analyst Thomson Reuters has shown that activity in Europe's carbon market continued to slow last year, with the volume traded decreasing by nearly a fifth.

The report, published on 11 January, said that 6.2 gigatonnes worth of emissions allowances and offsets were traded globally in 2015. This was a decrease of 19% from 2014.

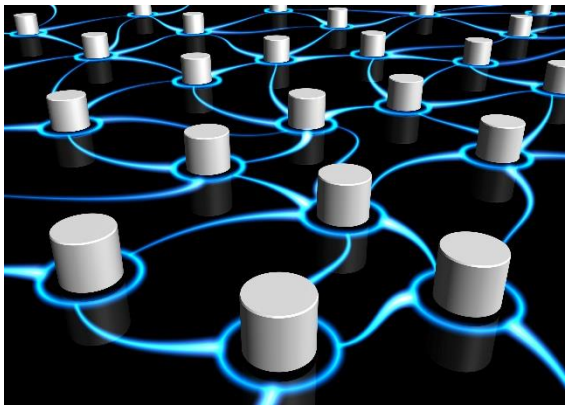
The EU is currently "back-loading" a volume of the allowances within its emissions trading scheme, as part of an effort to raise the carbon price. In the longer term it is implementing a "Market Stability Reserve" that will aim to prevent dramatic surpluses or shortages of allowances, thereby providing low-carbon investors with more confidence.

Due to the higher price in most carbon markets, the total value of global trades actually increased 9% to €48.4bn in 2015, with growth particularly strong in North America.

Thomson Reuters

Government seeks to ensure energy regulation supports innovation

The government opened a consultation on 15 January on whether regulation in the energy markets is allowing innovation to flourish.



A balanced approach

Innovation is a key driver of technological development in the energy sector, so is regarded as vital for delivering lower costs, greater reliability and an effective decarbonisation process. However, the government needs to balance the benefits that innovation can offer against the need to ensure safety and protection for consumers.

The government is seeking to understand if legislation can support innovation and consequently encourage growth, how technological developments will shape the sector in the coming years, and how regulators might utilise new technologies.

Oil and gas innovation

The consultation describes several areas of the industry in which the government is already reforming the legislative framework with a view to encouraging innovation. In the offshore oil and gas sector, for example, legislation currently progressing through Parliament will seek to promote further collaboration within the industry, as well as technological innovation to reduce decommissioning costs.

Meanwhile, the government is also seeking to promote the development of a domestic shale gas industry, which it believes could help to bolster the UK's energy security and keep bills lower for consumers. Legislation sets high standards for oil and gas extraction to safeguard the environment; however, regulators have avoided specifying the techniques that operators can use, in the hope of allowing new technologies to emerge and encouraging innovation.

Stakeholder views

The government will use stakeholder responses to assess whether reforms are necessary to ensure the regulatory framework remains appropriate in a sector that is experiencing rapid change. This will inform the production of a final *Innovation Plan* by the Department for Energy and Climate Change, which will be published in spring 2016. The plan will explain how the government and regulators are working to adapt enforcement to support innovation.

Responses are invited by 11 February.

The government rightly recognises that the regulatory framework can significantly impact on the scope to innovate and must be sufficiently flexible to accommodate emerging technologies.

Government

Supply "crunch" costs not excessive, says system operator

National Grid has rejected concerns about the costs of meeting electricity demand in Britain when supplies are lower than usual.

On 13 January, director Cordi O'Hara wrote to the parliamentary energy and climate change committee regarding the Notice of Inadequate System Margin (NISM) that was issued by National Grid on 4 November last year. This was a signal to power station operators that the network needed more electricity to cover a shortfall caused by outages and low wind speeds. The first NISM since 2012, the event resulted in electricity being sold to the network by power stations at unusually high prices.

O'Hara put the total cost of that day's balancing measures at £2.4mn - of which around £1.05mn was incurred during the NISM period. The average cost for balancing activities for 2014-15 was £2.33mn, meaning the day of the NISM was only marginally more costly than usual. O'Hara concluded: "Although we are never complacent, we do believe that we have the right tools in place to manage this winter. We of course keep the position under constant review."

Parliament

Ofgem denies it has been "too soft" on the Big Six

The CEO of the energy regulator has rejected media claims that it has been too lenient in its treatment of the Big Six energy companies.

An article published in *The Times* on 12 January argued that the energy market was in "serious need of reform", as falls in wholesale prices had not been translated into lower bills, and "Ofgem has not done enough to help consumers get the best deal available". Responding on 13 January, Dermot Nolan said that the claims were not based on the facts; Ofgem, had imposed £200mn in penalties on the industry since 2010 and had deployed "the strongest sanction we have" by referring the industry to the Competition and Markets Authority. He believed that these moves were strong evidence that Ofgem would continue to punish firms that were unfair to their customers.

Ofgem

Suppliers suffering from "single bill" policy, warns industry group

The trade association of the EU's electricity industry has called for protections for energy suppliers from the downsides of the "single bill" model of charging consumers.

Use of the single bill model is being standardised across all EU member states. It requires bills for customers to include all costs, such as for transmission and distribution, and government taxes and levies that fund energy efficiency and renewable energy support schemes.

In a policy paper issued on 11 January, Eurelectric said it supported this approach as it offered transparency and simplicity within an increasingly sophisticated, complex energy system. But it said the arrangement brought risks to energy suppliers. For example, suppliers are required to pay network operators irrespective of whether customers have paid their bills - increasing the impact on suppliers of late payments. The paper suggested the development of a framework that helped customers avoid accumulating debt, and ensured suppliers received the money owed to them.

Eurelectric

Downturn in boiler sales driven by cuts to energy efficiency schemes

The abolition of energy efficiency schemes like the Green Deal is responsible for a drop in boiler sales last year, the Heating and Hot Water Industry Council (HHIC) has said.

In a statement on 12 January, HHIC director Stewart Clements said that sales of boilers were down 1.9% to 1.63mn last year. But he was confident that the market remained stable, and hoped this year would see an increase as people refurbished their homes.

The Green Deal programme, which was launched in 2013, was cancelled last July following low uptake.

HHIC

Government changes eligibility criteria for renewables compensation scheme

The government has acknowledged the need for changes to its plans to provide relief to energy-intensive industries for the indirect costs of the UK's renewables policies.

Over the past few years, energy-intensives, including manufacturers, have raised concerns that the costs of these policies are undermining the UK's international competitiveness. The government confirmed last year that it planned to offer compensation to affected industries, and the plans have now been given clearance by the European Commission.

But in a paper issued on 19 January, the government confirmed certain changes to how it would assess firms' eligibility for the compensation. In order to calculate eligibility, the government has assessed electricity intensity at both the sector and business level, using an accepted and published electricity price. But, in light of feedback from the industry, it has decided to increase this electricity price significantly, saying the original price did not adequately reflect the prices faced by most consumers.

Government