Energy Element / July 2018

CATALYST ENERGY SOLUTIONS

Power and gas prices flatten after prolonged growth

Bearish oil markets, warmer weather and an oversupplied gas system brought a prolonged period of price growth to an end in June, with some power and gas contracts showing falls.

In the nearer term, day-ahead power slipped just 0.2% to average £54.2/MWh. Prices were relatively stable throughout June despite large fluctuations in renewables output. Day-ahead power prices have remained higher than their levels at the start of 2018, an unusual trend considering a move into summer months.

After a prolonged period of growth, seasonal power prices stabilised in June with contracts from winter 18 to winter 20 declining just 0.4% on average across the month. The only contract to rise was winter 18 power, which gained 0.5% to £60.2/MWh. Growth in prices stagnated as gas and oil prices also brought their upwards trends to an end.

Day-ahead gas fell 1.2% to average 55.5p/th. Prices dropped from 58.9p/th at the start of June to lows of 52.3p/th, as an interconnector outage from 13 to 28 June reduced GB's ability to export gas and left the system oversupplied.

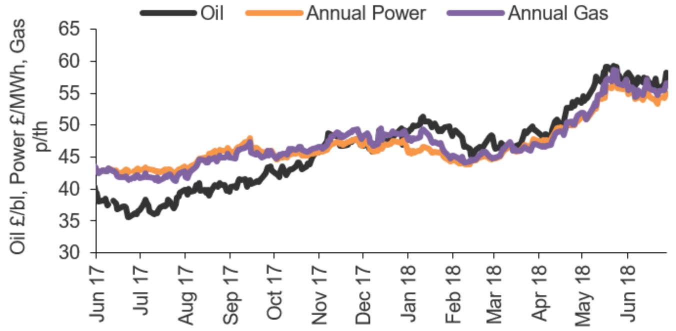
Seasonal gas contracts experienced mixed movements in June, rising 0.1% on average. Winter 18 gas prices rose 0.5% to average 62.7p/th. Gains in winter prices were limited as the interconnector outage allowed for increased gas storage injection for UK facilities, refilling storage levels to 40% of total capacity by 25 June.

Upwards drivers for commodities slow on OPEC decision

Brent crude oil prices fell 1.9% to average $75.5/bl during June. Prices were volatile throughout the month in the run up to the OPEC meeting in Vienna on 22 June, but were ultimately weighed on by a decision that will see the group increase production by around 600,000bpd. However, Brent crude prices responded bullishly in the wake of OPEC's announcement as supply disruptions in Canada, unease at Libya's National Oil Corporation and an announcement from US officials for importers to stop buying Iranian crude from November, all led to uncertainty in the market. Prices rose towards $77.0/bl at the end of the month.

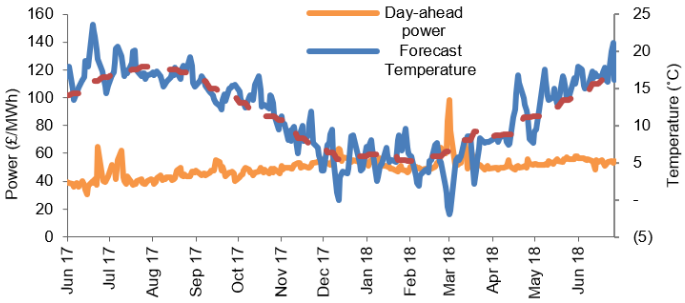
API 2 coal prices rose 0.8% to average $88.0/t, peaking at $89.8/t on 13 and 14 June. Coal prices continued to track fluctuations in oil prices throughout the month, but could see bearish behaviour as coal has been included in the list of 650 items facing increased tariffs from China as part of the ongoing trade dispute with the US.

Crude oil and annual wholesale gas and power prices



EU ETS carbon prices gained 3.0% to average €15.2/t, hitting €16.7/t on 5 June – a fresh seven-year high.

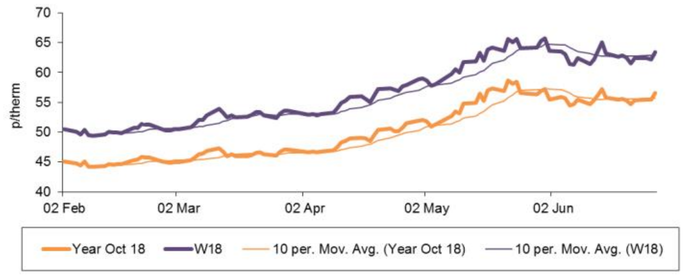
Spot power prices and temperatures



The month-ahead: Market prices stabilise as upward drivers stagnate after recent volatility

Gas and power markets could see more stable prices in July, as months of volatile movement in the commodity markets begins to calm. Improved gas supply security following strong injections into gas storage sites amid the IUK outage could see gas contracts less prone to volatility in commodity markets. However, oil is still unsettled despite OPEC's agreement as geopolitical tensions continue to escalate. EU ETS carbon prices could fall with improving hydro stocks in western Europe.

Annual gas prices



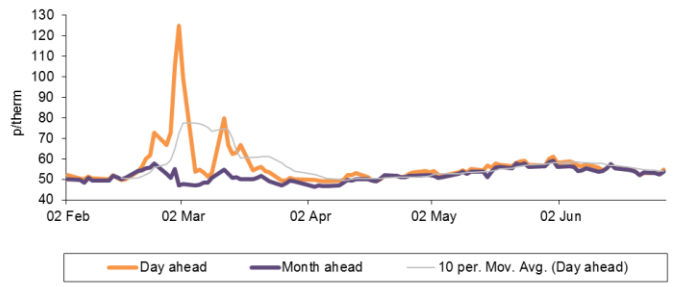
Gas prices experienced mixed movements in June, with seasonal contracts from winter 18 to winter 20 rising 0.1% on average.

Winter 18 and summer 19 gas averaged 62.7p/th and 48.4p/th respectively. Winter 18 has grown 20.1% from January 2018 when it averaged 52.2p/th.

Winter 19 and summer 20 gas lowered 0.7% and 0.2% to 55.9p/th and 43.8p/th respectively. Winter 20 gas climbed to 52.5/th (up 0.1%).

The annual October 18 gas contract grew 0.5% to 55.5p/th.

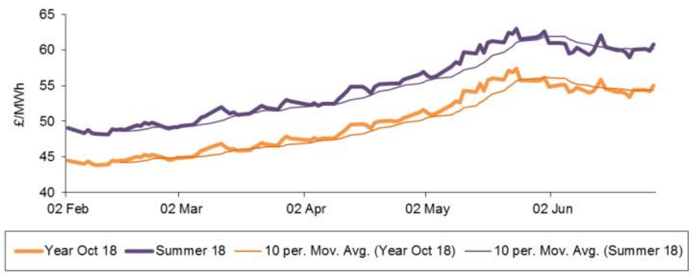
Spot gas prices



In June, day-ahead gas prices decreased 1.2% to average 55.5p/th. The month-ahead (July) gas contract went down 0.6% to average 54.6p/th, dropping to a low of 52.2p/th on 21 June.

Warmer temperatures have driven demand down. An interconnector outage between 13-28 June also weighed on prices with the reduced ability to export gas. However, prices were supported by increased gas demand for power generation which resulted from low wind output towards the end of the month.

Annual power prices

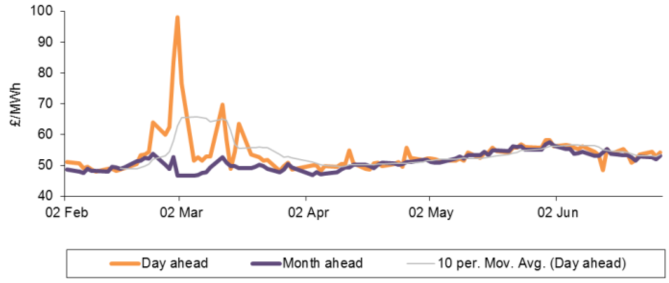


On average seasonal power contracts declined 0.4% across June.

Winter 18 was the only contract to rise, gaining 0.5% to £60.2/MWh, despite increased supply security in UK gas storage levels. Summer 19 and winter 19 power lost 0.3% and 0.7% to average £48.7/MWh and £54.5/MWh respectively. Contracts for summer 20 and winter 20 delivery also subsided, down 0.9% and 0.8% to £44.7/MWh and £52.6/MWh.

The annual October 18 power contract increased 0.1% to average £54.5/MWh.

Spot power prices



Day-ahead power fell 0.2% throughout the month to average £54.2/MWh. The month-ahead (July) power contract dropped 1.2% to average £53.7/MWh.

Prices have reflected falling commodity prices, with gas directly affecting power prices, particularly in periods of lower renewables generation.

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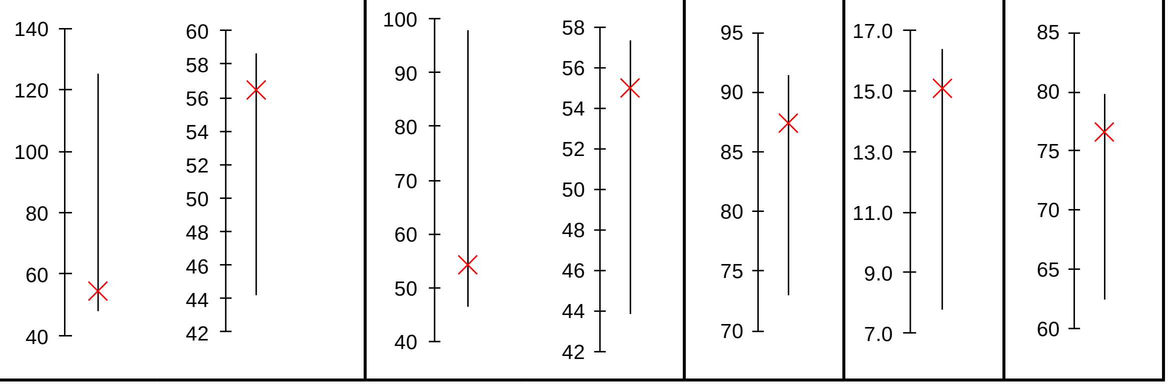
Key market indicators: 27/06/2018

		Gas (p/th)		Electricity (£/MWh)		Coal	Carbon	Brent crude
		Day-ahead	Year-ahead	Day-ahead	Year-ahead	($/t)	(€/t)	($/bl)
This month	27 Jun 18	54.65	56.52	54.35	55.06	87.50	15.12	76.66
Last month	1 Jun 18	58.00	55.50	56.30	54.88	87.50	14.89	77.61
Last year	27 Jun 17	37.10	42.35	40.25	41.03	69.25	4.85	46.35
Year-on-year % change		47%	33%	35%	34%	26%	212%	65%
Year high		125.00	58.64	98.00	57.38	91.50	16.40	79.83
Year low		47.80	44.18	46.50	43.85	73.00	7.76	62.43

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.

Disclaimer

BEIS consults on exempting more EIIs from renewable policy costs

On 22 June, the government announced that it was consulting on widening the eligibility criteria for energy intensive industries (EIIs) to be made exempt from the indirect costs of renewable support schemes. These include the Renewable Obligation (RO), the Feed-in Tariff (FiT) and Contracts for Difference (CfD) schemes.

BEIS called for evidence of current intra-sectoral competitive distortions as a result of the current costs some EIIs face from these support schemes as a result of the current exemption level of 20% electricity intensity. Dependent on this evidence, the consultation is also seeking views on lowering the intensity threshold to 17%, 15% or 10%.

Lowering the threshold

It was noted that while lowering the threshold would exempt more EIIs from in direct renewable policy costs, it would also increase electricity costs for non-eligible consumers. To address this, BEIS proposed three options to reduce aid intensity (the amount of exemption that a company receives) for EIIs with lower levels of electricity intensity to: 50% for businesses with electricity intensity at or above 17% and below 20%; 50% for businesses with electricity intensity at or above 15% and below 20%; or 35% for businesses with electricity intensity at or above 10% and below 15%. Under all of these scenarios the aid intensity would remain at 85% for businesses with electricity intensity at or above 20%.

Option 4: Projected changes in electricity costs

Type of business	Average change in bill
Newly exempt EII	- £1.6mn/year
Small business customer	+£100/year
Medium business customer	+£3,000/year
Non-exempt business working in an energy intensive industry	+£50,000/year

Spreading the costs

In one option (see table) BEIS expects any newly exempt EIIs to see their electricity costs fall by up to 50% of the RO, FiT and CfD policy costs. This would result in electricity bills falling by an estimated average of £1.6mn per business. However, non-eligible consumers will see their bills increase to make up the difference. Small business customers are expected to see an increase of £100/ year, while medium businesses will see an average increase of £3,000/ year. Ineligible businesses operating in an energy intensive industry will see their bills increase by an estimated £50,000/ year.

BEIS also explained that under EU state aid laws the value of any over-exemption of EIIs needs to be recovered. It had previously consulted on potential options to redistribute any over-recovered revenues back to customers, but none of the proposals could guarantee that any over-exemption would be fully recovered. The government is therefore also consulting on an alternative proposal to recover the value of any over-exemption, without redistributing it back to customers.

While it is encouraging that the government is looking to make EIIs more cost competitive, this approach would transfer the issue to smaller businesses rather than eliminating it entirely.

BEIS

Joint venture to provide battery storage systems to businesses for free

A joint venture between Thrive Renewables and Aura Power is offering to install battery energy storage systems in businesses free of charge.

Thrive and Aura will install and operate batteries for medium and large energy users for free in return for a share of the revenues the batteries generate. They claim that customers would see an immediate cost saving from avoiding expensive peak energy charges and revenues from providing flexibility services to the grid.

Thrive Renewables Managing Director Matthew Clayton said: “We are offering businesses a straight forward solution. We take the investment risk, manage the development, and operate the battery to maximise mutual returns. We agree a contract with the customer, they can get on with their core business and save tens of thousands from year one.”

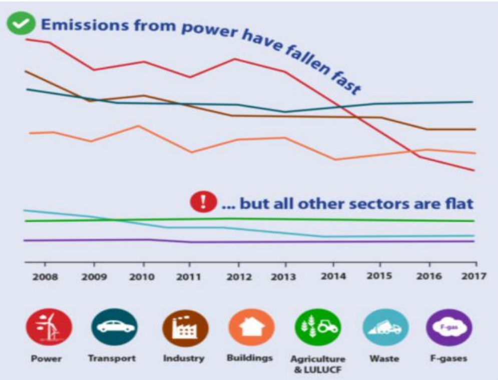
Thrive Renewables

CCC backs using lowest-cost measures to meet climate goals

A report to Parliament by the Committee on Climate Change (CCC) has found the UK is on track to miss both its fourth and fifth carbon budgets.

In its latest progress report to Parliament, published on 28 June, the CCC said the government "must learn the lessons of the last decade" in order to meet the legally binding emission reduction targets in the 2020s and 2030s. It warned that unless action is taken now, the public faces "an unnecessarily expensive deal to make the shift to a low-carbon economy."

Changes in emissions



Varying progress

Overall, UK emissions have fallen by 43% compared to 1990 levels, over which time the economy has also grown. This decrease has been driven by the rapid reduction in emissions from the electricity sector, but the CCC said this progress "masks a marked failure" to decarbonise in other sectors, including transport, buildings and agriculture.

Over the past five years emission reductions in these sectors have stalled and as a result the UK is on course to miss its fourth (2023-27) and fifth (2028-32) carbon budgets. The CCC warned that the UK will not be able to meet these targets "unless risks to the delivery of existing policies are reduced significantly" and the government "brings forward effective new policies to deliver commitments beyond the achievements in electricity generation and waste."

Next steps

The Committee made four recommendations to government: support the simple, low-cost options; commit to effective regulation of emissions and strict enforcement; end the "chopping and changing" of policies; and act now to keep long-term options open.

The report set out a number of "critical commitments" that the CCC expected the government to have delivered by the time it issues its next progress report in 2019. The Committee noted that a number of these actions would be required by the end of 2018, including the deployment of a pathway for carbon capture and storage and policies to support the uptake of electric vehicles.

The government has so far taken advantage of the relatively low-hanging fruit that is decarbonising electricity generation. Efforts to reduce emissions from heat, transport and agriculture are likely to be much more difficult and expensive.

CCC

EEVS finds "notable" decrease in uptake of non-domestic energy efficiency measures

Research by EEVS and Bloomberg New Energy Finance (BNEF) has found a continued decrease in quarterly orders for non-domestic energy efficiency measures.

The latest *Energy Efficiency Trends* report, published on 13 June, revealed that 58% of suppliers of energy efficiency products saw either stable or falling orders during Q1 2018.Overall confidence in the sector continued to fall, although suppliers were more optimistic about the outlook over the next quarter (Q2 2018). Suppliers were also found to feel "strongly negative" on government performance, with over eight in 10 saying that government action on energy efficiency was either neutral or ineffective.

Lighting upgrades continued to account for the majority of energy efficiency upgrades but there were notable increases for other smart technologies. EEVS particularly highlighted Building Energy Management Systems, where sales volumes were "significantly in excess of typical levels."

EEVS

Research highlights role of businesses in low-carbon transition

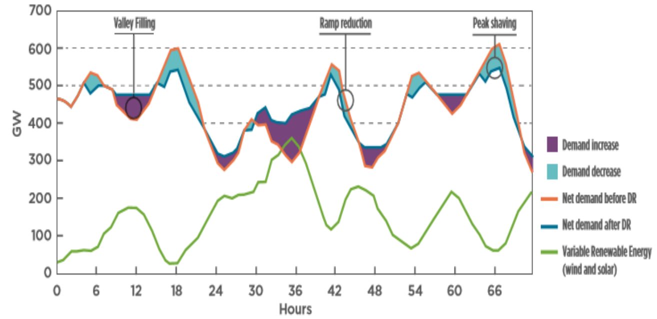
A joint report by RenewableUK and the Association of Decentralised Energy (ADE) has highlighted the multiple benefits of businesses providing demand-side response (DSR) services

The research, published on 6 June, defined DSR as energy users shifting their consumption in response to signals or incentives, including the use of onsite power generation and battery storage systems. It was noted that in Europe large energy consumers are able to reduce their energy bills by up to 10% by participating in DSR programmes.

The need for flexibility

Large-scale thermal plants have traditionally provided system flexibility. However, these are now closing due to a combination of carbon taxes and the retirement of ageing plant, which means the System Operator (SO) National Grid is having to find new sources of flexibility. The SO estimates that up to 2.7GW of DSR provided balancing and ancillary services between 1 April 2016 and 31 March 2017.

The different roles of demand response in a power system with high shares of renewables



Source: Re-powering markets, International Energy Agency, 2016

The report noted that there was significant interest in the new commercial and business opportunities that providing DSR can offer and highlighted the multiple benefits of increased system flexibility: research by the National Infrastructure Commission suggested that flexibility could result in consumer savings of £2.9bn-£8.1bn per year by 2030. It also explained that having greater levels of flexibility also allows greater renewable power penetration, which helps to decarbonise the power sector.

Recommendations

RenewableUK and the ADE argued that there was now a major opportunity for the government, regulator and SO to take advantage of the synergies offered by DSR from businesses and renewables. They suggested that together these could play a key role in meeting the UK's climate targets whilst also managing costs for consumers.

The report therefore made three recommendations on how to "harness the largely untapped potential of flexible demand and cost-effective low-carbon generation": create a level playing field to encourage greater competition between supply and demand response options in the balancing services, ancillary services and Capacity Market; ensure new policy enables customers to benefit from the deployment of the most cost-effective mature renewable generation; and improve the transparency on products and services offered by the SO.

DSR offers multiple benefits, especially for businesses, which this report highlights well. The government, regulator and SO should therefore make a concerted effort to make it easier for businesses to offer it.

RenewableUK

BEIS provides funding to help businesses control their energy usage

BEIS announced on 18 June that it was providing £8.8mn of funding for projects designed to help small and medium sized businesses monitor and reduce their energy consumption.

The funding is being targeted at ideas to help the hospitality, retail and education sectors and will be used to develop and evaluate technologies that will help these sectors control their energy usage in tandem with smart meters. BEIS estimated that smart technologies could save the UK up to £40bn on energy costs over the coming decades and that smart meters will be central to this.

Energy and Clean Growth Minister Claire Perry said: "Energy costs for businesses can be one of the hardest things to understand and control, but these projects can change that".

BEIS

Government rejects plans for Swansea Bay Tidal Lagoon

Business and Energy Secretary Greg Clark announced on 25 June that the government will not provide support for the Swansea Bay Tidal Lagoon project.

In his statement, Clark said the proposed programme of six tidal lagoons, of which Swansea would have been the first, did not represent value for money for customers. He said that a full programme of six tidal lagoons would cost over £50bn, while constructing an equivalent capacity of new offshore wind would cost at least £31.5bn less. When all costs were considered, Clark said that by 2050 the electricity output from the proposed tidal lagoon programme would cost up to £20bn more than generating the same amount from a combination of offshore wind and nuclear.

Clark concluded: "The inescapable conclusion of an extensive analysis is that however novel and appealing the proposal that has been made is, even with these factors taken into account, the costs that would be incurred by consumers and taxpayers would be so much higher than alternative sources of low carbon power, that it would be irresponsible to enter into a contract with the provider."

BEIS

Businesses should be included in switching problems compensation plans: Citizens Advice

Citizens Advice has warned small businesses will not be protected in the same way as households, following Ofgem's announcement of automatic compensation for customers when they have an issue switching energy supplier.

In an announcement on 12 June, the consumer group said the decision was "positive news for households" and that it would provide "welcome pressure on suppliers to get the switching process right." However, it pointed out that small businesses will not get the same level of protection, despite experiencing similar issues to households in relation to switching. Gillian Guy, CEO of Citizens Advice, therefore called on Ofgem to extend the protections to cover businesses.

Citizens Advice

Research finds 5GW of CfD contracts for onshore wind would create a net payback of £1.6bn

A report by BVG Associates (BVGA) has found that awarding Contract for Difference (CfD) arrangements for 5GW of new onshore wind power between 2019 and 2025 could result in a net payback to UK consumers of £1.6bn.

The study considered five new CfD auctions held from 2019 at 18-month intervals, each with a maximum capacity of 1GW. It was noted that the costs of new onshore wind projects are expected to drop below the government's forecast wholesale electricity price from 2023, providing a net benefit for UK electricity consumers.

BVGA argued that a clear commitment to five auctions would stimulate supply chain investment, which would increase the proportion of UK content in projects to almost 70%. It would also support around 18,000 skilled jobs during the peak years of construction.

Bruce Valpy, Managing Director at BVGA, said: "It is good to get these messages into the public domain. As the onshore wind industry moves 'subsidy free', recognising its role in job and value creation in local neighbourhoods is important. In the UK, we need to build a sustainable electricity mix that plays to our strengths in terms of natural resources and capable workforce."

BVGA

RBS to stop financing fossil fuel developments

The Royal Bank of Scotland (RBS) has introduced new energy financing policies to support the low-carbon transition. The bank explained that it will no longer be providing project-specific finance to: new coal-fired power stations, new thermal coal mines, oil sands projects, artic oil projects, or unsustainable vegetation or peatland clearance projects.

In addition, RBS said it will be tightening restrictions on general lending to companies involved in the coal industry. This means it will no longer provide finance to mining companies generating more than 40% of their revenues from thermal coal, or power companies generating more than 40% of their electricity from coal.

RBS