CATALYST ENERGY SOLUTIONS

Energy Element / September 2019

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Winter 19 gas hits two-year low, power follows

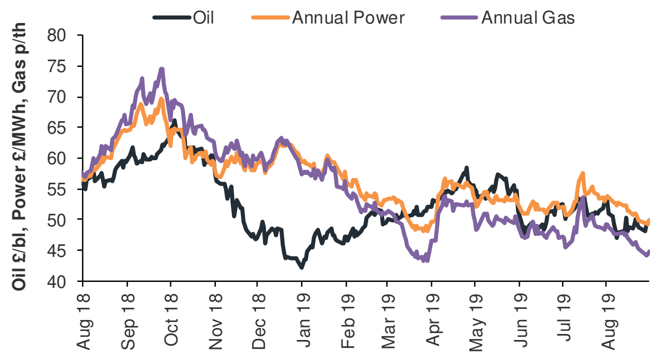
Day-ahead gas prices fell 5.6% to average 28.3p/th in August. The contract dropped to 26.0p/th on 8 August, the lowest since June. Prices have been pressured by lower demand as temperatures were above seasonal normal levels throughout most of the month. September 19 gas also dropped, down 2.3% to average 31.3p/th, as the scheduled arrival of two LNG tankers early in September and high (at 97% full) gas storage levels offset concerns of a tighter market during planned maintenance in Norway. Seasonal gas contracts reversed the previous month's gains, falling 2.3% on average. Winter 19 gas was 5.5% lower, averaging 48.7p/th, hitting a two-year low of 45.9p/th on 28 August.

Day-ahead power dropped 5.3% to average £39.6/MWh in August. The contract fell to £35.6/MWh on 16 August, the lowest since 31 May as wind output overtook CCGT output in the generation mix. September 19 power fell 2.1% to average £42.5/MWh, dropping as low as £39.9/MWh on 27 August. All seasonal power contracts also moved lower, down 2.7% on average, with winter 19 power declining 5.0% to £54.1/MWh. The winter 19 power contract hit a 15-month low of £51.5/MWh on 27 August.

Commodities fall on concerns of weaker economic growth

EU ETS carbon prices fell 3.1% to average €27.1/t in August, but did fall to a monthly low of €24.8/t – the lowest since 20 June 2019. Carbon prices have historically risen in August, as auction volumes are halved due to reduced summer trading. Concerns of a no-deal Brexit have been the primary driver for downwards movements in the last month, and with the return of normal auction volumes in September, prices are not expected to return towards recent 13-year high levels.

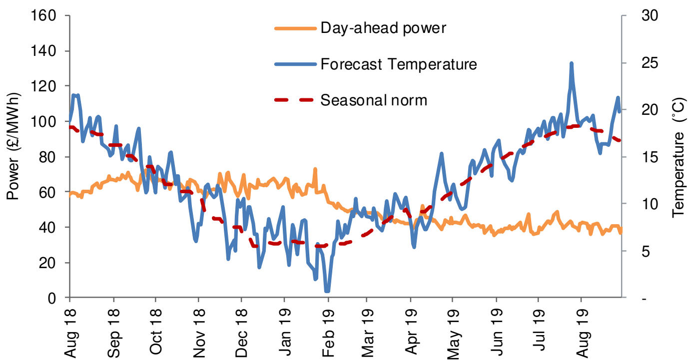
Crude oil and annual wholesale gas and power prices



Brent crude oil was down 7.5% to average $59.8/bl in August. Oil prices have been pressured by concerns of weaker economic growth, lower oil demand and growing US production. The culmination of these factors led US bank Morgan Stanley to lower its oil price forecasts for the remainder of 2019, down to $60/bl from $65/bl. To put this into perspective, oil prices have average $65/bl in the first eight months of the year, and it is therefore expected that prices will fall further before the end of 2019.

API 2 coal prices reversed July's upwards movements, falling 4.5% to average $65.0/t in August. Coal prices dropped to $63.1/t on 28 August, the lowest since 19 June as coal demand remains weak throughout Europe. According to BEIS data released last week, UK generators imported 3.9mt of coal in H119, a 19% reduction from H118. However, with generators burning only 1.5mt of coal in H119, a 60% reduction y-o-y, stocks at plants in June 2019 reached their highest levels since November 2017 at 4.7mt.

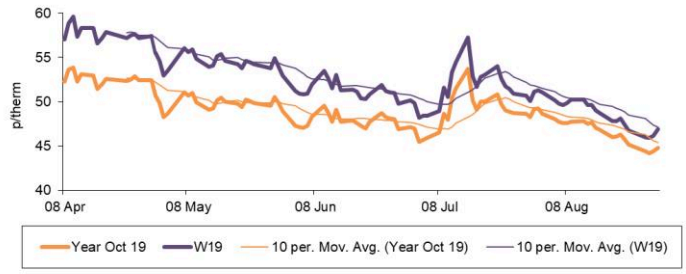
Spot power prices and temperatures



The month-ahead: Mixed drivers for gas & power, commodity prices pressured

In September, forecasts of above seasonal normal level temperatures will pressure prices and subdue demand. However, planned maintenance at the Langeled pipeline will restrict Norwegian gas flows between 10-23 September. Although this may be a bullish price driver, high gas storage levels and the scheduled arrival of LNG tankers early in the month will keep supplies healthy. Concerns of weaker economic growth and a no-deal Brexit will weigh on Brent crude oil and EU ETS carbon prices, while lower demand is expected for coal.

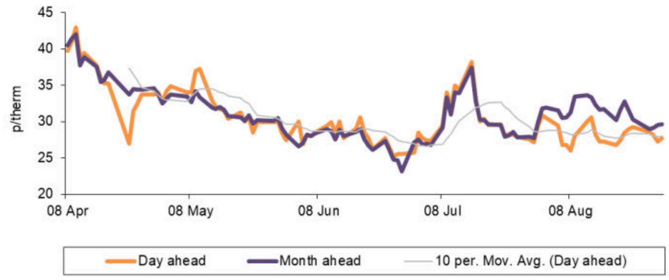
Annual gas prices



All seasonal gas contracts fell in August, down 2.3% on average and reversing the previous month's gains. Winter 19 gas was 5.5% lower, averaging 48.7p/th. The contract hit a two-year low of 45.9p/th on 28 August. Summer 20 gas was down 3.0% to average 44.7p/th.

The annual October 19 gas contract dropped 4.3% to average 46.7p/th, 16.1% lower than in August 2018 when it averaged 55.7p/th.

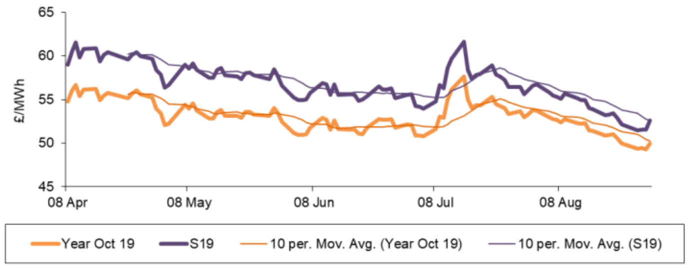
Spot gas prices



In August, day-ahead gas prices fell 5.6% to average 28.3p/th. The contract dropped to 26.0p/th on 8 August, the lowest since June. September 19 gas also dropped, down 2.3% to average 31.3p/th.

Prices have been pressured by lower demand as temperatures were above seasonal normal levels throughout the month. The scheduled arrival of two LNG tankers early in September and high (at 97% full) gas storage levels have offset concerns of a tighter market during planned maintenance in Norway in September.

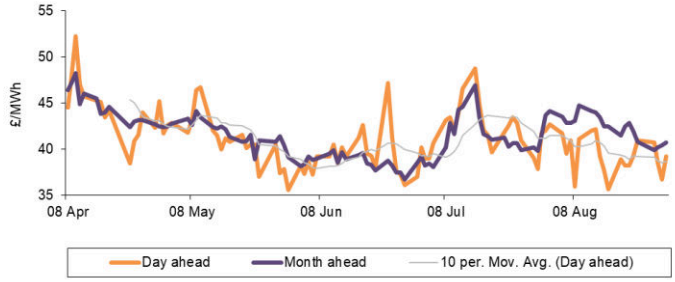
Annual power prices



All seasonal power contracts also moved lower, down 2.7% on average, with winter 19 power dropping 5.0% to £54.1/MWh. The winter 19 power contract hit a 15-month low of £51.5/MWh on 27 August. Summer 20 power fell 2.5% to average £49.0/MWh, hitting £47.1/MWh on 29 August, the lowest since June.

The annual October 19 power contract reversed the previous month's gains, decreasing by 3.8% to average £51.5/MWh. This was 6.3% below August 2018 when the contract was at £55.0/MWh.

Spot power prices



Day-ahead power dropped 5.3% to average £39.6/MWh in August. The contract fell to £35.6/MWh on 16 August, the lowest since 31 May. September 19 power fell 2.1% to average £42.5/MWh, dropping as low as £39.9/MWh on 27 August.

Although day-ahead power prices continued to follow their gas counterparts lower, a monthly rise in wind generation also pressured prices. Wind generation accounted for 18.9% of the generation mix in August, up from 12.8% in July.

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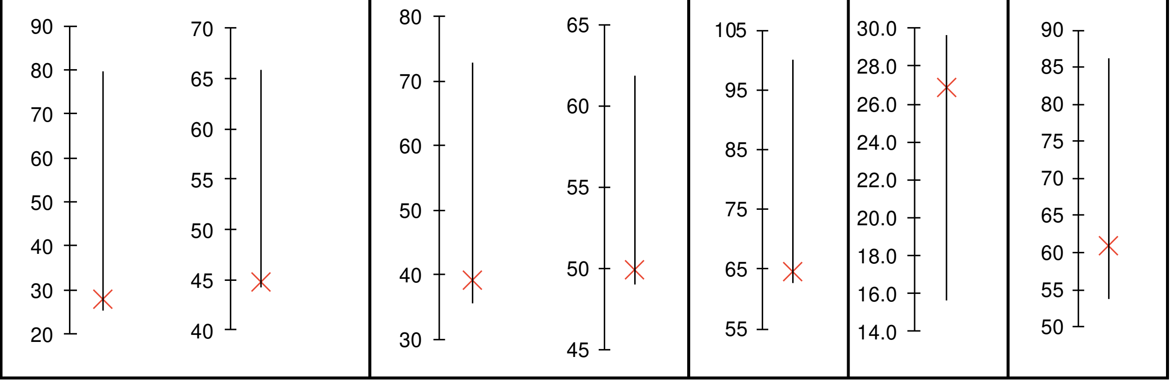
Key market indicators: 30/08/2019

		Gas (p/th)		Electricity (£/MWh)		Coal	Carbon	Brent crude
		Day-ahead	Year-ahead	Day-ahead	Year-ahead	($/t)	(€/t)	($/bl)
This month	30 Aug 19	27.75	44.80	39.25	49.96	64.50	26.85	60.90
Last month	31 Jul 19	29.50	49.14	41.75	53.35	68.25	28.09	65.26
Last year	30 Aug 18	70.40	59.18	67.30	58.48	93.25	21.09	77.36
Year-on-year % change		(61%)	(24%)	(42%)	(15%)	(31%)	27%	(21%)
Year high		79.75	65.85	73.00	61.91	100.15	29.66	86.12
Year low		25.15	44.21	35.60	49.00	62.75	15.60	53.82

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

National Grid ESO submits initial report on 9 August blackout

Late on 16 August National Grid ESO confirmed that it had submitted its initial report to Ofgem on the blackout that occurred a week earlier. The document was described as “an interim technical report” and the ESO said that it expected the regulator to release it publicly. A further detailed technical report is due to the regulator on 6 September.

On 20 August Ofgem responded by announcing that it would be investigating all licensed parties involved: the licensed network companies, RWE Generation (Little Barford Power Station) and Orsted (Hornsea). The regulator’s investigation will focus on the ESO’s requirements to hold enough back-up power to cover blackouts and the circumstances leading the disconnection of customers (and if these were the appropriate customers to disconnect).

BEIS Secretary of State Andrea Leadsom tweeted that she would “be commissioning the government’s Energy Emergencies Executive Committee (EEEC) to consider the incident” on 9 August. The EEEC met for the first time on 12 August and committed to provide an initial report within five weeks to Leadsom. It is to submit its final report by early November subject to a 12-week deadline.

BEIS stated that the EEEC will “establish what happened to cause the outage and if correct procedures were followed. It will also consider whether improvements are needed to prevent future power cuts and better respond if they do occur, including minimising impacts on people and essential services.”

EEEC’s investigation is in addition to those of Ofgem and the ESO.

National Grid Chief Executive John Pettigrew gave his perspective in a LinkedIn post on 12 August. Pettigrew stated that in his role “ultimately the buck stops with me.” It is National Grid ESO’s responsibility to “keep a resilient, reliable, affordable – and low carbon – energy system running in the UK” with the ability to “stand up to the most unforeseen and coincidental of shocks to the system.” But “an unfortunate consequence can be that a fewer number of people suffer short term power cuts to protect the wider system and UK energy consumers from more sustained and widespread power losses.”

Pettigrew stated that his company would “be co-operating fully” with the EEEC investigation. It should address:

- “why did two generators fail simultaneously? Was there any link at all with greater use of renewables on the network (we don’t at this stage believe that was the case)?”
- “why did the failure of two generators cause such disruption?” and
- “why, when there was a limited outage, was the national rail network impacted so severely? What are the lessons?”

Leadsom Pettigrew BEIS Ofgem National Grid

Government faces legal challenge over CfD onshore wind “discrimination”

The government is facing a legal challenge over the Contracts for Difference (CfD) scheme from Banks Renewables. The renewables arm of Banks Group announced in a 15 August statement that it has commenced judicial review proceedings over the government’s “present discrimination in favour of offshore wind at the expense of onshore wind and other renewable energy technologies.”

The company believes the exclusion of fully consented onshore wind farms from the CfD process is against the public interest, prevents consumers from benefiting from the lower energy prices that would result from their inclusion and, from a legal perspective, does not comply with either EU or UK law.

Managing Director at Banks Renewables Richard Dunkley said: “At a time when the government has said it wants to accelerate its decarbonisation objectives, it would seem illogical to most people that, for the last four years, it has itself significantly undermined the deployment of the lowest cost low carbon technology available – onshore wind

Banks Renewables has two consented onshore wind farms in Scotland with capacity of 150MW.

BEIS confirmed via email that the CfD is facing a legal challenge. A BEIS spokesperson said on 14 August: “We run the scheme lawfully and will be contesting this claim.” The statement added that National Grid has contacted qualifying applicants to inform them of this legal challenge and has extended the bidding window which will now close on 29 August.

No link

MPs: 2050 net zero target undeliverable with current policies

The Commons Science and Technology Committee published its findings from its 'Technologies for meeting the UK's emissions reduction targets' inquiry on 22 August and urged the government to implement a variety of policies to achieve net zero carbon emissions by 2050.

The committee identified household emissions as an important area requiring action and said that efforts must involve the decarbonisation of heating, for which the government must develop a clear strategy. Large-scale trials for different heating technologies operating in homes and cities will be required to build an evidence base. Committee members said the government should further support the deployment of low-carbon heating technologies by setting out a clear roadmap by the time of the Spring Statement 2020.

Additionally, the government needs to be more ambitious in improving housing energy efficiency. By the time of the Spring Statement 2020, the committee said, the government should consider adjusting Stamp Duty so that it varies according to the energy performance of the home as well as the price paid for it. Additionally, the government should establish a 'Help to Improve' scheme by July 2020 that offers matched funding and interest-free loans to homeowners to cover energy efficiency improvements.

Now the largest-emitting sector, transport was identified as another crucial area for the government to act in. The committee recommended bringing forward the ban on sales of internal combustion engine cars and vans to at least 2035, rather than the current 2040 target, with the ban covering hybrids, as well.

In the long term, the committee said, widespread personal vehicle ownership would not be compatible with significant decarbonisation due to emissions currently associated with manufacturing. Instead of replacing every car with a low-emission version, the committee urged the government to develop a low-emissions transport system by promoting and improving public transport; reducing its cost relative to private transport; encouraging vehicle usership in place of ownership; and encouraging walking and cycling.

MPs called for strong policy support for onshore wind and large-scale solar. The government should conduct a review of the Smart Export Guarantee by the end of 2020 and should be prepared to introduce a minimum price floor if evidence of a lack of market competitivity emerges. Additionally, the committee urged support for nuclear to sustain current capacity levels, but not increase them.

The committee stated: "The government's new ambition to reach net zero emissions by 2050 will probably require the active removal of at least 130mn tonnes of carbon dioxide from the atmosphere annually by 2050." In light of this, the committee said the government should publish, within six months of this report's publication, a pathway detailing the full extent of greenhouse gas removal that it projects to be possible from each major technology option by 2050, as well as a strategy for ensuring this pathway is feasible, including any policy decisions required now.

The UK energy system needs to embrace flexibility, with the committee calling on the government to ensure sufficient support for the deployment of energy storage technologies. Large-scale, inter-seasonal storage should be supported through demonstration projects, including in future large-scale trials of low-carbon heating.

Parliament Labour REA

Government updates guidance on business capital allowance scheme

The government posted updated guidance on the 'Enhanced Capital Allowance scheme for energy-saving technologies' on 9 August. The scheme enables businesses that invest in energy-saving equipment to benefit from tax breaks.

The guidance was updated with information from the Budget 2018 Announcement relating to the Enhanced Capital Allowance scheme for the Energy Technology List (ETL). This list is a free-to-use list that provides organisations with the confidence that they are buying plant and machinery that demonstrates a high standard of energy efficiency. This is backed by regular, independent evaluations of the market across 16 separate technology categories, providing a benchmark for what currently represents top performance.

Companies that buy an ETL qualifying product are currently able to receive accelerated tax relief on the purchase of that equipment by claiming a 100% capital allowance in the year of purchase.

Government

Think tank calls for stricter air pollution limits

Think tank Bright Blue has made a number of recommendations for how the UK could reduce air pollution in a new report, with one suggestion for the government to adopt a stricter limit.

Published on 12 August, the report, *Emission Impossible? Air Pollution, National Governance and the Transport Sector*, gave recommendations for increasing national accountability on air pollution, as well as recommendations on how to reduce air pollution from transport. Leaving the EU is an opportunity for change, Bright Blue says.

In formulating the policies, the think tank applied four tests to them: they must be focused on national government powers and accountability; they should not necessitate large amounts of additional central or local government spending; the poorest should not find new costs burdensome, and should benefit the most from new subsidies; and they should respect human freedom.

To increase national accountability on air pollution, Bright Blue urges the government to adopt a World Health Organisation guideline limit. The UK currently adheres to an EU-derived limit. This should follow a feasibility study carried out by the Office for Environmental Protection (OEP) or a new Committee on Clean Air.

Bright Blue also recommends that the government provides the OEP or proposed Committee with the responsibility to recommend future legal limits for different air pollutants to Parliament after conducting appropriate feasibility studies. It noted that this would be similar to the role played by the Committee on Climate Change in advising on carbon budgets.

Legal duties should also be placed on all local authorities to meet air pollution targets for their geographic area of responsibility, Bright Blue says. In addition, relevant public bodies should also have a legal duty to meet air pollution targets in areas where they have responsibility.

Bright Blue

MPs urge PM to embrace onshore wind

On 14 August, over 150 MPs from various parties signed a letter to Prime Minster Boris Johnson urging the government to remove barriers to onshore wind in the UK through policy change.

Co-ordinated by campaign groups Power for People and 10:10 Climate Action, the letter stated that onshore wind is the “cheapest new source of energy in the UK today - and the UK is the windiest country in Europe” and is therefore “vital” to achieving the net zero greenhouse gas emissions target by 2050.

The MPs asked for amendments to the National Planning Policy Framework to ensure onshore wind developments of less than 5MW are treated the same as other renewable or low carbon energy, and called for onshore wind to be allowed to lower power prices through the resumption of competitive electricity market auctions for low carbon energy for the cheapest technologies.

The letter highlights government statistics that 79% of people in the UK support onshore wind and said “planning and financial frameworks

10:10 Climate Action

Coalition urges government to support onshore wind

A coalition of companies and organisations has called for new Energy Minister, Kwasi Kwarteng, to support the development of the onshore wind sector to help achieve the net zero emissions target at the lowest cost. Published on 5 August, signatories of the letter included ScottishPower Renewables, EDF Renewables, innogy, SSE Renewables, Siemens Gamesa Renewable Energy, Vestas, RES Group, Vattenfall, Statkraft and CS Wind, as well as RenewableUK and Scottish Renewables. RenewableUK reported this to be widest range of companies and organisations ever assembled in support of onshore wind. The letter stated that onshore wind is key to meeting the government’s net zero target, while achieving lower costs to consumers. It made reference to a comment made by Chief Executive of the Committee on Climate Change Chris Stark who said: “the more onshore wind we have, the cheaper net zero becomes.” The letter recommended that onshore wind should be allowed to compete for Contracts for Difference to generate power.

RenewableUK

New research and seismic events put pressure on UK fracking

Cuadrilla has again been forced to defend the practice of fracking in a series of statements made between 20 and 26 August after a 2.9 magnitude seismic event halted operations at the company's Preston New Road site. Since restarting at the end of last year, the project has been forced to temporarily cease operations on several occasions due nine seismic events breaching the UK's "traffic-light" monitoring system.

The Oil and Gas Authority (OGA) said that operations would remain suspended while it gathered data on recent seismic events and "considers carefully" whether the operator's Hydraulic Fracture Plan remained appropriate to manage the risk of induced seismicity at the site. Another blow to the industry came on 20 August when the University of Nottingham published research which claimed that the capacity of UK fracking is possibly lower than previous estimates. The new study found that resources may provide less than 10 years' supply at current demand.

Cuadrilla OGA University of Nottingham

Distributed ReStart project is viable, says ESO

National Grid ESO published *Power Engineering and Trials* (PET), a report on the viability of ESO's project to achieve a safe and stable Black Start using only distributed energy resources (DER) such as wind, solar and battery storage. Published on 31 July, the report is the first deliverable from the project, outlining technical findings to date on the PET workstream of the project. PET will see the selection and analysis of case studies and progression through multiple stages of review to identify the technical requirements that should apply on an enduring basis. Through this case study analysis, stakeholder engagement and industry consultation, solutions will be designed and tested through a combination of detailed off-line analysis. Following this, there will be at least two live trials that will see Black Start from DER demonstrated on SPEN networks.

The project will tackle these challenges in a three-year programme (Jan 2019–Mar 2022) that aims to develop and demonstrate new approaches, with initial implementations of Black Start service from DER from mid-2022 if deemed feasible and cost effective.

National Grid ESO

Kwasi Kwarteng named as new Energy Minister

BEIS posted lists of responsibilities pertaining to positions in the department on 15 August. Kwasi Kwarteng was confirmed as Energy and Clean Growth Minister, with responsibilities for energy markets, carbon budgets, green finance energy efficiency and heat, low-carbon generation and energy security, among others.

Additionally, Lord Duncan of Springbank was appointed as Minister for Climate Change. His responsibilities include Lords lead on all BEIS issues, international climate change (including the International Climate Fund), climate science and innovation, clean heat, smart meters and smart systems. He tweeted on Thursday 15 August that there were "serious challenges ahead, not least delivering net zero carbon emissions by 2050". Duncan also said he was looking forward to working with COP26 President Claire Perry to secure the conference for Glasgow.

BEIS

Government urge to make climate-proofing infrastructure a priority

Chair of the National Infrastructure Commission (NIC) Sir John Armitt stressed the importance of future-proofing the UK's infrastructure against the impacts of climate change in an article published on 8 August. He referred to the NIC's National Infrastructure Assessment, which sets out recommendations on transport, energy, recycling, water, flood management, and digital connectivity. "To put us on track to eradicate carbon emissions by 2050, the government must make implementing our proposals a priority," he said. Calling for an additional £43bn, alongside further powers to be devolved to cities outside London in order to transform public transport, as well as a charging network to encourage drivers to switch from petrol and diesel vehicles, he highlighted that the new Cabinet and their credibility on climate change "will soon be under the spotlight."

NIC