All Party Parliamentary Climate Change Group Low Carbon Network Infrastructure Report Briefing

Overview

The Energy and Climate Change Committee (ECC) today published their report on the UK’s low carbon network infrastructure. The Committee looked the pipes and pylons that carry electricity, gas and heat, the control centres and ancillary services that match up supply and demand, and the public-and private-sector organisations who are responsible for the operation and maintenance of the pipes and services.

The report identified inflexible regulation and the intermittency of wind and solar as challenges to balancing the UK’s electricity supply and demand. It also raised concerns about the pace of the smart meter roll out, the ability of the National Grid to adapt to new technologies and recommended the prioritisation of more innovative forms of technologies such as energy storage.

The report was critical of the Government for not providing adequate clarity about future energy plans, and for not being engaged enough when plans are made. This is similar to the criticism of the government that was made by the ECCC in its February 2016 report “Investor confidence in the UK energy sector” and that have been made more recently by The Energy Institute.

A key focus of the report was that the National Grid should be replaced by an Independent System Operator to avoid conflicts of interest and promote a more active manner of demand management. The Report also looked at the connection and planning consent processes in England, the geographic costs of renewable energy connections, Demand Side Response (DSR) and funding to achieve project commercialisation.

Chair of the Committee, Angus MacNeil MP, said: "Innovative solutions—like storage and DSR— to 21st-century energy problems have been held back by legislative and regulatory inertia. The Government has committed to addressing these issues, and we will hold them to account on making good on this promise. DECC must also learn lessons from these policy lags so as to be better prepared for ongoing changes.”

Shadow Energy Minister, Alan Whitehead MP, said: “With the tech-driven transformation of the energy market that is well under way, together with legitimate concerns about conflicts of interest for National Grid, these proposals should be given serious consideration”.

Energy Analyst at the non-profit Energy and Climate Intelligence Unit, Jonathan Marshall, said: “The UK electricity grid is currently stuck in a mould that favours old fashioned, centralised power stations that do not allow new technologies to compete fairly. Without swift and efficient upgrades, the system will continue to favour ageing and increasingly unreliable power stations.”

Connecting new energy sources

The Report noted that historically, UK electricity has been generated by relatively-few large power plants connected to the transmission system, but that distributed-generation capacity (largely onshore wind or solar) has risen by 54% between 2011 and 2014. This is a positive sign for the future
of solar power in particular, but it has created issues with connecting this power to the national grid. It also identified high power transmission and network maintenance costs, and the slow roll outs of smart meters as challenges. The Committee recommended:

- Government should establish a cross-departmental working group to investigate and report on improving the integration of the connection and planning consent processes in England.
- Ofgem should carry out further impact assessments on systems of cost recovery for anticipatory investment or investment that aims to predict future need.
- DECC should investigate the disadvantage UK generators face against European generators as the UK becomes more interconnected.
- Ofgem should analyse the costs and benefits of levelling connection costs across Great Britain.
- Ofgem should continue to investigate and clarify safe levels of green gas injection into the UK network.
- Ofgem should be required by the Government to regulate district heating networks, and the Government should make the legislative changes necessary to enable this.

Managing networks flexibly

Wind and solar power met approximately 10% of the UK’s electricity demand in 2014 and this is set to more than double by 2020. However, the report noted that wind and solar are intermittent and more flexibility in the energy system was needed to deal with this issue. The report looked at electricity storage, increased Demand Side Response (DSR) and greater use of interconnectors between the UK and other European countries. The Committee recommended:

- Government should commission a study on the future of large-scale storage in the UK.
- Government should publish plans for exempting storage installations from balancing charges and double-charging.
- That storage technology should be deployed at scale as soon as possible, but not in a manner that encourages monopolies.
- Government should set out a more detailed strategy for DSR that pays close attention to the risks of DSR for vulnerable customers and how best to mitigate these.
- There should be significant interconnector expansion to help balance a low-carbon network, accompanied by a strategy to develop sufficient low-carbon generation capacity for export.

Network Governance and Regulation

The Report here looked at the importance of innovative solutions to reinforcing and balancing networks and the barriers they currently face. It also looked at the role of distribution networks and the benefits of the creation of Distribution System Operators. The report also examined the role of the National Grid and how to create a more joined-up or ‘whole-systems’ approach to energy. The Committee recommended:

- Ofgem must collect trial data to optimise learning from projects, allocate more funding to late stage development and seek opportunities to leverage other sources of funding.
- Government should develop and publish a road map for DSO introduction, identifying future legislative and regulatory changes needed.
• DECC and Ofgem should be prepared to review the governance of distribution networks and separate distribution networks’ operation from their ownership if their conjunction proves to have a negative impact on consumers
• Government should consult on the creation of Independent System Operator (ISO) as soon as possible
• Government should look at proposals from the Future Power Systems Architecture group, especially regarding implementing a whole-systems approach to energy

Flexible Policy for a Flexible Energy System

The committee noted that throughout their inquiry they had found examples of low-carbon network development being hindered by ‘inertia in the Government machinery’ and that the Government approach was fragmented. This has led to the pathways to creating Distribution System Operators and eventually an Independent System Operator being unclear. It was further noted that the rise of distributed generation appears to have overtaken networks’ and the regulator’s capacity to respond. The Committee recommended:

• Government should take seriously the criticisms about its speed of delivery and learn lessons from its approach to energy networks that can be used to improve its readiness in future

The Committee will also look deeper into the Government’s adaptability to emerging technologies in their ongoing inquiry into Energy Revolution.

Relevant Links

Low Carbon Network Infrastructure Report
Low Carbon Network Infrastructure Inquiry
BBC News Report
Guardian Report
International Business Times Report

About The All Party Parliamentary Climate Change Group

The All-Party Parliamentary Climate Change Group (APPCCG) is a coalition of leading businesses, parliamentarians and organisations informing better policy-making in government. The APPCCG puts climate change adaptation and mitigation at the core of its work, and at the core of decision making.

For more information: Visit our website.

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