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Sent: 07 January 2016 20:22
To: EnergyEvidence Infrastructure-Commission
Subject: Doosan Babcock submission to the NIC Open Consultation

Please find below Doosan Babcock submission to the Consultation Process.

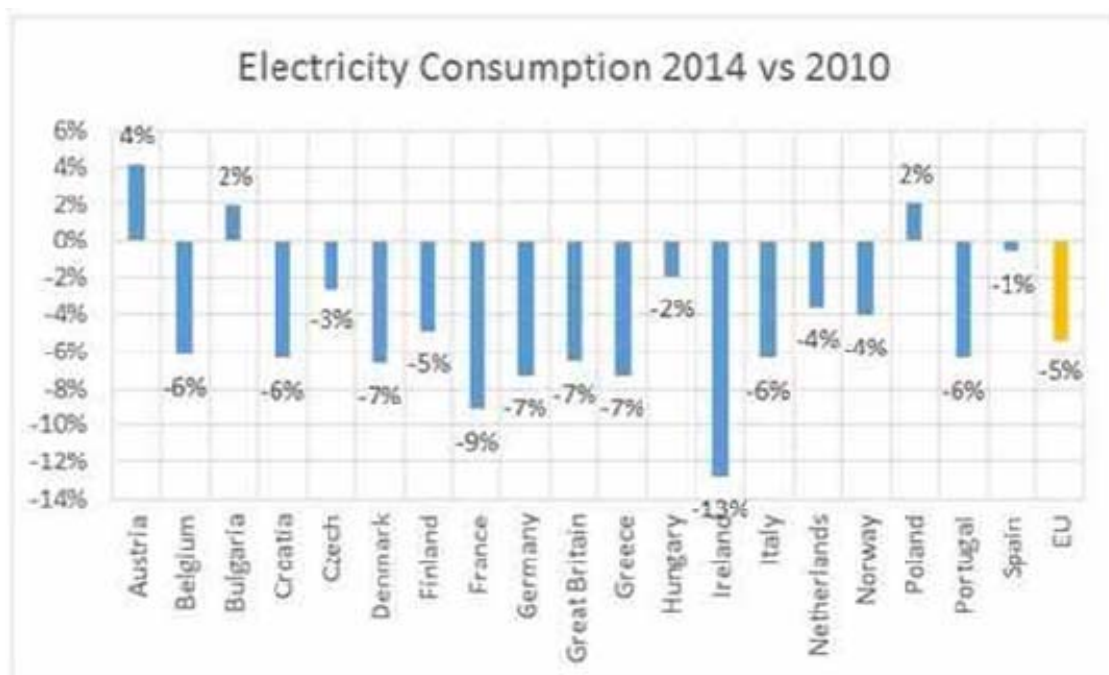
Doosan Babcock is pleased to respond to the Open consultation on the National Infrastructure Commission (NIC), in particular the remit of the NIC in relation to electricity interconnection and storage.

Doosan Babcock is part of a powerful combination of companies united under the Doosan Group to deliver complementary technologies, skills and value to customers the world over. We are a specialist in the delivery of engineering, aftermarket and upgrade services to the thermal power, nuclear, oil and gas, petrochemical and process industries. Using best-in-class technical expertise and an industry-leading project management capability, the company builds, maintains and extends the life of customer assets worldwide.

In our view, if the UK's overall CO2 reduction requirements are considered together with the growing trend towards distributed generation (moving away from centralised generation) then to consider only the electricity generation system independently of the UK's total energy system requirements is not the best option from a UK perspective.

As part of our ongoing electricity market reviews, Doosan Babcock has recently updated its scenario modelling exercise looking at the future of the UK electricity and energy systems. The output from this modelling exercise has further emphasised the need to consider total energy requirements with a holistic infrastructure view, as opposed to considering the future demands and infrastructure associated with electricity, heat and transport as separate unconnected systems.

Energy consumption is falling across the EU, see figure below, partly due to the financial situation and partly due to increases in energy efficiency. It is expected that this trend will continue, as increased energy efficiency in the residential and commercial buildings is implemented.



Current incentives for the electricity industry in the UK, whilst having been beneficial in a number of aspects, seem to be leading to unanticipated outcomes e.g. the recent capacity auction enabled diesel generators, despite the technology displaying poor air

quality and efficiency characteristics. The CfD approach, whilst encouraging new technologies, now seems to be encouraging the retention of large central power plant, a characteristic which appears perverse in an era of declining electricity demand and the move towards decentralised power.

Integration of the power, heat and transport energy vectors is a necessary step towards decarbonisation, and this in itself implies infrastructure development which recognises the integrated systems. Energy efficiency across all sectors should be the number one priority, with for example improved residential and commercial building standards, local as opposed to central generation of electricity with the use of CHP as a matter of course, at both micro and macro level, being recognised and appropriately incentivised.

Whilst some form of energy storage may be required, interconnection with Europe as envisaged in Energy Union will help optimise the use of renewables across Europe. Against the backdrop of energy demand reduction and interconnection it is difficult to estimate the energy storage capacity required, if any, or the particular energy vector under which the energy should be stored.

It is recognised that the development and implementation of such an integrated energy infrastructure will take time, and that the existing supply means will require maintenance and potential upgrade in the interim period. However for the Infrastructure Commission not to consider now what an integrated energy system infrastructure should look like, and to set the initial steps in motion, will seriously jeopardise the UK's ability to deliver on its 2050 environmental commitments. In order for infrastructure projects to be investable, the National Infrastructure Commission should have a clear climate change remit to ensure future projects are compatible with the UK's long term climate goals.

Doosan Babcock would be happy to share, and elaborate further on, the ideas expressed above at the request of the Committee.


Regards

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