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## Face the energy mix changes

Head of Profession Engineering, Ofgem

*06/02/2012 - 11.30 am*

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*Mr Evans explains the role of the energy regulator.*



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As a leading technical figure at the UK energy regulator, please describe the mission of Ofgem.

**Gareth Evans:** Ofgem's primary role is to protect the interests of existing and future gas and electricity customers. Ofgem is an economic rather than a technical regulator. However, because the industries we regulate have engineering at their core, it is essential that we have the expertise to engage with the companies and other stakeholders on a technical as well as an economic level. Ofgem is taking a particularly proactive approach in relation to the encouragement of innovation and efficiency in the network companies, both through our new price control, RIIO (Revenue = Incentives + Innovation + Outputs), and in our specific funding mechanisms such as the Low Carbon Networks Fund. The RIIO acronym captures the idea that "Revenue" should be linked to "Outputs", which in turn are driven by "Incentives" and "Innovation".



*« The energy mix will change dramatically. »*

## In what way is Ofgem concerned with the technologies of the equipment deployed on the electricity grid?

**G.E.:** As an economic regulator, we are technologically agnostic. The RIIO regulatory framework we have adopted focuses on outputs, but to make sure the companies we regulate deliver their services in a cost-efficient way, we have to be aware of the opportunities that new technologies can deliver.

The smart grids debate is a good example of this. We could adopt a completely “handsoff” approach and leave the companies to develop their own strategies towards new network technologies. However, we have taken the view that this is such an important issue that we need to provide leadership.

We have done this by establishing the Smart Grids Forum, which brings all interested stakeholders together. Our goal is to establish a consensus as to how our electricity networks might best evolve to meet the new challenges. These relate in particular to increased demand from heating and transport, the widespread connection of distributed renewable generation and the active control of demand to help balance the total system.

## The energy mix is changing. How can regulators help with the physical/technical aspects of these changes?

**G.E.:** The energy mix will change dramatically, both on the supply side and the demand side, driven by the need to decarbonize the energy supply chain. The challenge for regulators is primarily to ensure that these changes take place such that environmental targets are met as cost-efficiently as possible while maintaining or improving the security of energy supply. Governments play a pivotal role work and published reports describing potential smart grid solutions and a framework to evaluate their benefits compared with conventional solutions.

This work is being taken up by the here. In Great Britain, the government encourages specific outcomes in terms of the energy mix. For example, there are incentives to encourage renewable generation on the supply side and incentives for electric vehicles on the demand side. The vital link between the two is the electricity network. This must be a cost efficient, secure facilitator of low carbon generation and demand-side technologies. As Ofgem regulates the network companies, we have a vital role to play.

**In several traditional industrial economies, major elements of the grid infrastructure are ready for renewal and/or restructuring. How are regulators involved in this process?**

**G.E.:** A key element of our price control settlements for the network companies is to agree the rate of renewal necessary to maintain network safety, integrity and reliability. We have encouraged better approaches to network asset management so that the process of renewal is cost efficient. However, more importantly, this process of renewal presents a great opportunity to update the networks to meet the new challenges that we foresee.

**How important is the “smart grid” and what is the regulator’s involvement in its development?**

**G.E.:** Smart grids are not important in themselves. It is what they can deliver that is important. Ofgem believes that the use of new network technologies will deliver benefits to customers. We have established the Smart Grids Forum to bring key stakeholders together to help us and the network companies develop a strategy for the deployment of these technologies. The forum has already done valuable work and published reports describing potential smart grid solutions and a framework to evaluate their benefits compared with conventional solutions. This work is being taken up by the network companies. We believe that we need to take a leadership role in taking smart grids forward while letting the network companies ultimately decide what is right for their businesses.

*« The use of new network technologies will deliver benefits to customers. »*

**There are organisations that bring together regulators from different countries. What are their main roles or actions?**

**G.E.:** We play a very active role in the Council of European Energy Regulators (CEER), and I am personally involved in CEER’s work on smart

grids. A CEER position paper on smart grids provided very useful input to the European Commission's communication, which was published in April last year. The Commission has now relaunched its smart grids task force and CEER will play an active role.

## What targets does a regulator typically set for utilities (service quality, outages, environmental, etc.)?

**G.E.:** The most commonly reported service quality parameters are customer interruptions and customer minutes lost. Standards of performance are commonplace in many countries, though there are variations in what is covered, eligibility and compensation levels. Losses are also reported by many states, and CEER has published benchmarking reports to compare the performance of different countries. In Great Britain, we have put in place additional measures, including network outputs for both asset health and asset loading, a mechanism for worst-served customers and a broad measure of customer satisfaction. We have environmental output measures such as business carbon footprint and reporting on oil and SF6 leakage. We also have a suite of connections-specific standards of performance, plus a connections competition test against which all licensees must be assessed.



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