

## **SCC submission to the Energy and Climate Change Committee inquiry into The Future of Britain's Electricity Networks.**

Scottish Chambers of Commerce is the leading representative organisation in Scotland with over 9,000 member companies covering all sizes of company, all sectors and all geographical parts of Scotland.

### **Q1. What should the Government's vision be for Britain's electricity networks, if it is to meet the EU 2020 renewables target, and longer-term security of energy supply and climate change goals?**

The central vision for the UK and devolved governments must be for the electricity networks to be able to respond efficiently to greater demand stemming from investment in new generation capacity.

In the period to 2020 and beyond, the UK's mix of electricity generation is projected to change in three main ways.

1. Different types of generation capacity will become more prominent, with an increase in renewables (especially wind power, but also new areas such as tidal), micro generation, possibly new nuclear power plants, and less reliance on traditional coal fired power plants. Networks will need to be able to adjust to allow new connections and increased capacity in different geographic areas to cope with this.
2. New technologies will need to be harnessed by electricity networks, including smart metering and smart grid, storage techniques and methods to adjust to variable supply and volatility in usage.
3. Overall capacity will need to be expanded to cope with increased demand for network electricity as the economy resumes growth and transport systems (both rail and car) switch from on-board fossil fuels to electric power.

All these likely changes<sup>1</sup> will (or should) result in increased market demand for network capacity in different geographic areas. Policy should therefore focus

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<sup>1</sup> Explored in detail in reports such as *Our Electricity Transmission Network: A Vision For 2020*, by the Electricity Networks Strategy Group, March 2009

on creating and maintaining a system where demand can be met by additional supply of capacity within time frames that are compatible with the investment timetables of new generating plant. In other words the network must be willing and able to respond to price signals.

With a flexible system under this vision, the competitive nature of the UK's energy markets should ensure that they respond to pricing instruments designed to favour renewable energy so that the UK can meet its carbon obligations without placing financial costs on businesses and households that outweigh the environmental benefits they are trying to achieve.

An electricity market that responds to market signals should naturally encourage investment to bolster energy security as political risk places a premium on imported energy. Government should be wary of regulating to engender energy security in case this removes the incentive for generators to invest for the same purpose.

**Q2. How do we ensure the regulatory framework is flexible enough to cope with uncertainty over the future generation mix?**

Uncertainty is a given in this market as in others. No-one can predict with any certainty how the electricity market will develop, as Ofgem freely admits.

The liberalisation of the UK's energy markets has allowed us to cope well with change. In fact, reform was undertaken in part to *encourage* change, since competitive markets spur the innovation required to improve productivity, lower costs and improve service.

SCC believes that this process has been a success, and that we are therefore well placed to embrace further change to come. The essence to success lies in ensuring that electricity networks continue to respond to changing demand signals.

**Q3. What are the technical, commercial and regulatory barriers that need to be overcome to ensure sufficient network capacity is in place to connect a large increase in onshore renewables, particularly wind power, as well as new nuclear build in the future? For example issues may include the use of locational pricing, or the availability of skills.**

One of the primary regulatory barriers to new investment is the planning system. The planning system across the UK has historically hampered new investment in two ways:

a) Complex developments take too long to be assessed by the planning system, and

b) The system does not take into account changes in the economic importance of development relative to environmental considerations. This is particularly important with regard to electricity networks where the changes described in Q1 above are leading to major shifts in the relative economic importance of different developments. In other words, if a type of development increases in terms of the return on investment, its value to society should grow relative to any environmental disbenefits it inflicts, and the planning system should take this into account. At the moment it does not, though in Scotland as elsewhere in the UK recent reforms are attempting to engender more of a culture in favour of economic development among planning authorities.

A classic example of both these problems is the controversy over the Beaulieu to Denny power line which is essential to improving network capacity so that new renewables projects can come on stream in the North of Scotland. The planning system has caused a ten year or more delay in this project and seems to take little account of the increasing economic importance of this investment.

Such a regulatory barrier is a major impediment to the network's ability to react to the demands of a changing industry, so that of the contracted generational capacity that is being developed in the North of Scotland, 50% is not due to come on stream until after 2014.

In terms of industry regulation, a critical factor is to ensure long term stability in the rules that govern the market so as to inspire investor confidence. SCC believes that network charges must reflect the actual costs of access and transmission as far as possible. It is important for the regulator to ensure that a level playing field is maintained in this regard so that competition from incumbents and market entrants is maximised in the consumer interest, and costs are kept down for businesses and consumers.

Such a regime will allow investment in the new technologies that will become more important over the next decades.

Of course, government and the regulator must introduce incentives that encourage the development of generating capacity that does not inflict environmental costs on society as a whole. But these should be kept simple and proportionate. There is no point subsidising certain types of generation if the overall cost of doing so outweighs the costs saved by lower carbon emissions, for example.

So that this balance is struck as accurately as possible, SCC believes the advantages of low carbon generation should be reflected as simply as possible using a small number of mechanisms so that market distortions are kept to a minimum. The existing system of ROCs is a good one that can be adjusted. There is no need to add extra incentives for renewables, for

example by awarding preferential access terms or subsidised transition charges.

**Q4. What are the issues the Government and regulator must address to establish a cost-effective offshore transmission regime?**

Access and cost are the crucial issues that govern new capacity, and offshore transmission is no different. Again, government and regulator must work to establish a system that allows investment where it can find a return. In the case of offshore development, this may mean a more co-ordinated approach to the distribution of development licences so that the industry can react in building infrastructure in a cost efficient manner.

**Q5. What are the benefits and risks associated with greater interconnection with other countries, and the proposed ‘supergrid’?**

Potential Benefits

1. Greater competition from operating a larger market, leading to lower costs and higher productivity.
2. Economies of scale from a larger customer base may create additional opportunities for lower costs (so long as they do not undermine competition).
3. Operating across a larger geographic area should allow a better balance to be struck between different generating types, leading to less volatility. For example, variable sources of wind energy in Northern Europe could be countered by those in the Mediterranean.
4. Security of supply could be enhanced in certain circumstances, for example, if power plants in one part of Europe experienced difficulties from industrial action or technical failure.

Risks

1. Differing regulatory regimes could put UK businesses at a competitive disadvantage.
2. The UK could lose control of its regulatory regime, leaving it exposed to less beneficial regimes imposed at the EU level.
3. The UK could become exposed to the greater political risk experienced by some continental markets, for example those that are reliant on imported fuels from less stable regions.
4. A financial commitment to a supergrid, especially if politically driven, might not be justified by the ensuing benefits.
5. We must not lose sight of the effects of losses over distance. It is vital that if the principles that dictate the sense behind renewable are valid that all generation is as close to usage as possible. Selling spare capacity across long distances inevitably leads to large losses as

against inputs. If it means we profit from surplus capacity well and good. Our first priority, however should be security of home supply and the maximisation of efficiency within that.

On balance, SCC believes that, so long as the UK government ensured a benign regulatory regime, and expansion of the market would be beneficial to UK consumers and industry.

**Q6. What challenges will higher levels of embedded and distributed generation create for Britain's electricity networks?**

These are likely to increase overall pressure on the capacity of electricity networks, and also increase volatility of demand. Both these issues are part of the wider challenge, and will be addressed adequately if regulatory barriers to investment are removed.

It does seem that the National Grid is developing a level playing field in terms of connection, but there is a further issue of fair access charges. The regulator needs to ensure that all users are charged on an equal basis that reflects the costs imposed on the system.

Microgenerators should be encouraged (on the German model). Sources of stored capacity (e.g. water header tanks for hydro, hydrogen conversion) should be found to even out daily fluctuation in capacity and allow the storage of potential energy. Economic uses for plentiful supply should be identified close to source of generation. This is potentially a major source of rural regeneration.

**Q7. What are the estimated costs of upgrading our electricity networks, and how will these be met?**

A number of reports have looked at the question of overall cost in detail, and SCC has little to add in terms of technical information. On a per capita household and business basis, most estimates point to a manageable annual cost. The challenge lies not so much in the level of investment, but how it should be channelled, and that underscores the importance of a demand-responsive, flexible network that can respond to the needs of the industry and is capable of raising the necessary capital on the back of stable and predictable income flows.

**Q8. How can the regulatory framework ensure adequate network investment in light of the current credit crunch and recession?**

The credit crunch is placing enormous burdens on industry generally by making it harder to raise capital, causing economic uncertainty, and reducing demand across the economy. The electricity sector is no different. There is nothing specific the regulator can do to address these generic problems. However the difficult times we find ourselves in can act as a spur to ensure that the climate for investment is as attractive as possible, which means stability, certainly, transparency, responsiveness and a level playing field in terms of access costs, which in turn allow a rate of return commensurate with investing in new capacity.

**Q9. How can the regulatory framework encourage network operators to innovate, and what is the potential of smart grid technologies?**

Maximising competition in the marketplace is the best way to encourage innovation, as operators seek to gain market advantage by deploying new techniques and new technologies.

At the same time the regulator needs to adjust pricing where necessary to ensure that innovation can take hold in areas such as storage, which will become increasingly important as new sources of power come on stream and volatility of supply increases.

**Q10. Is there sufficient investment in R&D and innovation for transmission and distribution technologies?**

SCC is not aware of any major gaps in investment in R&D or new technology. The government's proposals for smart metering are a welcome addition to efficient usage.

**Q11. What can the UK learn from the experience of other countries' management of their electricity networks?**

The UK enjoys a liberal regime which encourages competition and innovation in different segments of the market. It is in the interests of business and domestic consumers that the regulatory regime continues to encourage market entry, new capacity and investment, whether in generation, networks, wholesale or retail.

As the prospect of connecting the network internationally grows, the UK government would do well to look at best practice from other international agreements, for example in Ireland and Scandinavia.

But SCC believes that the most important lessons are to be learnt in the field of planning and infrastructure project management. The UK has a poor record of handing major infrastructure projects in both these fields.

Our planning system is sclerotic compared to how other countries handle strategic investments. SCC believes strongly that government at all levels in the UK needs to look carefully at how the planning system in countries such as France, Germany, Denmark, the Netherlands, the Irish Republic and Spain copes with the competing demands of economic imperative and environmental concerns. In particular there are lessons to be learnt in terms of how local communities are compensated for major development while planning authorities are incentivised to make decisions swiftly and in the greater economic interest.

A further issue is in project management costs. Britain has a woeful record of cost overruns and delays in the construction of major infrastructure projects, particularly when government is involved. The electricity network is likely to need a series of transformative investments, some of which may require direct government involvement. We should look carefully at our record of fulfilling such projects and seek to learn best practice from comparable countries round the world.

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