



ELECTRICITY TRANSMISSION PLANNING IN THE 21ST CENTURY

We are entering an era of low carbon generation and a more confident and demanding public. The way in which Great Britain plans for electricity generation and transmission must reflect these two radical changes.

1. Low carbon generation and changing transmission requirements

Whatever the precise mix that eventually emerges, it seems pretty much inevitable that GB is moving towards a more distributed pattern of generation. Indeed, we are already quite well down that track. What is more, the intermittency of much low carbon generation means that we are likely to have not only much more generating infrastructure but also more transmission infrastructure, as we have to move energy around more to reflect varying operating conditions. This prospect was underlined by the former Scottish Government Energy Minister, Fergus Ewing, when he introduced the country's Energy Strategy to the Scottish Parliament on 15 March 2016:

"To conclude, we cannot have more energy schemes—renewable or otherwise—unless grid connections are in place. We now see the possibility of wave and tidal energy precisely because of the robust approach that we have taken and because of the support for onshore wind. That would not happen if we did not have the Beaulieu to Denny line, and nor would the Beatrice project. This is all one of a piece; we cannot pick and mix. Grid upgrades are part of the process that is necessary to ensure that Scotland realises her renewables potential."

Since much of the country's renewable energy resource is concentrated in relatively remote rural areas, much of this infrastructure is of necessity likely to be sited in such areas. Given the intrusive nature of the infrastructure required, the potential impact on the environment of these rural areas, and especially on their landscapes, is bound to be substantial. Just how substantial will nevertheless depend significantly on the choices made as to the location and design of the investments involved. These in turn are bound to affect costs – although given the long lifetimes of most of the equipment concerned, these cost differences will be much less pronounced over their full (45 year) depreciation period. When considering environmental impacts, it is important too to recognise that transmission infrastructure

should be seen not only as a response to demand from generators but also as a major driver of the location of such development - ease of connection being a key determinant of practical and financial viability.

Impacts on the rural environment translate directly into impacts on rural communities. Some of these are direct: impacts on quality of surroundings and thus on quality of life. Some are less direct, with consequences for the image and perceptions of a locality and thus on its appeal as a place to live, work, do business or visit. Such impacts are not easy to capture and quantify. After all, it is very hard to assess a deterrent effect and it is almost impossible to identify exact “controls” for the purposes of comparative studies. What is clearer is that rural communities, and especially remote ones, have to trade heavily on their environmental quality – their “natural assets” – for their current and future well-being. Even more evident is the fact that in a highly mobile society such as today’s, an ever higher proportion of the people living in such areas are there out of choice – and that environmental quality, and often also the quality of community life, are the factors that have drawn them to them.

2. Public expectations

Compared with the situation two or three generations ago, the public generally is much less deferential to authority. People are far less willing to accept imposed, “top down” solutions to problems or even to defer uncritically to “experts”. They want, and in some cases demand, to have their say. The great majority are not unreasonable and are ready to recognise legitimate conflicts of interest where they occur and to accept compromises to reconcile divergent objectives. But they want to see those interests spelt out and to have the opportunity to appraise their validity and make judgments as to the weight that they deserve in determining the eventual outcome.

People in rural communities are no exception to this. Indeed, rural communities in attractive locations are likely to contain more than their fair share of articulate, well-informed people who have chosen to live – full- or part-time – in them. Many of them, as retired people, will have more time than most to devote to addressing matters beyond the day-to-day business of making a living – or indeed rearing a family. And, very often they will include amongst their number individuals with a broad range of experience and in-depth knowledge of a wide variety of subjects. They are not people to be taken lightly!

In the environmental field, particularly, there has been a growing recognition, Europe-wide, of the need to inform the public about activities that will affect their lives and to involve them in relevant decision-making processes. The requirements that flow from this desire to promote public participation and to provide access to environmental justice are set out formally in the Aarhus Convention of 1998 (UN Economic Commission for Europe: Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, Denmark, 25 June 1998).

Closer to home, the Scottish Parliament embraced similar principles in the Public Empowerment (Scotland) Act of 2009, which was introduced with the words:

“Scotland's communities are a rich source of energy, creativity and talent. They are made up of people with rich and diverse backgrounds who each have something to contribute to making Scotland flourish. Central and local government needs to help communities to work together and release that potential to create a more prosperous and fairer Scotland ... We have introduced the Community Empowerment (Scotland) Act, to give community bodies new rights and public sector authorities new duties to boost community empowerment and engagement.”

3. Planning for transmission infrastructure and the rural-urban bargain

In the world of low carbon electricity described above, the larger (albeit by traditional standards still relatively small) generating plants are increasingly likely to be located in rural – and often remote rural – locations. The same will obviously be true of the transmission infrastructure. But most of the electricity generated will be consumed in urban and other more densely populated areas. Certainly energy generation in many rural areas will vastly exceed local consumption.

As a result, electricity can be seen as a “product” sold predominantly by rural producers to urban consumers. Some of this production is obviously rewarded directly through rural jobs in electricity generation and supply. But as a highly capital-intensive industry, electricity generators and suppliers do not overall contribute very much to the rural economy. For example, according to a report by Dumfries & Galloway Council in 2013, GVA from renewables in the region was only £20m per annum, resulting in 334 jobs, compared with over £300m from tourism, with over 7000 full-time equivalents.

Even construction projects relating to renewable electricity generation do not usually bring very many jobs to local communities and even when they do they are, of their nature, short-lived. The main long-term beneficiaries within the rural area are landowners who are lucky enough to have a suitable site for infrastructure and to have chosen to make it available. But, in the case of transmission infrastructure, even they are going to reap little more than compensation for losses.

This situation contrasts sharply with the substantial negative environmental impacts mentioned previously. There is currently no mechanism for compensating rural communities for such losses of amenity associated with the generation and transmission of electricity, other than the community benefit payments associated with most wind energy developments. Even these, arguably, bear little relation to the costs imposed. What is beyond dispute, moreover, is their capacity to divide communities – often as much as, if not more than, the developments which they service. Many rural residents (just like their fellow

citizens elsewhere) are indeed deeply hostile to anything which they perceive as a bribe or attempt to “buy them off”.

In the interests of fairness and of equitable burden-sharing, all this points to a need to ensure that infrastructure developments that primarily (though of course not exclusively) benefit urban consumers do not impose disproportionate costs on rural communities. That is the justification for making sure that developments such as transmission lines are as carefully and sensitively sited and designed as possible, taking account not only of their direct impacts but of potential consequential ones in the form of generating and other projects facilitated. The extra costs involved should be seen as an expression of the “polluter pays” principle or, more accurately, as a means of internalising some of the environmental externalities otherwise associated with electricity generation and supply. And, as a general rule, such costs are likely to be lower, and certainly nugatory expense will be much reduced, if the necessary mitigation measures are built into schemes from the outset rather than retrospectively applied through amendments to them.

The costs involved should, furthermore, not be seen as benefiting rural communities alone – as some form of subsidy from urban to rural dwellers. On the contrary, people living in towns and cities who choose, as so many do, to spend part of their leisure time in the countryside (and perhaps subsequently to retire there) benefit also from the improved experience that will result. As consumers of electricity they may pay a little more but as citizens able to enjoy as well the landscapes and wildlife that their countryside has to offer, they are buying not just units of energy but the all-round quality of life associated with a genuinely sustainable, environmentally sensitive electricity system. Nor is this a purely theoretical point: there is evidence from a survey conducted by National Grid as recently as 2012 (and thus post-financial crash) that consumers are willing to pay a few percent extra on their annual utility bills to mitigate the impacts of new transmission infrastructure.

This outcome is very much the one that seems to be envisaged in Ofgem’s statutory remit, which requires it to give attention to environmental impacts as well as consumer interests. To fulfil this remit rural communities must be involved from the earliest stage practicable in the planning of any new transmission infrastructure likely to affect their locality. This should involve not just consultation on matters such as the detailed routeing of a proposed grid line but, long before that, on the operational requirements that have given rise to the perceived need for new infrastructure. The mechanisms for engagement at these earlier points in the process are likely to differ from those appropriate later on. However, it will be essential that involvement should not be confined to local authorities and statutory bodies; ways must be found to involve interested members of the wider public.

4. The engagement process

There are many ways in which this could be done - some of them already in use by regulators and utilities in the UK and abroad. The Office of the Information Commissioner, for example, employs a Citizen Reference Panel to enable it to gain insights from the public into the landscape of information rights. "Citizens' Juries" are attracting increasing interest as a means of gaining wider and better-informed societal input into debates over complex policy issues. Experience shows that they can be successfully deployed even in areas that historically have been characterised by deep-seated conflict and a polarisation of views.

At a project level there is experience relevant to major grid infrastructure in the Irish Republic. There, the proposed 400kV Grid Link project linking sub-stations in the east of County Cork and in County Kildare was the subject of wide consultation with the public and interested organisations alike. As a result of this, a potentially expensive and environmentally damaging scheme was abandoned and replaced by a much cheaper and less intrusive one that emerged through a process of innovation.

5. The challenge and opportunity for Ofgem

These and many other examples illustrate that it is possible to successfully engage local communities, and the public at large, in decision-making on even the most contentious and complicated of issues. First, however, there has to be recognition of (a) the need to do so and (b) the benefits that such participation can bring, both in informing the process and in securing acceptance of the outcome. As the regulator of the energy sector, Ofgem has both the motive and the means to be at the forefront of such an initiative.