

Regional Energy Infrastructure Commissioning Bodies – the missing piece in UK energy market regulation?

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In this blog post I argue that the current UK energy market structure is not as efficient as it could be because it is incomplete and missing a crucial market participant: a strategic local customer for energy infrastructure. Government needs to step in now to correct this.

Markets are fundamentally important to delivering efficient economic and social outcomes in the energy system. They are a very powerful tool, and one the UK energy regulator uses very well and imaginatively in many contexts. However, ensuring these markets are structured and work efficiently is a critical responsibility of government and the national regulator.

Markets only work when they have customers

A fundamental truth about markets is that they only work if there are customers. This is a simple statement, but one that UK energy market regulators sometimes appear to quietly gloss over – assuming that the theoretical existence of customers will be sufficient to drive competitive outcomes, even if in reality there are no meaningful customers out there.

In the UK such customers already exist for other strategic local infrastructure like transport, housing and waste. They are called local authorities. These work within and alongside national strategic infrastructure plans and policies in a completely complementary way, because everyone recognises that we need both levels.

For example, in housing national government might set overall targets for new development, but local planning authorities are clearly necessary to ensure individual developments are optimally located and effectively integrated into wider community developments. They act as strategic customers for housing developers, in addition to the people who actually buy the houses and land.

Similarly, national planning of motorways and major rail infrastructure sits quite comfortably alongside local strategic planning of regional and local transport infrastructure – again, the idea of attempting this type of planning solely at national level is clearly nonsensical and highly inefficient.

Energy infrastructure matters now more than ever

In energy, infrastructure is particularly important. This is not just because it lasts a long time (like transport and housing infrastructure, energy assets can easily be in use for decades or even centuries). Energy infrastructure also represents an increasing proportion of energy costs for every customer (around 50-60% of domestic electricity bills, for example, are fixed by existing infrastructure costs and charges) and of course the need to recover infrastructure investment costs can constrain innovation significantly: it is always harder to justify switching to cleaner fuels and approaches like hydrogen or electric vehicles when such a switch also requires significant new

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infrastructure (and effectively throwing away now obsolete infrastructure which may not yet have been paid for).

This means energy infrastructure investment decisions are critical to efficient customer outcomes and overall economic competitiveness. The good news, of course, is that well-designed markets should help us take these decisions. So is the UK energy market well-designed for infrastructure investments?

My answer is, not really.

The first observation when you ask this question is that the UK energy market is not one market, but a whole series of markets: those for retail and commercial gas and electricity; markets for generation and capacity, flexibility markets and so on. The ultimate price of energy to end customers is thus determined by a whole series of competitive market decisions (not just the final choice of the customer between retail suppliers and tariffs). Each market has buyers and sellers, customers and suppliers, but they all assume more-or-less fixed infrastructure of gas pipes and electricity networks.

This infrastructure is assumed to change only slowly, subject to five- or eight-year highly structured price controls (which are essentially strategic investment planning cycles). There is then very limited activity outside this price control framework – new connections paid for according to pre-agreed rules, and competition on the margins from independent network operators almost entirely confined to new developments.

However, in practice, the assumption of a slow rate of change is increasingly untenable. The reality is that today's energy infrastructure market is changing very quickly: smart, distributed, clean energy technologies, demand-side innovations and the convergence of transport, construction, digital and energy sectors all create both uncertainty and economic opportunity.

How do we ensure competitive markets for energy infrastructure?

So we really do need an effective and efficient and open competitive market in such a context: coping with change and uncertainty and opportunity is where markets can often help most.

And this, of course, is where customers come in. Somewhere in the system, to ensure efficient markets, we need customers who are sensitive not just to short-term energy prices, but to the longer-term consequences of infrastructure decisions. These consequences include economic competitiveness, environmental quality, opportunities for social inclusion and potential constraints on short-term energy prices for the next 30 plus years.

These customers also need to be well-informed about local geography (which affects opportunities for local distributed energy generation) strategic plans for major sources of energy demand such as housing, new businesses, transport systems, and other significant constraints on and opportunities for energy infrastructure investment such as waste management plans and environmental policies.

Finally, given the increasing rate of change in the energy infrastructure sector and the consequences of getting these decisions wrong, customers also need to be best-placed for managing risk. This requires them both to have an overview of related strategic infrastructure systems and geography as described above, and also to be accountable to the large numbers of non-strategic customers whose market options in future will be constrained by the infrastructure choices made today. They also need to have some understanding of the energy sector, its technologies, regulations and future opportunities.

Creating meaningful customers

Local authorities meet some of the criteria to be such customers, but not all. In particular, they lack the mandate and resources to act as the meaningful customers necessary to drive this market.

It's also worth noting that local authority control over local strategic plans for housing, waste and transport infrastructure (which are often commercially sensitive) effectively prevents any other organisation fulfilling the role of strong customer for energy infrastructure. Just as electricity and gas networks are natural monopolies, so is local government a natural monopsony.

This means we're caught in a position in the UK where only local authorities can provide the customers necessary for the distributed energy infrastructure market to work, yet they have no capacity or capability to fulfil this role. Compared to other countries, including the US, UK local government has virtually no discretion over spending, which is in any case a tiny proportion of national tax take².

For a competitive UK energy market to work, this clearly needs to change, but there is second problem: no one is responsible for making this change happen. Ofgem might reasonably say that responsibility for local government finance lies with government, not them. Government might also reasonably say that Ofgem are responsible for energy market regulation, not them. We are, as in many other areas at present, stuck in a place which we can all see leads to sub-optimal outcomes but we seem to have no mechanism to do anything about.

Next steps for government

The way forward can only be engagement by government at a level above the existing silos.

Local authorities need to be given a mandate to act as strategic customers for energy infrastructure and resources to fulfil this role. They should be required to establish regional energy infrastructure commissioning bodies with responsibility for long-term direction of energy distribution networks in the interests of their local communities, environment and economies (working within national policy frameworks and strategic infrastructure choices - just like transport, housing etc). These bodies will act as well-informed strategic customers for the electricity DNOs and gas network operators and also independent DNOs, and other providers of energy infrastructure such as local storage and generation³.

The appropriate way to fund these bodies within the UK energy market framework would be by routing a share of the energy bill levies that are currently used to fund Ofgem centrally, while at the same time reducing the overall burden of these levies on bill payers. This latter reduction should be justified because the overall outcome will be more efficient for customers. I suspect we will quickly also find that local authorities equipped with such bodies will be able to attract significant investment finance and fund themselves, so the benefits will grow over time.

I am also suggesting local authorities will come together to establish shared regional commissioning bodies. This makes sense for a number of reasons including broad alignment with the geographic

² UK local authorities 'control' 1.6% of tax revenues (although they are also told how to spend this) compared to 8.8% in the US (also the OECD average) 11% in Germany, 14.9% in Canada. (Source OECD).

³ Note that there is no implication that local authorities take ownership of any energy infrastructure assets in any of this discussion. Ownership structures remain a local and national political decision and the argument in this paper holds under all possible ownership models.

structures of the infrastructure providers (i.e., the DNOs); ensuring a critical mass of skills and sensible team sizes and alignment with local democratic structures (which is critical). It also reflects the experience of the more successful LEPs and devolved authorities, which have worked best where local authorities have chosen to come together in combinations matching natural economic geographies. They then also tend to identify areas like transport, housing, skills, environment and energy as areas where collaboration and sharing of resources makes most sense.