CENTRALISED STRATEGIC NETWORK PLAN

RESPONSE FROM E3G TO CONSULTATION ON FRAMEWORK FOR IDENTIFYING AND ASSESSING TRANSMISSION INVESTMENT OPTIONS

The Future System Operator (FSO) will have a major role to play in the future of the GB energy system. Delivering this effectively will require a significant re-design and expansion of the organisation and functions undertaken. This will be a big challenge and developing the new capabilities will take time. The FSO will need to prioritise activities and it is inevitable that some requirements will not be delivered effectively, or at all, for a while. Ofgem should work with the FSO to prioritise activities in a way that meets the key requirements of the energy system transition and consumers. It should require the FSO to explain where approaches, methodologies, and products are below the quality it aims to ultimately achieve, and the actions being put in place to close this gap.

Assumptions

The assumptions adopted by the FSO will be critical and must be current, robust, and common across energy system planning functions undertaken by various institutions (e.g. Distribution System Operators). Many of the most important assumptions will not be true 'externalities' but will depend on future policy actions. These include technology build rates and costs, market efficiency, consumer demand (e.g. heat pumps, hydrogen), demand response (digitalisation, market design). This will blur the lines between identifying assumptions, providing advice to government, and risk management. For example, demand response can significantly reduce the requirement for assets (network, generation, storage)[1] but will not happen at scale without significant policy action from government and Ofgem. Any assumption about future demand response potential will create the risk of stranded or insufficient assets.

[1] DSR is an important contributor to system flexibility. Government modelling as part of the Smart Systems and Flexibility Plan 2021 showed that the overall savings in costs between high flexibility and low flexibility scenarios is around £10bn per year by 2050 (in 2012 prices).

The FSO is not able to drive policy change and, therefore, should not be taking decisions about these assumptions in isolation. The process for adopting key assumptions should sit outside the FSO as part of a broader Ministerial-led governance framework to manage the energy system transition. This could be governed by a body such as the Energy System Delivery Board suggested by the Energy Networks Commissioner in his recent report, or the Mission Board proposed by the Labour Party. This overarching body could take ownership of these assumptions and commit to ensure the policies are in place such that they become self-fulfilling prophesies.

Non-network solutions

Non-network solutions such as demand response will be extremely important in the energy transition. Mass adoption of flexible consumption will become critical to support the electrification of heat and transport, avoiding the requirement for major investment in local networks and providing cost-effective flexibility to the wider energy system. The Government Smart Systems and Flexibility Plan 2021 modelled a range of scenarios out to 2050. This estimated that increased flexibility from short-term storage, flexible demand and interconnection could support energy security and reduce system costs between £30-70bn across that period (2012 prices). It is likely that the FSO, and certainly the Distribution System Operators (DSOs), will need to change the way they operate the system to support the necessary innovation in consumer-facing product and services. Advanced predictive capabilities processing vast amounts of system data will support the development of new markets that could be focused on meeting consumer needs.

Changing system operation will be a difficult challenge for the FSO and there is a risk that this will be deprioritised given other requirements. However, large-scale adoption of electric vehicles (EVs) and heat pumps is already under way and failure to make use of their potential to contribute to system stability would make the transition unnecessarily costly. It is significant that the Future Energy Scenarios (FES) produced by the Electricity System Operator (ESO) do not discuss the need for major changes in system operation and how this will create opportunities for consumer engagement. The FSO must be required to set out the internal organisational and functional changes needed that will enable the transition. There should be a minimum requirement for the FSO, working alongside the DSOs, to facilitate certain capacities of demand response by 2030. This will ensure the challenges are addressed and should be embodied within the Central Strategy Network Plan (CSNP).

Risk management

Risk management lies at the heart of the infrastructure planning process. The network will insulate consumers from some risks but inevitably leave them exposed to others. Ultimately, consumers will need to pay more to achieve a more secure system and the amount they are expected to pay is a key policy decision.

The consultation proposes that the FSO identifies risks associated with a changing climate. These would be in addition to others including random technology failures, cyber security, and interruptions to international free trade. It is important that a common approach is taken to ensure consistency in the level of investment devoted to preserving continuity of supply in the face of these risks (including in making demand more flexible and eliminating energy waste). This key policy decision should be taken by government and then used by the FSO to identify and select investment options. The current approach to defining the security standard that underpins the capacity mechanism is based on an administered value of lost load. This approach will need to evolve as an increasing proportion of consumers are able to change demand in response to price – effectively setting their own value of lost load.

It is important to separate those risks which are driven by random external factors from those that can be influenced by policy actions. For example, the creation of a single plan from the current FES will enshrine risks associated with consumer behaviour and technology costs and deployment potentials. Whilst the FSO can advise on the preferred approach, the ultimate decision must be made by government and it must accept the imperative to manage these delivery risks through its policy agenda.

Risk management issues highlight that the FSO cannot work in isolation from government but instead must operate within a governance framework that provides a democratic mandate and helps manage the delivery risks.

Interconnection

The cost-benefit of an integrated offshore network will depend on the effectiveness of connections to neighbouring countries. They will determine the value available from exporting surplus generation and the volumes that can be imported to cover shortages in GB. The design of an offshore network therefore requires close working relationships with transmission system operators and others involved in network planning in neighbouring countries. The FSO should be

required to develop the necessary relationships to enable an optimal design of the offshore network and the government should commit to providing the necessary diplomatic support.