

11. Governance framework

SUMMARY

Institutional arrangements should be reviewed to ensure they are fit to deal with new market trends

In a world with greater decentralised energy and interconnection, many interviewees identified potential benefits of a 'system architect' going forward. Many interviewees believed that the future energy market would result in a different set of requirements and challenges for system operations and a number of respondents suggested that the best way to manage the system in the future was to establish a fully independent system operator, though they recognised that the relative merits of this model would need to be analysed further. Others thought there was a role for developing Distributed System Operators (DSOs) given the growth in decentralised energy expected over this period.

The respective roles of DECC and Ofgem were questioned. Some argued DECC should just stick to high level policy decisions, leaving detailed implementation to either an independent delivery body or Ofgem. Many said the industry code process has stifled innovation and is too bureaucratic for today's needs. Nobody believed the current delivery landscape in energy, with the plethora of bodies involved, was desirable or appropriate to facilitate the changes that lie ahead.

Energy UK supports the fact both the Government and the National Infrastructure Commission have indicated they are now looking at these issues. Energy UK will continue to contribute to this debate as it progresses.

11.1 Interview responses

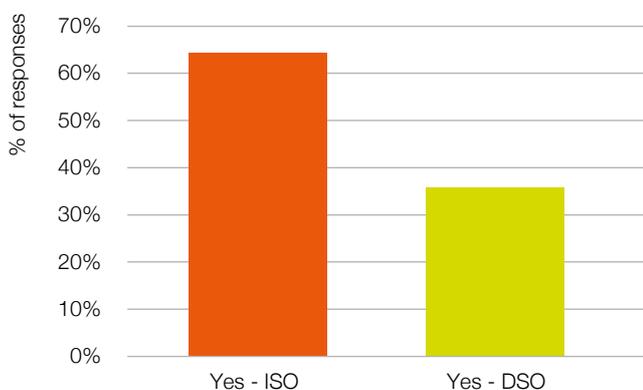
As the energy landscape diversifies and greater use is made of solutions such as distributed generation, storage and interconnection, many respondents believed it was important to clarify the governance framework for the market going forward.

Respondents noted there was some overlap between the roles and responsibilities of Ofgem, DECC, National Grid and others, and this could potentially create uncertainty regarding policy, regulation and system design.

Some respondents believed there was a need for a system architect (SA), a technical body that was responsible for developing and agreeing the long-term framework for the whole electricity system – taking an overall view of system needs and would consider the whole system costs of different solutions. Views differed on who should own this role, with some believing DECC or National Grid were best placed, and others arguing an entirely new body may be required. Many also made a connection between system design and the need to facilitate DNOs in their transition to more of a distribution system operators (DSO).

There were no statements of impropriety from any respondents although some noted there was a risk the market and potentially the public would perceive National Grid as 'conflicted' or otherwise in an overly influential position and this risk, either real or perceived, could more effectively be managed going forwards.

Figure 52: Respondents who raised that there should be a separate system operator



Interviewees expressed views such as:

“There needs to be more clarity on the respective roles of Ofgem and DECC as there is currently cross-over between policy and regulation.”

“We must consider who should own and run the system. An independent system architect is required to ensure a sensible mix (e.g. we cannot have limitless solar).”

“There is fundamental unfairness across the grid. Embedded benefits have significant advantages over central generation causing central generation to fall off the grid. There will eventually need to be a complete review of the entire charging mechanism.”

“It may be necessary to develop an independent system operator outside of National Grid and facilitate the strengthening of local / regional networks.”

“There potentially be roles for local DSOs.”

Many respondents expressed a preference for increased independence of system operation from system ownership, and some argued for a fully independent system operator (ISO). Some did not believe an ISO was necessary while others argued that enabling the growth of DSOs could bring benefits to system operation. Respondents that supported an ISO model recognised the role of National Grid was becoming increasingly complex with several challenging objectives and, despite the legal framework in place to separate business functions, there was a potential for stakeholders to perceive a conflict of interest.

Government is also considering the merits of greater system operator independence. In a recent policy speech, the Secretary of State explained there was “a strong case for greater independence for the system operator”, and Government would work alongside National Grid, Ofgem and others to “consider how to reform the current system operator model to make it more flexible and independent”. The National Infrastructure Commission has published a call to evidence regarding whether any changes are needed to the electricity market, including the need for an independent system operator and how such an entity could be incentivised.

11.2 Analysis

11.2.1 Principles for governing the sector

In order to develop an effective framework, the key principles for governance of the energy sector need to be agreed. Although there are many objectives for the sector as a whole, the principles for how to govern the sector have not been set out clearly.

Key questions to consider in developing a set of governance principles may include:

- How is the energy landscape likely to change over the next 10-15 years and how will this affect system needs?
- What are the key challenges likely to be faced by future system owner/operators?
- What is the best way to manage the system to enhance efficiency and minimise costs?
- Recognising all models have pros and cons, what is the best model of SO governance that would most effectively meet the needs of UK consumers in the future? How can we ensure fair and equal treatment of all market participants?

In addition, many interviewees believed the future energy market would result in a different set of requirements and challenges for the system operator. Many believed increasing decentralisation of the energy system, with much more small-scale renewable generation and demand-side management activity, would mean DNOs would need to take more of a DSO role.

Some interviewees suggested the best way to manage operation of the system in the future was to establish a fully independent system operator, though the benefits of this model need to be considered against that of integrated or other models. Many also believed the pace of change in the sector was creating a business case for a system architect (discussed further below).

11.2.2 Increasing complexity of the energy system

The energy system is evolving and with it so should the way the system is governed and managed. Recent developments in EU and UK energy policy, as well as technology, mean that there is likely to be increased distributed generation, intermittent plant and interconnectedness going forward.

System design and operation was (in relative terms) simpler when the vast majority of power was coming from conventional centralised power stations, including fossil fuel plant that can respond quickly to changing demand, and when flows were essentially unidirectional from generators to the sources of load.

As the energy system evolves, the system architecture is likely to become far more complex. Figure 53 shows IET's illustration of the multitude of considerations for managing the energy market. Many interviewees argued there was confusion both at the operational/technical level as well as the policy/regulatory. Regarding the latter, interviewees in terms of the roles of Ofgem, DECC the CMA, which in its first few years of formation has played a pivotal role in several key regulatory price controls and decisions.

The future system will have a number of new challenges, such as:

- Enhanced volume and scale of intermittent generation;
- Distribution network connected generation that is not dispatched in co-ordination with the central balancing system;
- Changes in consumption patterns and overall demand due to DSR, smart technologies, smart grids and the electrification of heat and transport; and
- Increased interconnectedness requiring further co-operation between international jurisdictions.

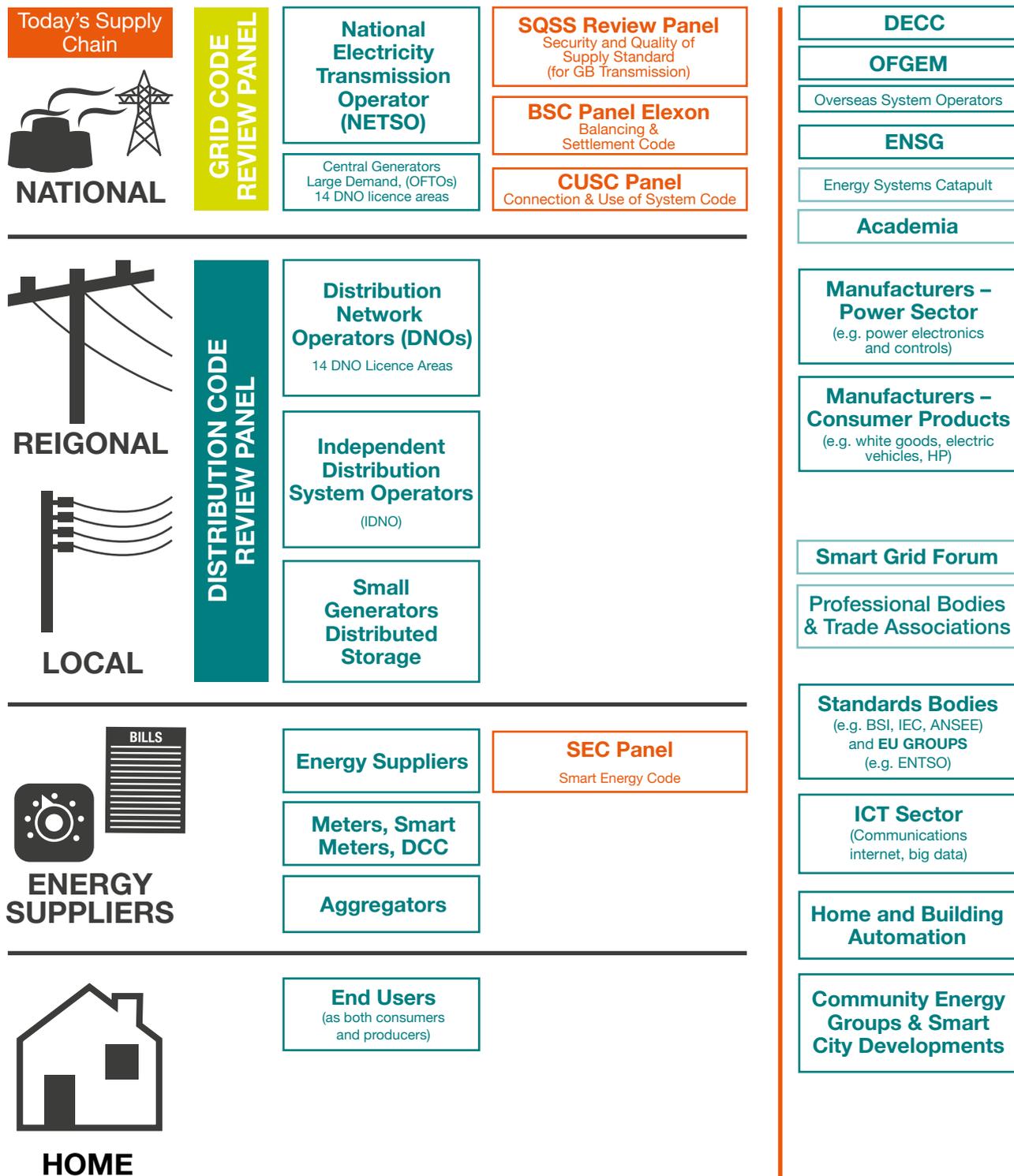
A number of respondents felt the best way to balance these issues and ensure they were efficiently addressed was through the introduction of a system architect (SA) role. Although the term 'system architect' is used in different ways, it can generally be understood as a technical body with responsibility for developing and agreeing the long-term framework for the whole electricity system, potentially including managing standards, protocols and guidelines. Its key task would be to ensure the seamless technical integration of the sub-systems of the different market participants. The SA would most likely be a single clearly defined entity, responsible for management of the complexity of the evolving power system architecture in the public interest on behalf of the Government.

Views differed among interviewees on who should have the SA role and whether a new organisation was required. Some respondents believed it should be a role that sat outside of National Grid, and some outside of Government, for independence reasons with some having a clear view that the panel of technical experts concept could be utilised for this purpose. Others argued there are already too many entities involved in the governance of the energy system and a new entity would only complicate the landscape further.

The Government's recently announced National Infrastructure Commission (NIC) may also play a role in design and planning of energy infrastructure. The NIC is "an independent body that

3. Energy efficiency (continued)

Figure 53: IET illustration of different bodies involved in system operation



Source: IET (2014), Britain's Power System: The case for a System Architect, December 2014

enables long term strategic decision making to build effective and efficient infrastructure for the UK⁸⁰, one that will have a “mandate to examine all sectors of economic infrastructure – including energy”⁸¹. Although the exact scope of the NIC’s role remains under consultation, it is expected to include some degree of system planning, including for the energy sector. In addition, the NIC has published a call for evidence regarding the benefits of an independent system operator and the most appropriate incentives for a pure SO.

A supplementary, but related, theme that emerged from the interviews was the need for DNOs to have a role as DSOs allowing them more control over the connections, dispersion and balancing of distribution networks.

At present, DNOs in the UK are responsible for delivering several key outputs: safe network services; environmental impact; customer satisfaction; social obligations; connections; and reliability and availability. However, they have no mandate to dictate the volume or distribution of connections into their distribution system and hence, no mandate to ensure they can balance nor efficiently deliver their network demands with the overall network needs. Until recently, DNOs had no ability to curtail generation occurring within their grid connection agreements and hence, created inefficiency in the central balancing system.

Many interviewees thought, by allowing the DNOs powers of a DSO, that is, powers relating to the operation of their distribution system akin to National Grid and Elexon’s, and ensuring that these are integrated in the round with the transmission system mechanics, the system could be overall more efficient.

11.2.3 Increasing complexity of National Grid’s role

The rapid, ongoing evolution of the UK energy system means the role of the system operator and the distribution networks is becoming increasingly complex, and will continue to do so with developments in distributed generation and distribution level storage solutions and the drive towards integrated energy markets across Europe. Several respondents believed the Government should, as part of a wider review of the industry governance, consult with the industry, both the large established generators, smaller entrants, distribution and transmission networks, on an appropriate future framework for system operations that will ensure secure, efficient and stable network operations are maintained.

One of the key areas where interviewees noted potential concerns regarding National Grid’s role. In 2013 National Grid was asked by Government to be the official EMR delivery body (auctioneer) and for which it recommends, but does not decide upon, procurement volumes to Government; an arrangement established by the Energy Act 2013 which industry was consulted upon, and largely agreed, ahead of its inception. Through separately licensed businesses that were established prior to the implementation of EMR, National Grid also owns and operates stand-alone interconnectors between the UK and France and the UK and Holland. Under European legislation, and as agreed by DECC, all interconnector projects are eligible for capacity market payments.

There were no statements of impropriety from any respondents although some noted there was a risk the market and potentially the public would perceive National Grid as ‘conflicted’ or otherwise in an overly influential position and this risk, either real or perceived, could more effectively be managed going forwards.

The Secretary of State has announced there is a strong case for greater independence of the system operator and that it will work alongside the NIC, Ofgem and National Grid to ensure the system operation model is reformed to ensure both flexibility and independence.

⁸⁰ <https://www.gov.uk/government/organisations/national-infrastructure-commission/about>

⁸¹ HMT (2016), National Infrastructure Commission: consultation, 6th January 2016