

# CALL FOR EVIDENCE: COST OF ENERGY REVIEW

SSE RESPONSE



## Executive Summary

SSE is a UK-listed company and the broadest based utility operating in Great Britain with separate retail, wholesale, networks and enterprise businesses. SSE's core purpose is to provide the energy people need in a reliable and sustainable way.

SSE welcomes the opportunity to respond to the Cost of Energy Review. The cost of energy is critical to customers and the UK economy, and a review to better understand those costs is an important part of the Government's Modern Industrial Strategy.

SSE shares the Government's aim to deliver secure, affordable power, in line with domestic and international climate targets. The breadth, scale and scope of our operations in the UK, our commitment to our stakeholders and our desire to be a responsible business means SSE has a significant role to play in working constructively with Government to achieve this common goal.

Professor Helm's Cost of Energy Review provides an account of his view of the electricity supply chain and proposes a broad range of potential reforms to the energy market. As is to be expected from such a wide-ranging report there are areas where SSE agrees with Professor Helm's assessments, and areas where we take a different view on the best way to deliver against the Government's objectives. It is right that the Government consults widely on the findings of the review to ensure that any outcomes are fully considered, informed by all stakeholders, and meet the long-term interests of customers.

The review reflects the enormous amount of change which is underway in the sector and the challenges that the UK faces as we work to make our energy system smarter, more efficient and more sustainable. However, we should not overlook the significant progress that is being made in decarbonising and modernising our electricity system.

The policy framework for decarbonisation, including the UK Carbon Price Floor, Renewables Obligation and Contracts for Difference, have delivered investment in low carbon generation and huge reductions in the costs of solar, onshore and offshore wind to the point where renewables now provide a large proportion of daily demand and arguably provide the lowest cost form of electricity generation. Alongside these low carbon policies, the Capacity Market has been critical to keeping electricity supplies secure and reliable as the generation mix undergoes considerable changes. Maintaining the core elements of this successful electricity market framework will be crucial to meeting Government objectives at the lowest cost.

SSE agrees with Professor Helm on the important role that smart network systems will play in a more efficient energy system which reduces costs for customers. Under the RIIO regulatory framework Distribution Network Operators (DNOs) have efficiently accommodated a rapid increase in decentralised energy connecting to the networks without increasing customer bills. Network innovation projects trialling a greater use of ICT and Active Network Management are already delivering significant savings for customers under the current price control and provided the foundation for the transition to a Distribution System Operator (DSO) model which will provide the lowest cost solution to unlock new economic opportunities. SSE believes that network companies have demonstrated their ability to adapt to the challenges of decarbonisation whilst improving performance and reducing costs; and in leading the delivery of a DSO model significant progress is being made which is not recognised in the Helm Review. This is a key oversight of the report which calls into question the recommendations made in relation to networks, the net effect of which would be to damage and delay the very transition that is in underway to address the issues that Professor Helm sets out to tackle.

In the retail sector SSE believes that competition is the best way to reduce costs and meet the long-term interests of customers. The GB retail energy market is highly competitive, and it should be noted that since the Competition and Markets Authority (CMA) conducted its own independent review of the sector there has been further evidence of improved competition and customer engagement. There are now over 60 suppliers actively competing for customers in the market, with small and mid-tier suppliers continuing to grow their market share.

Current trends show the future of the retail market is likely to be characterised by increased competition, customer engagement and technological change. It is against this backdrop that SSE would encourage the Government to consider the potential unintended consequences and impact on the longer-term operation of the competitive market from any interventions, including a market wide price cap, and specifically some of the proposals set out in the Helm Review.

As well as addressing a number of the specific proposals included in the Helm Review, SSE's response to the Government's Call for Evidence takes a wider view of the industry and the issues that policymakers must consider in delivering against the Government's objective to reduce the cost of energy. This whole system view is increasingly important as we look to meet the challenges of decarbonisation across the power, heat and transport sectors, and SSE will work constructively with Government to ensure the long-term interests of customers are met efficiently. As part of the ongoing debate around the cost of energy there is a need to consider the difference between energy prices and energy costs. For example, the Government could take action to reduce customer energy bills by moving some policy related costs into general taxation.

# 1. Electricity Generation

The UK has had remarkable success in decarbonising its power sector, whilst maintaining reliable supplies of energy to homes and businesses. Support for low carbon generation through Contracts for Difference (CfDs), implementing the UK's Carbon Price Floor (CPF) and the Capacity Market (CM) have been key factors in achieving this success. With gas and renewable sources increasingly critical to our energy mix, these policies are amongst the most important – and effective – tools the government has implemented.

SSE is playing a leading role in supporting the transition towards this low carbon future and believes that the policy framework for electricity generation which meets government objectives efficiently at least cost will involve the following:

- Maintaining the CfD for low carbon generation in anticipation of it evolving in time to firmly become a revenue stabilisation mechanism rather than subsidy;
- Maintaining the Capacity Market;
- Maintaining the Carbon Price Floor for the power sector;
- Developing liquid, transparent and technology neutral flexibility markets;
- Removing distortions to price signals arising from charging arrangements and policy costs which lead to inefficient market outcomes.

## What are the longer-term challenges for electricity generation?

### EMR

SSE believes that overall, the previous and current policy frameworks have been very successful at attracting the investment into new electricity generation, particularly renewables, which now provide a large proportion of generation needed to meet customer demand on a daily basis. Through deployment via the Renewables Obligation and CfD, there have been huge reductions in the cost of renewable technologies (solar; onshore and offshore wind) to the point that they now arguably provide the lowest cost forms of electricity generation. As a consequence, we are now on the cusp of moving away from the need for a subsidy incentive and towards a contractual mechanism which maintains investment at lowest cost to consumers.

Stable policy frameworks provide confidence to investors and thereby reduce risk and cost of capital. This ultimately reduces costs for bill payers. Whilst some elements of the policy framework have become complex, Electricity Market Reform was a comprehensive and joined up approach to the market failures associated with decarbonisation and security of supply. As Professor Helm sets out in his review, the wholesale electricity market based on Short Run Marginal Cost, whilst providing efficient dispatch signals, is too volatile to alone sustain the investment needed in either low carbon generation or capacity. Therefore, new low carbon and capacity markets were needed.

SSE believes that the EMR framework is fit for purpose for the foreseeable future and any fundamental overhaul in the short-term would be damaging to investor confidence at a time when continued investment is required. There will inevitably be an evolution of the CfD and Capacity Market. The key question is how the various markets (wholesale, capacity, balancing, ancillary services, low carbon) evolve in a coordinated way and how to ensure that price signals generated from charging and policy cost collection arrangements are efficient and do not continue to have a distortive impact on market outcomes.

### CfD and the continuing need for revenue stabilisation

The CfD is the right instrument for underpinning investment into renewables and ensuring that customers benefit from the cheapest low carbon electricity. As more renewable technologies come down the cost curve, the CfD will support generators on a revenue stabilisation only basis, rather than subsidy. As evidenced in reports by Baringa and Arup, a CfD auction for 1GW of the most efficient onshore wind projects today would only be needed on a revenue stabilisation basis; meaning no more than the average wholesale price over the lifetime of that asset or the lowest technology LCOE.<sup>1</sup> SSE believes that an urgent priority of the government should be to allow onshore wind, as one of the cheapest forms of generation, to compete for a CfD on this basis.

Revenue stabilisation will become increasingly important as the impact of price cannibalisation increases. This will address the challenge that, unlike thermal generators, renewables and other forms of low/zero marginal costs generation, do not have a hedge against variations in fossil fuel prices in a SRMC wholesale market. Wholesale electricity prices will reduce for consumers during periods of high renewables penetration, thereby balancing out any payments made to generators under the CfD.

SSE does not agree with Professor Helm's belief that splitting out tendering of CfD contracts for renewables between the construction and operational phases would reduce the overall cost of support. Contrary to his assertion that under the current CfD model 'buying' and 'securitising' has been a profitable refinancing activity, this has proven to be an efficient approach for renewables investment.

### Capacity Market and EFC auction

SSE believes that overall the existing Capacity Market design will be fit for purpose in the years to come by bringing forward investment in existing and new gas generation, storage and Demand Side Response. Now that embedded benefits are being addressed there should be more of a level playing field, provided storage assets are appropriately de-rated.

<sup>1</sup> <https://www.arup.com/-/media/arup/files/publications/e/enabling-investment-in-established-low-carbon-electricity-generation.pdf>

There will likely be further evolution of the mechanism. For example, it would be beneficial to enable new variable renewables to participate in the CM and get credit for the firm capacity they can provide, potentially reducing the level of revenue stabilisation required via the CfD.<sup>2</sup>

SSE does not agree with Professor Helm's view that merging the CfD and Capacity Market into a single Equivalent Firm Capacity (EFC) auction would be a more efficient way to meet decarbonisation and security of supply objectives.

The Cost of Energy Review provides no evidence to support the view that requiring variable renewables to self-balance on EFC terms would lead to an overall cheaper outcome or that having all generation technologies compete with each other would reduce complexity. Although attractive in theoretical terms, without modelling and evidence it is not clear that the EFC auction concept would be a more efficient approach than the System Operator balancing at system level by procuring the right amount of flexibility and capacity. Requiring all variable renewable generators to self-balance could instead lead to over procurement of capacity.

The precise mechanics of how such an auction would work seem to be no less complex than what is in place now. The auction would require renewable generators to enter into bespoke bilateral arrangements with providers of back-up to create EFC combinations. Facilitating the opportunities for all market participants to access these types of arrangements would require liquid secondary markets to be developed, adding additional complexity. Furthermore, the EFC auction would either have to be complemented with a very high carbon price in order to get decarbonisation-compliant outcomes or an emissions performance standard would have to be used. It is unclear how such a standard would be calculated across combined technologies on a firm capacity basis.

However, capacity is not the only product needed by the electricity system. It also needs energy and increasingly this needs to be low carbon, which is what procurement through the CfD assures. SSE believes that simplification of auctions is possible over time, for example with a move towards a single CfD auction across all low carbon technologies. This will be dependent on technologies achieving maturity, as is soon expected from offshore wind.

### **Carbon pricing**

SSE supports Professor Helm's assessment that robust carbon pricing must be at the heart of a cost-effective approach to decarbonisation and that, in principle, it should be extended to the wider economy to cover other emitting sectors such as transport, agriculture and industrial processes. Carbon is a major externality and cost to the economy which is not currently priced in most sectors. However, there is currently no country which applies a carbon tax in such a way and SSE recognises it would be practically and politically challenging to do in an effective way.

The UK Carbon Price Floor has proven to be a very effective tool for power sector decarbonisation and SSE believes that it can continue in future, alongside the CfD, to drive investment in low carbon generation. In addition to facilitating the coal phase out by 2025, the CPF can help transition away from subsidies and also reward greater efficiency and flexibility on the electricity system. A number of other European countries have observed the effectiveness of the Carbon Price Floor and have either introduced or plan to introduce a carbon tax themselves. This should alleviate some of the concerns about impact on industrial competitiveness. The revenues from the carbon tax could also be used to lower the cost burden of decarbonisation on customers.

In terms of impact on electricity imports, SSE supports in principle the idea of a border adjustment for imports coming from countries that do not face an equivalent carbon price. This will ensure that there is more of a level playing field between GB generators and overseas generators and also ensure that higher emissions aren't imported.

The original intention of the Carbon Price Floor trajectory was to provide certainty over long-term carbon price. However, the propensity to change the carbon price trajectory due to various factors has reduced confidence. SSE welcomed the Budget announcement to maintain total carbon price at current level until unabated coal comes off the system. However, SSE believes that it will continue to

play an important role for the power sector until it is fully decarbonised, and as such encourages the Government to set out a firm longer-term ambition for the total carbon price.

### **Addressing distortive network charge and policy cost recovery signals**

Inefficient market outcomes increase costs to consumers. In recent years, this has been most evidently seen in regard to transmission network charging arrangements and embedded benefits which distorted Capacity Market outcomes. Ofgem has recognised most of the problems with the current charging arrangements via its TCR and SSE is hopeful of a positive outcome.

However, the avoidance of paying for policy costs has not been addressed and is in danger of incentivising behind the meter generation and storage, which will push up costs for consumers not involved in avoidance. These avoided costs also create the false impression that it behind the meter sources are cheaper than large scale generation despite the proven benefits of economies of scale. Given that policies to support low carbon generation are to the benefit of the whole country, there should be no reason for avoidance of these costs. SSE calls on the government to revise its approach to policy cost recovery to prevent such avoidance.

<sup>2</sup> [https://www.baringa.com/getmedia/99d7aa0f-5333-47ef-b7a8-1ca3b3c10644/Baringa\\_Scottish-Renewables\\_UK-Pot-1-CfD-scenario\\_April-2017\\_Report\\_FINA/](https://www.baringa.com/getmedia/99d7aa0f-5333-47ef-b7a8-1ca3b3c10644/Baringa_Scottish-Renewables_UK-Pot-1-CfD-scenario_April-2017_Report_FINA/)

## Flexibility markets

An increasing source of value for generators (as well as Demand Side Response and storage) in future will come from the provision of flexibility to the electricity system via the traded markets (forward to intraday) and the balancing market. Balancing services will also be increasingly important and should be procured in a more market-based way. This means improving transparency and introducing closer to real time auctions for more simplified products. It also requires the SO to set out the long-term needs of the electricity system. There should not be barriers to any technology to enter any of these markets but neither should these markets be designed in such a way to deliver specific technology winners.

Currently there is not a level-playing field for flexibility provision. Interconnectors, for example, play an important role but receive the advantage of revenue stabilisation via the cap and floor regime. This was provided in part due to recognition of the significant Capex investment required to build an interconnector cable. However, other providers of bulk flexibility, including pumped storage, cannot access such instruments despite providing a number of services needed by the grid whilst facing the same investment challenges. For example, SSE has planning consent for a pumped storage project in Scotland which would double the UK's total current pumped storage capacity and can provide a seasonal flexibility solution, yet cannot within the current market arrangements be assured of the revenue streams needed to underpin the significant capex investment.

SSE encourages the government and Ofgem to extend the role of revenue stabilisation for wider flexibility provision, either via cap and floor, or another instrument.

## What matters should the Government take into account in considering the policy framework for electricity generation?

At an overarching level, Government must take into account the need for a framework which can deliver the scale of investment required to meet decarbonisation and security of supply objectives. In seeking the most cost-effective framework for bill payers and consumers, the Government needs to ensure the framework achieves the right balance of risk and reward for investors. A stable and predictable policy framework which can withstand short-term political pressures increases confidence for investors and therefore reduces the cost of capital.

Government must also ensure that the policy framework is focused on outcomes, rather than specific technology or other solutions. Any barriers to technologies participating in various markets should be removed but mechanisms should not be designed to deliver technology-specific outcomes.

In practice this means that Government should not seek to procure nuclear generation via bilateral CfDs or nuclear only auctions. If government believes that low carbon baseload power is the product required then it should auction for that product, to encourage alternative providers to come forward.

## What additional evidence should the Government consider to reduce the cost of electricity generation in the longer term?

The Government should assess the cost of generation from a system-wide perspective and not just by specific market outcome. Evidence gathering should include:

- Impact on prices across markets e.g. peaking plant may appear cheapest in CM terms but will impact peak prices in the wholesale and balancing markets.
- System integration costs (however, we note that this is a complicated topic so should not be approached in a simplistic way).
- Any network charge or policy cost avoidance distorting the attractiveness of the technology and whether it is connected at transmission level, distribution level or behind the meter. These should be addressed at source.

## 2. Electricity Transmission and Distribution

Scottish & Southern Electricity Networks (SSEN) is part of the SSE Group and responsible for maintaining the electricity networks supplying over 3.7 million homes and businesses across central southern England and north of the central belt of Scotland.

SSEN owns one electricity transmission network and two electricity distribution networks, comprising 106,000 substations and 130,000 km of overhead lines and underground cables across one third of the UK.

The costs of operating and maintaining the wires and cables of the UK electricity networks are paid for by customers through their energy bills. SSEN recognises the importance of networks in the debate around the cost of energy and has a record of operating efficiently whilst meeting the challenges of decarbonisation and delivering a platform for a smarter, more flexible energy system which will benefit customers in the coming years.

### What are the longer-term challenges for electricity transmission and distribution?

The last decade has seen a period of significant change for electricity networks. As well as the dramatic rise of low carbon generation, around a million households have their own generation and large energy users are increasingly seeking to benefit by flexing their electricity demand. SSEN recognises that smart network systems will play a much bigger role going forward. Network operators have already made significant progress in adapting to the emerging energy system. This is demonstrated by the connection of over 25GW of renewable generation; of which 5GW is in SSEN's network area.

In the past three years through business as usual, and prior to that through innovation funded projects, SSEN's use of Active Network Management (ANM) systems and Flexible Connections has allowed an additional 93MW of distributed generation to connect in constrained areas, thereby allowing network access at a lower wait time and reduced cost. SSEN anticipates a further 500MW of flexible connected generation by 2023 through the SWOTS, ANM and other flexible connections.

To continue to make progress in facilitating low carbon networks efficiently, transmission and distribution companies need a stable regulatory framework that focuses on outputs and allows them to develop business plans according to their customers needs. SSEN believes the RIIO framework provides this stability and any required changes should be evolutionary rather than a major overhaul of policy.

#### Facilitating a smart & flexible system

As a licenced Transmission Owner (TO) and Distribution Network Operator (DNO) that serves over 3.7 million customers across Great Britain, SSEN recognises it has a crucial role in addressing the challenges associated with delivering sustainable, affordable and reliable electricity. Both transmission and distribution networks must cope with much greater levels of complexity, in order to allow a bigger pool of network connected devices to communicate and trade together efficiently and securely. A major challenge will be to achieve this in a way that does not unnecessarily add complexity or costs to end users, but rather increases participation by making the benefits clear and accessible to all customers. For example, SSEN's NINES project demonstrated at scale that demand flexibility from domestic electric heating can be accessed without being an inconvenience to end users whilst matching renewables generation output and respecting physical network constraints. In SSEN's "Supporting a Smarter Electricity System" report<sup>3</sup> we outlined the principles and priorities that are guiding our customer focussed strategy.

SSEN supports the rationale of procuring flexibility as an alternative to upgrading the network, which was similarly at the heart of the Smart Systems and Flexibility Plan<sup>4</sup> published jointly by BEIS & Ofgem in 2017. In line with our long-standing role as an enabler, with no bias towards technology or customer group, we see our role as being a neutral market facilitator. The facilitation of flexibility markets is already progressing both through the ENA led Open Networks Project and individually by

DNOs who are increasingly focussed on regional challenges. For example, SSEN has issued Constraint Managed Zone (CMZ) tenders to use the flexibility offered from Distributed Energy Resources (DER), Demand Side Response (DSR) and energy efficiency as an alternative to reinforcing the network. This is incentivised by the RIIO regulatory framework using a totex framework that treats opex and capex equivalently i.e. DNOs will procure flexibility if it is available at a lower cost than building new network infrastructure.

#### Networks supporting a low carbon system

In SSEN's Scottish network around 50% of the connected generation is now on the distribution network, which regularly exports onto the wider transmission system. Increasingly this is done through flexible connection arrangements to use network infrastructure more effectively. Looking forward, the continued decentralisation of energy will increasingly require local solutions to meet consumers' needs. This requirement is motivating SSEN's North of Scotland Future Energy Scenarios<sup>5</sup> work where we are bringing local users into our network planning. In this regard the "whole energy system" planning approach will be critical. At the local level innovation projects such as ACCESS<sup>6</sup> are also helping communities to make the most of their local generation and flexibility. We believe this 'bottom-up' way of dealing with challenges offers the best approach for our customers.

<sup>3</sup> <https://www.ssepd.co.uk/SmarterElectricity/Report/>

<sup>4</sup> <https://www.gov.uk/government/publications/upgrading-our-energy-system-smart-systems-and-flexibility>

<sup>5</sup> <https://www.ssen-transmission.co.uk/information-centre/industry-and-regulation/future-energy-scenarios/>

<sup>6</sup> <http://www.accessproject.org.uk/>

The number and timing of CMZs will depend on how load growth changes, particularly at the winter peak. In recent years national peak demand has levelled off and to some extent reduced. The electrification of transport and heat are both expected to increase local and national demand peaks. If, for example, Electric Vehicles (EVs) continue to increase at their current trajectory the way CMZs are issued will need to evolve alongside other price signals to ensure the benefits from flexibility are realised. There is work to do to update the industry planning standards and commercial arrangements to adapt to the evolving system; this is being progressed through the ENA Open Networks project<sup>7</sup>. Importantly, this work will address discrepancies between how resources are treated on transmission and distribution networks, which can otherwise create market distortions.

### Charging arrangements

Professor Helm's Review supported a transition towards Nodal pricing, which would better reflect both the temporal and spatial factors involved in distributing electricity. Due to the increase of distributed energy resources and DSR these alternative pricing models deserve consideration. Nevertheless, concerns of price volatility and the disproportionate effect it has on certain customer groups e.g. remote communities needs to be addressed, and a balance will be required between increasing complexity and maintaining transparency. In addition to the Open Networks Project, there are various work streams being progressed by Ofgem<sup>8</sup>, National Grid<sup>9</sup> and BEIS<sup>10</sup> that will address this, as well as issues around market access, metering and protocols for network connected devices. Progressing and coordinating these work streams together offers the best route to creating incentives whilst protecting customers' interests more widely. SSEN believes Ofgem's Charging Future Forum (CFF) can be pivotal in achieving this.

Energy networks provide critical national infrastructure and are core to delivering a low carbon system. SSEN acknowledges the need to use network infrastructure efficiently but reject the notion that networks and generation can be treated equivalently under a single licence. To the contrary, under the Open Network's Project definition, electricity networks are the delivery mechanisms facilitating markets composed of distributed generation, storage and flexible demand.

Regarding competition, there is already evidence that the current regulatory arrangement facilitates choice. For example IDNOs and Independent Connection Providers (ICPs) are actively providing competitive quotations for network connections and future islanded energy solutions. We are not aware of any barriers to customers seeking connections from these organisations.

As well as evolving flexible connection arrangements, the allocation of network costs requires further thought as we transition to a smarter, low carbon energy system. SSEN welcomes a steer from policymakers on how network companies can best support their wider policy objectives such as decarbonising heat and transport. Nevertheless, as the existing industry standards are driving higher levels of network reliability and safety for customers, SSEN believes that rigorous reviews, which are open and transparent, are the best way to evolving industry standards; an example of this is the ENA's review of Engineering Recommendation P2 that underlines reliability standards<sup>11</sup>.

Electricity networks could be utilised less in highly de-centralised energy scenarios, however in the foreseeable future they will play a crucial role in providing a reliability supply and connecting low carbon supply to consumption. SSEN supports customers reacting to forward looking charges that help reduce network related costs in a reflective manner; however, we have concerns with any customer action that seeks to avoid costs that are unrelated to customer behaviour e.g. residual charges, as these will simply be passed on to other customers.

## What matters should the Government take in account in considering the framework for network regulation, and its associated institutional framework?

### Progress under RIIO

The RIIO regulatory framework has encouraged and succeeded in ensuring network companies are focussed on delivering customer service, outputs and innovation that meet customers' expectations, now and in the future. The RIIO framework was implemented in 2013 and there is a growing body of evidence that demonstrates networks are succeeding in delivering a high level of performance for their customers. The incentive mechanisms introduced in RIIO are widely recognised as being very effective in:

- Driving improved network reliability and customer service
- Encouraging investment; SSEN's Transmission business invested £3bn in RIIO-T1 alone
- Connecting new and innovative technologies and taking a technology agnostic approach
- Using innovative approaches to increase network capacity margin in a cost-effective way
- Ensuring that vulnerable customers are identified and protected
- Improving the connection process and time it takes to get connected – flexible connections are also making it significantly cheaper to connect to constrained networks

<sup>7</sup> [http://www.energynetworks.org/assets/files/electricity/futures/Open\\_Networks/ON-WS1-P4%20Commercial%20Paper%20\(Final%20Draft\)-170816-final.pdf](http://www.energynetworks.org/assets/files/electricity/futures/Open_Networks/ON-WS1-P4%20Commercial%20Paper%20(Final%20Draft)-170816-final.pdf)

<sup>8</sup> <https://www.ofgem.gov.uk/publications-and-updates/charging-futures-forum>

<sup>9</sup> <https://www.nationalgrid.com/uk/electricity/balancing-services/future-balancing-services>

<sup>10</sup> [https://www.ofgem.gov.uk/system/files/docs/2017/11/171107\\_ssf\\_terms\\_of\\_reference.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/11/171107_ssf_terms_of_reference.pdf)

<sup>11</sup> [www.energynetworks.org/news/press-releases/2015/may/electricity-networks-launch-a-review-of-engineering-recommendation-p2.html](http://www.energynetworks.org/news/press-releases/2015/may/electricity-networks-launch-a-review-of-engineering-recommendation-p2.html)

Since privatisation network companies have helped to connect over 25GW of renewable energy at the same time as reducing network costs to customers. Whilst we are only part of the way through RIIO-1, the outputs based approach has demonstrably provided the right incentive mechanisms to support efficient investment in vital new energy infrastructure.

Collectively, electricity network companies have also been improving customer service through stakeholder engagement and have developed safeguards for those that are vulnerable. Recent data published by Ofgem<sup>12</sup> shows both DNOs and TOs are continuing to perform well. For example, this included a year-on-year fall in supply interruptions and importantly customer satisfaction scores also showed significant improvement.

GB is rightly recognised as having a regulatory regime that is highly responsive to changing societal expectations and customers' demand. There is a natural tension about the perceived complexity and cost of the regime and a valid concern about the perceived 'sharpness' of incentives to control costs. Ofgem has acknowledged these issues in the Open Letter on the RIIO-2 Framework, as future price controls are considered.<sup>13</sup>

Whilst SSEN believes that the GB regulatory framework is working well, we recognise there will be room for improvement in the next price controls (RIIO-2). RIIO itself is the result of an evolutionary process and RIIO-2 will have access to a comprehensive evidence base for Ofgem to use to inform their decisions. To better manage uncertainties such as EV growth SSEN is active in industry discussions on how necessary flexibility can be accommodated within RIIO-2. Nevertheless, we maintain the position that stable, totex based price controls, are in the interests of customers over the RIIO-2 timescale into the 2020s. Based on industry forecasts such as National Grid's FES<sup>14</sup> and our own work, even in scenarios where we are required to significantly invest in opex solutions to efficiently manage new load and/or supply, we think the RIIO framework remains appropriate. Alternatives of either removing price controls or separating network ownership from system operation at the distribution level, risk significantly delaying the progress being made, for example on local flexibility tenders and ANM systems. Unlike the transmission system, distribution network connected assets do not have the same controllability and visibility, and the decision making process of investing in new assets and flexible solutions is much more localised. Further, the interdependence of system operation and maintenance of network assets at the local level means separation at this point would be impractical or else highly disruptive. We do acknowledge, however, that by 2030 there may be a stronger case for reviewing whether system operation arrangements remain fit for purpose.

SSEN believes that the focus of price controls must continue to shift towards recognising the needs of end customers, communities and affected stakeholders. As smart meters and new technology rollout, network companies will remain a critical function that protect and work for all customers. This will range from cyber-security issues to providing fair and cost reflective network charging arrangements. A key benefit of the current framework is that it provides clear accountability of what is expected from network companies.

Whilst industry collaboration is strengthening, as demonstrated by the ENA's Open Networks Project, we believe there remains a gap in considering whole system approaches. We welcomed recognition of the interdependencies in the Government's Industrial Strategy and Clean Growth Plan, and we now look forward to progress in this area. For example, BEIS recently outlined its intention to invest into the challenge of 'Prospering from the energy revolution'<sup>15</sup>. SSEN particularly sees value in exploring how Local Planning Authorities can be supported by network companies and other industry partners, to address sustainability challenges and opportunities through a whole systems approach.

## **What additional evidence should the Government consider to reduce the cost of electricity networks in the longer term?**

SSEN believes a greater focus could be placed on policy outcomes and their priority. For example, there is a drive towards greater cost reflectiveness and competition; however, there are also calls for greater socialisation of energy bills, which risk being contradictory objectives. To address this, open debate is welcome on how network costs can be both cost reflective and distributed fairly. SSEN is particularly keen to avoid unintended consequences from 'free riders' or 'technology lock-in', which often pushes costs towards those who can least avoid or afford them. For example, there is a risk that alternative network arrangements are being developed due to their ability to avoid regulation and its associated costs.

Scrutiny of network costs has recently intensified and SSEN is keen to address the negative representation of the benefits delivered by RIIO. One of the key issues raised is totex performance. Importantly the RIIO framework encourages and shares the benefits of any underspend between both the network company and customers. Much of this reduced expenditure has happened because of network decisions to respond to economic signals and defer upgrades. As a result customers will benefit from long-term cost savings beyond the eight-year price control. This further provides justification for network companies deploying opex solutions such as CMZs as a way of reducing long-term costs. RIIO is designed so that there is a symmetrical risk and reward to both network companies and customers, while ensuring that companies remain focused on delivering outputs, for example on safety and reliability.

<sup>12</sup> <https://www.ofgem.gov.uk/network-regulation-riio-model/network-performance-under-riio>

<sup>13</sup> [https://www.ofgem.gov.uk/system/files/docs/2017/07/open\\_letter\\_on\\_the\\_riio2\\_framework\\_12\\_july\\_final\\_version.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/07/open_letter_on_the_riio2_framework_12_july_final_version.pdf)

<sup>14</sup> [fes.nationalgrid.com/fes-document/fes-2017/](https://www.nationalgrid.com/fes-document/fes-2017/)

<sup>15</sup> (P45) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf)

SSEN believe that RIIO price controls provide the best framework to ensure protection and value for customers. Network costs on bills have fallen by 17% since privatisation and electricity network costs only add up to 23p per day for an average domestic customer<sup>16</sup>. At the same time the number and length of power cuts on distribution electricity networks has also almost halved since 2002<sup>17</sup>. In terms of innovation, significant stimulus has been given to network companies to find new and improved ways to operate. In an independent review of the Low Carbon Networks Fund it was estimated that the future networks benefit from the LCNF projects is between 4.5 to 6.55 times the costs of the original funding<sup>18</sup>. SSEN is working closely with other network companies to turn innovation into BAU and there are now examples of this happening. We strongly believe that any short-term changes to the regulatory framework would undermine the progress being made and will delay the transition to a low carbon system, which will ultimately raise customer costs..

<sup>16</sup> <https://www.ofgem.gov.uk/publications-and-updates/infographic-energy-network>

<sup>17</sup> <https://www.ofgem.gov.uk/network-regulation-riio-model/energy-network-how-it-works-you>

<sup>18</sup> [https://www.ofgem.gov.uk/system/files/docs/2016/11/evaluation\\_of\\_the\\_lcnf\\_0.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/11/evaluation_of_the_lcnf_0.pdf)

### 3. Electricity Supply

SSE is one of the largest energy suppliers operating in the competitive energy markets in Great Britain and Ireland. At 30 September 2017, it supplied electricity and gas to 7.72 million household and business accounts. It also provides other related products and services through its SSE Energy Related Services division including telephone, broadband and boiler care to 0.46 million household and business customers.

#### What are the longer-term challenges for electricity supply?

SSE believes that the GB energy supply market is highly competitive. As competitive pressures in the market continue to intensify, one of the biggest longer-term challenges will be how market participants remain sufficiently agile and flexible to ensure they are focused and capable of delivering competitive offerings for customers.

Since the GB energy market was first referred to the Competition and Markets Authority (CMA), the energy supply market has evolved rapidly. Low barriers to entry and expansion mean there are now over 60 suppliers actively competing for customers in the market, with small and mid-tier suppliers continuing to grow their market share. Ofgem's data indicates that the market share of small suppliers has grown significantly; reaching 18% in Q2 2017, up from 14% in the same period of the previous year.<sup>19</sup> This trend is likely to continue and in October 2017 32% of consumers who switched supplier moved to small or mid-tier suppliers.

Notably, in recent months a number of experienced new-entrants from overseas have moved into the GB energy supply market, including ENGIE and Vattenfall, while Shell announced it had signed an agreement to purchase First Utility. Taken together, these changes are all likely to further competition.

Alongside this, consumer engagement in the market continues to increase as demonstrated through ongoing increases in switching rates, which has been supported by the Energy Switch Guarantee which now extends across 90% of the market. EnergyUK figures indicate that last year 4.5 million customers took steps to save on their energy by switching electricity provider.

Looking to the future, the GB energy supply market will be subject to significant technological change which has the potential to increase competitive pressures in the market and, ultimately, benefit consumers. Consumers will be empowered through the roll out of smart meters, which will end the need for estimated billing by providing real-time information on consumers' energy usage. Alongside this, connected homes, domestic household batteries and blockchain all have the potential to disrupt traditional business models in the GB energy supply market. This shift to a smarter energy system will require suppliers to be focused on the future, with the capital to invest in innovation to ensure they are able to respond to changing consumer demands.

#### What matters should the Government take into account in considering the longer-term operation of the retail market?

The future GB retail market is likely to be characterised by increased: competition, customer engagement and technological change. It is against this backdrop that SSE would encourage the Government to consider the potential unintended consequences and impact on the longer-term operation of the competitive market of a market wide price cap and the small supplier exemption.

##### Competition, not caps, best serves customers' long term interests

SSE knows that the rising cost of energy is a concern for many people, especially the fuel poor, and takes seriously its responsibility to help vulnerable customers manage the cost of their energy. In any market, it is likely there will be a group of customers who, for a variety of reasons, face challenges in engaging in the market and it is right that additional protections are in place for these customers. SSE therefore accepted Ofgem's decision to implement a targeted, time-limited vulnerable customer safeguard tariff, which is to be implemented in February 2018.

However, SSE believes an absolute cap, as proposed in the Government's draft Domestic Gas and Electricity (Tariff Cap) Bill, would disproportionately extend price regulation to a blanket group of customers, not necessarily in need of financial support. Given the CMA inquiry identified a need to drive increased response rates from customers, there are already a series of other interventions being introduced to remedy these, including Cheapest Market Offer trials, a disengaged customer database and quicker switching. In addition, the smart meter roll out seeks to improve consumer engagement, competition and energy efficiency by allowing customers visibility over their energy consumption and costs in real-time. These are far-reaching and resource-intensive industry change programmes that industry, and ultimately consumers, have invested heavily in and so SSE believes they should be allowed to run their course and for their effects to be realised before additional measures are pursued which may undermine these existing programmes.

It is highly probable that a significant policy intervention, such as a legislated market-wide price cap, could be detrimental to the increased competition seen in the GB energy market and undermine: the higher rates of switching and increased customer engagement now seen in the market; suppliers' ability to invest in customer service and innovation; and the considerable number of reforms already being delivered by Ofgem and suppliers.

<sup>19</sup> See Ofgem's data at: <https://www.ofgem.gov.uk/data-portal/retail-market-indicators>

### **Professor Helm's proposed default tariff**

SSE notes that Professor Helm recommends the government's proposed price cap for SVT customers should be based on wholesale costs, other pass-through costs and a maximum retail supply margin. Should Government proceed with a market-wide price cap, SSE believes Ofgem should undertake a full impact assessment with market participants and wider stakeholders. However, in relation to the model proposed by Professor Helm, SSE would encourage Government and Ofgem to consider the following:

- The proposed default tariff would set a maximum retail margin, but further clarity is required around what might be deemed a "fair margin" and what level of margin is sufficient to encourage competition and new entrants into the GB energy market. If margins are calculated as a percentage of the controllable costs only, this would assume that suppliers have no exposure or risks to manage in a competitive market. However, suppliers face multiple risks from unexpected movements in energy costs, non-energy costs and changes in volumes from customer switching, weather etc. These are only partially mitigated by hedging.
- The proposed model would result in all components of the bill, except the supply margin, being automatically adjusted with suppliers assuming responsibility for accurately reflecting and reporting how the cost pass-throughs are adjusted, with an error correction mechanism. Further clarity is required as to how automatic adjustment would work in practice and how the methodology would be calculated.
- Professor Helm's suggested approach highlights the importance of supplier efficiency but there is no detailed discussion of the costs required to ensure a realistic efficiency. This is no simple matter as competing suppliers will potentially be at different stages of major investment projects based on differing strategies and forecasts of customer requirements. Also, larger suppliers tend to have a greater number of customers who are more expensive to serve, given they are more likely to face payment difficulty which requires larger suppliers to write off bad debt, provide more vulnerability support etc. This compares to new entrants who, in many cases, actively pursue customers who can be served at a lower cost.
- Professor Helm's proposed default tariff risks being confusing for customers. Currently tariffs are either fixed or variable, but the default tariff being proposed would be subject to regular change to ensure the continuing accuracy of pass through costs. This would require frequent communications to customers to inform them of these price changes.
- Professor Helm does not clarify the need for any potential price cap to be time-limited or subject to review. SSE believes any significant market interventions should be regularly reviewed to ensure any impacts on the competitive market are fully understood and to help mitigate any unintended consequences, such as a reduction in customers switching.

### **Ensuring fair outcomes for all consumers by ensuring a level-playing field for all market participants**

SSE believes the GB energy market is highly competitive and there are now over 60 suppliers actively competing for customers. It is clear that barriers to entry and expansion in the GB energymarket are low and SSE believes the Government should look to remove current market distortions to ensure the market fairly serves all customers.

Smaller suppliers with less than 250,000 customers are currently exempt from obligations such as the Energy Company Obligation (ECO) and the Warm Home Discount (WHD). On average, these policies cost obligated suppliers around £30 per customer each year. Currently, around 5% of customers are with non-obligated suppliers and so policy costs are not apportioned fairly across all customers. Indeed, it should be noted that a number of exempt smaller suppliers are not new-entrants, but rather well-established market participants. As the market share of small and mid-tier suppliers continues to increase, SSE would encourage the Government to ensure a level playing field between the larger and smaller suppliers by reviewing the current thresholds to ensure fair outcomes for all consumers.

### **What additional evidence should the Government consider to reduce the cost of electricity supply in the longer term?**

SSE shares the Government's objective to reduce the cost of electricity supply in the longer term and one of its key goals is to offer consistently competitive prices and do what we can to keep energy as affordable as possible. Although the transition to low carbon generation and the required upgrades to the networks are necessary, they do increase short term costs for consumers. SSE would therefore encourage the Government to consider the following three points:

- ***Fund social policies progressively through means tested general taxation***

While SSE supports all measures that result in meaningful benefits to vulnerable customers, it has long advocated the need for those policy costs not associated with the operation and running of the GB energy system to be put into general taxation. This would be a more progressive way of funding social policies, ensuring that all costs are means tested and fairly spread according to customers' ability to pay.

- ***Ensure full transparency of taxes, levies and legacy costs on energy bills***

As a provider of an essential service, SSE's operations in the GB energy market are subject to considerable, and legitimate, political interest. However, if consumers are to trust that the price they pay for their energy is fair, greater transparency is needed over the make-up of their bills. Energy suppliers do not control the Feed in Tariffs (FiTs), low carbon CfDs, capacity contracts, transmission and distribution costs, and other taxes and levies that are paid for via energy bills.

SSE notes that Professor Helm identified that the legacy costs from the Renewables Obligation Certificates (ROCs), FiTs and CfDs are a "contributor to rising final prices, and should be separated out, ring-fenced, placed in a 'legacy bank' and charged separately and explicitly on customer bills. Although further detail is needed around how a 'legacy bank' might work in practice, SSE would welcome greater transparency around costs on consumers' bills. However, SSE believes both domestic and non-domestic customers should be liable to fund the transition to low carbon generation.

- **Control the costs of the smart meter roll out**

SSE supports the objectives of the smart meter roll out, believing it represents a unique opportunity to transform the relationship between customers and suppliers. Over time, smart meters could also help reduce household energy bills and carbon emissions from domestic properties, if accompanied by changing consumer behaviours. While SSE expects that smart meters will help support customer engagement in the market, owing to delays to the supporting infrastructure and ongoing technical constraints, the cost of delivering smart meters to 100% of customers by 2020 is escalating.

The 2016 Cost Benefit Analysis indicated the cost of delivering the programme was £10.98 billion; however, suppliers expect this to increase given industry-wide experience of low-customer demand. SSE would therefore encourage the Government to consider whether a voluntary opt-in programme remains the most suitable approach for delivering the rollout within the timeframe.

## **4. Cross Cutting Issues**

### **Are there any other matters that the Government should consider to reduce the cost of energy in the longer term?**

The Terms of Reference for the Cost of Energy Review focussed on the electricity supply chain, and therefore have not allowed for a comprehensive view of energy costs across the wider system. SSE believes that the Government will need to take a view of the whole energy system in considering the cost of energy over the long-term, particularly as further progress is made towards decarbonisation.

SSE's response to the Government's Call for Evidence makes clear our view that significant progress has been made in decarbonising the power sector in a secure and affordable way. If the UK is to meet its climate change commitments over the coming decades it will become necessary to see similar progress in the decarbonisation of the heat and transport sectors, which account for over half of energy demand and a significant proportion of carbon emissions.

The decarbonisation of heat and transport will require a range of solutions and have an impact across the economy. If this is to be achieved in a way that is efficient then it is necessary for the Government and industry to take a view of the whole energy system and the interdependencies between power, heat and transport in order to meet the needs of customers at lowest cost.

The Government could also consider the difference between energy prices and energy costs and the action that can be taken to reduce customer bills. As explained above, a stable policy framework, including competitive auctions and effective regulation, has been successful in keeping costs as low as possible for consumers. In order to reduce customers' energy bills the Government may consider how policy costs are apportioned between bill payers and wider society through general taxation.

