

# NIC Future of Regulation Study

12 April 2019

## Introduction

Energy UK is the trade association for the GB energy industry with a membership of over 100 suppliers, generators, and stakeholders with a business interest in the production and supply of electricity and gas for domestic and business consumers. Our membership covers over 90% of both UK power generation and the energy supply market for UK homes. We represent the diverse nature of the UK's energy industry – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership.

Our members turn renewable energy sources as well as nuclear, gas and coal into electricity for over 27 million homes and every business in Britain. Over 680,000 people in every corner of the country rely on the sector for their jobs, with many of our members providing long-term employment as well as quality apprenticeships and training for those starting their careers. The energy industry invests over £12.5bn annually, delivers around £84bn in economic activity through its supply chain and interaction with other sectors, and pays £6bn in tax to HMT.

This is a high-level industry response to the National Infrastructure Commission's Future of Regulation Study call for evidence. We would be happy to discuss any of the points made in further detail with the NIC or any other interested party if this is considered to be beneficial.

## Executive Summary

We believe that competitive markets deliver the best results for consumers through innovation and adaptation to evolving consumer demands. Since privatisation in 1991, competition in both energy generation and energy supply markets have delivered for customers through lower costs and secure supply, whilst simultaneously driving innovation. Any changes to the regulatory regime must, therefore, ensure that the energy sector remains a safe and reliable place to invest in order for the full benefits of new technologies and methods to be realised for the consumer.

New, innovative products and service offerings have the potential to enthuse and excite the consumer, providing new avenues to market engagement that help achieve a low carbon energy system delivering excellent service, choice and value for money to all UK's homes and businesses. We cannot, and should not, attempt to second-guess exactly how consumer expectations will evolve alongside technology. However, we are already beginning to see new service offerings being taken up by consumers, such as innovative EV tariffs, choosing smaller community generators, or securing the lowest possible cost for electricity supply on an ongoing basis. Such market developments, in particular a possible increase in cross-sector offerings, could give cause to refining the manner in which sector-specific regulators interact, or even for reforming the means by which these converging consumer markets are regulated. However, the costs and benefits of any such proposals must be assessed in full for a robust business case to be put forward.

Data will be at the heart of these new, innovative approaches to engage consumers in the energy market and needs to be effectively harnessed. It will, therefore, be important to have the most efficient regulatory regime in place to ensure appropriate access and protections are in place, and hold

accountable those making use of this proliferation of customer and system data. These data-driven or enhanced services or products will not be limited to energy alone so it will be important for Government, regulators and industry to think cross-sectorally when designing governance and market structures.

### Future Changes

- *Where has the economic regulation of energy failed or succeeded to (A) facilitate future investment needs, (B) promote competition and innovation, and (C) meet the needs of both current and future consumers?*
- *What are the most important improvements that could be made to the UK's system of economic regulation?*
- *How might the scope, functions or activities of economic regulators need to adapt in light of future challenges (e.g. decarbonisation)?*
- *How might the increasing availability of data impact future regulation? Can data increase the pace at which regulation responds to change, enabling innovation?*

### Regulatory Reform

Energy UK believes that competitive markets deliver the best results for consumers through innovation and adaptation to evolving consumer demands, and in response to long-term policy aims, such as decarbonisation. The current supplier hub model successfully sees suppliers providing a single, easily understandable and recognisable interface for the consumer to ensure that: system costs are settled; wholesale risk is managed on behalf of consumers; consumption is metered; social and environmental obligations are collected and delivered on behalf of government; and that there has been a conduit for consumer protection. However, some elements of the central role that suppliers are currently mandated to fulfil are being challenged by evolving consumer expectations and technological advances. New retail entities or propositions may not be able to interact effectively with wider energy systems and back-office arrangements, such as the challenge of peer-to-peer models and the inability to have multiple suppliers servicing a single consumer. Ofgem and BEIS are already reviewing the future of the supplier hub model through the joint Future Energy Retail Market Review (FERMR).

Energy UK recognises that there is a need for a wider examination of the role of any economic regulator within energy and other regulated utilities. The role that the economic regulator in energy currently plays, and the manner of the regulatory framework, may not be the most effective means to achieve the best outcomes for the end consumer and maximise the potential of the energy transition. Much of the energy regulatory landscape could be characterised by overly-prescriptive licensing requirements on segments of the sector. The overly prescriptive nature of licensing within the energy market can act as a barrier to innovation.

In contrast to licensed market participants, we are seeing a growth in new services and market players that are outside of the traditional licensing regulatory model, such as price comparison websites, energy brokers and automated-switching services. With a majority of energy customers now making use of such services, there is a risk of customer detriment as the regulator is not set up to be adaptive to these evolving customer behaviours.

In order for the market to most effectively contribute to increased decarbonisation of the energy sector and realise the full innovative opportunities of digitalisation, we believe a rethink is needed in the way all market participants are regulated. One option worth exploring is to move to a functional approach to licensing: the regulator defines certain activities, and if you engage in them you are subject to their specific licensing aspects<sup>1</sup>. Such a licensing regime should be principles-base by default with targeted prescriptive elements where they are deemed necessary. Retaining the overly-prescriptive and rigid licences will limit the ability of market incumbents and new entrants to innovate and adapt to changing consumer expectations and technology. This is also why Energy UK has been supportive of Ofgem's Future of Retail Regulation programme which has most recently overhauled the previously prescription-

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<sup>1</sup> [Redesigning Regulation](#), Powering from The Future, Laura Sandys, Dr Jeff Hardy, Professor Richard Green, Dr Aidan Rhodes, 2018

based requirements for supplier-customer communications. By placing a greater reliance on principles-based regulation, we believe Ofgem can future proof the supply licence whilst also ensuring industry thinks more innovatively about how it can deliver good outcomes for customers, and secure the investment necessary for these innovations.

A functional approach could better foster innovation, allowing market participants to tailor their offerings to meet evolving consumer expectations and providing the regulator with a flexible and adaptive framework to bring new services or products within the scope of regulation. With all market participants under the scope of regulation, proportionate to the activities undertaken, it would also be the role for the regulator to ensure that any system-wide costs are appropriately divided between and collected from participants, guaranteeing a fair playing field and actively avoiding any competition-distorting 'free-riding'. Such considerations should include any necessary protections for those consumers who, due to being in a vulnerable circumstance, are less able to engage or take advantage of new offerings. As an example, the high upfront costs of solar panels and EVs will inevitably restrict access to related services and benefits to customers who can afford them. However, any protections must be designed in a way that benefits disadvantaged customers without, in a competitive market, placing unequal obligations and costs on different market players.

To see the full benefits of such a change there may also need to be an evolution in the way the regulator acts within the energy market, taking it from a central, prescriptive role to one more focused on supporting and fostering competition, whilst retaining proportionate enforcement powers to protect consumers. With this in mind, we look to the regulator to place effective and proportionate entry and monitoring requirements on all market participants, to protect customers and other market players. One option could be to base these requirements on the risk that each service provider places on the system, bringing equivalence in costs and burdens across the market.

### **Digitalisation & Data Utilisation**

The energy system is undergoing a transition, underpinned by digitalisation and transformative availability of data. Going forward, increasing volumes of analytical data will be generated across the sector, whether from customers via smart meters, or electric vehicles (EVs) and connected home appliances, or from elsewhere in the system such as generators, networks or third-party intermediaries. Such digitalisation may have more impact in electricity, partly due to the continuous need to balance supply and demand in real time, and the requirements placed on the system by the growth in renewables. However, it will take a whole-system approach (electricity and gas) to maximise the benefits of digitalisation and utilise progress to meet future challenges, such as decarbonisation.

There is a significant concern that much of this data is currently hidden from market participants, preventing its inherent value from being fully realised. This has led the Government to form the Energy Data Taskforce, led by the Energy Systems Catapult. Its remit is to recommend how industry and the public sector can work together to facilitate greater competition and innovation through more available and transparent data.

Energy UK believes that for both energy system and consumer data, the regulatory regime needs to facilitate and incentivise as much openness as is consistent with customer consent, data protection and other GDPR principles. However, the increasing availability of data does create greater challenges for regulation, particularly with regards to the use of personal data and protection of consumers' privacy. It may, therefore, be necessary for the NIC to also review the resources and powers of the Information Commissioner's Office to ensure that it aligns with wider market regulatory frameworks.

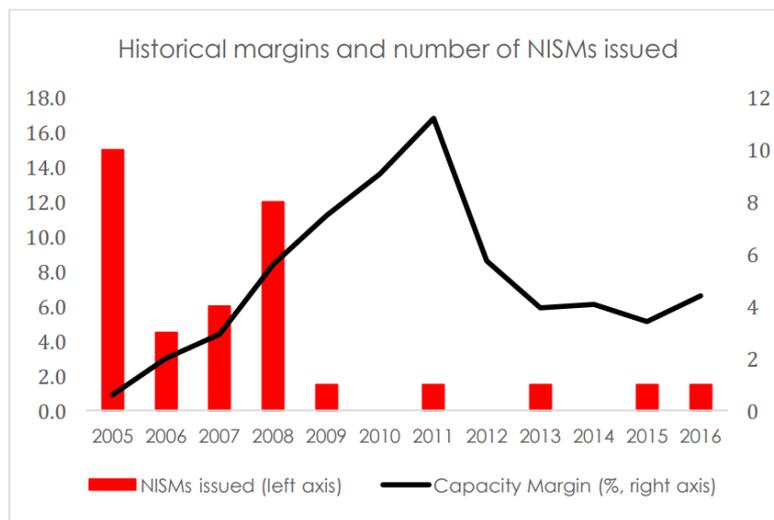
The importance of digitalisation and data within the energy system cannot be overstated. The innovations brought forward as a result will be driven by market participants, and to maximise its benefit there needs to be an appropriately flexible regulatory framework to enable this innovation. A number of workstreams are already underway alongside the NIC's regulation study that examine the role of regulation within the market and how it could be reformed to best enable innovation while continuing to secure necessary investment and allow competition to meet the decarbonisation challenge at the lowest cost for customers. Energy UK would urge the NIC to ensure that this workstream takes into account other projects, including energy-specific projects such as the FERMR and the Energy Data Taskforce.

## Competition & Innovation

- *How has the energy sector performed with respect to efficiency, since privatisation?*
- *How has competition impacted on investment, innovation and outcomes for energy consumers since privatisation?*
- *How has regulation affected the level of innovation compared to utilities in other countries and/or other comparable industries?*
- *When has regulation been too slow to adapt to changing market circumstances and what have been the consequences for consumers and investors?*

Since privatisation in 1991, competition has pushed the energy sector to use available resources more efficiently, while tackling the trilemma of security, affordability and sustainability facing the sector. This can be witnessed in many ways, including:

- In terms of security of supply, National Grid's reported winter margins have decreased considerably as a result of competition within the Capacity Market and also entry of innovative flexibility solutions such as storage and Demand Side Response (DSR), while the number of Notification of Inadequate System Margin (NISM) alerts have gone down over the past 10 years<sup>2</sup>:



**Figure 2:** Historical capacity margins and frequency of NISMs. **Source:** National Grid and Lazarus Partnership. Note: 2016 event occurred in May when multiple breakdowns rendered 1700 MW of capacity unavailable.<sup>11</sup>

- As the Committee on Climate Change reports, the sector has contributed significantly to decarbonisation of the economy, without putting pressure on household bills. Reduced energy demand, mainly attributed to increased uptake of energy efficiency measures, which are largely pushed by the Energy Company Obligation, have cut energy bill by at least £20 per month. Compared to 2008, a typical household spent £115 less on energy bills in 2016.

Competition in generation has delivered sizeable benefits for consumers. The Government's Contracts for Difference (CfD) scheme has provided a framework for low carbon to compete for contracts, pushing unit price of electricity generation from these technologies down. For example, the strike price for offshore wind fell by around 50% to £57.50/MWh for delivery in 2022/23 between the first two auctions held in 2015 and 2017 respectively. At the same time, competition in the Capacity Market scheme has guaranteed security of supply at a decreasing cost. The most recent T-4 auction, held in February 2018, secured a clearing price of £8.40/kW, which was 63% lower than in the previous year's equivalent auction.

<sup>2</sup> [https://eciu.net/assets/ECIU\\_Overpowered.pdf](https://eciu.net/assets/ECIU_Overpowered.pdf)

Competition in retail has also provided more choice to customers. The number of suppliers has increased drastically since mid-2000s, from 10 active domestic suppliers in 2006 to 69 in September 2018,<sup>3</sup> with competition pushing for the sector to develop innovative business models and customer solutions. At the same time, customers have become more engaged, with one switch taking place almost every five seconds in 2018 (5.9m switches in 2018 compared to 3.2m in 2014).<sup>4</sup>

The sector invests over £10bn a year in gas and electricity services and infrastructure alone.<sup>5</sup> Since privatisation, £170bn has been invested in gas and electricity infrastructure and services<sup>6</sup> across the industry to improve services to customers, protect security of supply and increase energy generation from low carbon sources. Between 2005 and 2017, the sector secured over £160bn of investment in clean energy alone.<sup>7</sup>

Since privatisation, the UK has been an attractive country to invest in renewables. As illustrated above, policies related to renewables, competition and low barriers to entry have secured sizeable investments in the renewables sector. Based on EY's Renewable Energy Country Attractiveness Indicator (RECAI), the UK has held its spot within the top 10 most attractive countries in which to invest for the past eight years or so.<sup>8</sup>

### Regulatory Consistency

- *Where could regulators work together more consistently to meet future challenges, achieve efficiencies or to promote better outcomes for consumers, investors or society?*
- *What changes to the existing regulatory framework would be necessary to promote greater collaboration and regulatory consistency? Are there functions that might be better provided on a multi-utility basis?*
- *What is the case for or against a multi-utility regulator covering energy, digital and water?*

The regulatory system will need to be set up to most efficiently monitor, support and enforce in a market that will likely see a growth in cross-sectoral offerings. Whilst we are not able to second-guess the availability of such products in the future, or their popularity with consumers, we can already see the potential for energy to become just one part of a bundled service as markets converge, especially for domestic customers. We risk undermining consumer confidence in such offerings if regulatory regimes are not aligned to reflect the way in which markets are engaged with by consumers, and how services are provided. The rise of smart home technology, the growing adoption of EVs, increasing volumes of micro-generation and the decarbonisation of heat could lead to a shift away from previous relationships based simply around “kilowatts” supplied. The information provided from connected home technology, such as appliance health, and heating system operation, may also lead to sector convergence. As one example, if a consumer purchased an EV bundled with financing, insurance, product guarantees, data analytics and energy supply, the regulatory system may not currently be designed to act in the most efficient manner to deal effectively and consistently with a failure on the provision of one or more of these services.

In a future where customers may also be engaging with multiple markets through a single entity (such as a third-party aggregator), consideration needs to be given to the best way to avoid potential consumer harm under these arrangements and maintain consumer confidence. Suitable solutions to address these potential challenges of the future and protect consumers may only need to be limited to greater communication and joined-up approach between sector-specific regulators and regulatory regimes, or a strengthening of underlying general consumer protections. Some more drastic ideas are also being discussed by others, which could be explored by the NIC. For example, Laura Sandys and Dr Jeff Hardy's recent paper, *Redesigning Regulation*, recommended the creation of a single essential

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<sup>3</sup> <https://www.ofgem.gov.uk/data-portal/number-active-domestic-suppliers-fuel-type-gb>

<sup>4</sup> <https://www.energy-uk.org.uk/publication.html?task=file.download&id=6997>

<sup>5</sup> <https://www.gov.uk/government/statistics/uk-energy-in-brief-2018>

<sup>6</sup> Based on Energy UK analysis of ONS Capital Expenditure data.

<sup>7</sup> [Bloomberg New Energy Finance](https://www.bloomberg.com/news/articles/2018-09-12/bloomberq-new-energy-finance)

<sup>8</sup> <https://www.ey.com/uk/en/industries/power---utilities/ey-renewable-energy-country-attractiveness-index>

service consumer regulator. Alternatively, an overarching consumer markets regulator based upon strengthened general consumer protection laws could be most adaptable to any convergence between increasingly digitalised markets that might become more commonplace. Such proposals, however, may not be accompanied by a roadmap to deliver the reforms from today's framework, leaving unanswered questions around implementation practicalities, as well as lacking any robust analysis of the costs and benefits of the proposal. Energy UK would urge the NIC to ensure that this workstream takes into account other such developments, including energy-specific projects such as the joint BEIS and Ofgem FERMR.

Naturally, there are pros and cons to each of these options, and other pertinent questions that are raised by each. For example, whether any multi-utility or wider consumer markets regulator would cover upstream markets and monopolies across utilities, or whether separate multi-utility regulators would be more beneficial, based on activity rather than sector. There may be competing or contradictory requirements between regulatory systems that stifle innovation or result in unnecessary extra costs for the customer. Efficiencies could be made and duplication reduced in work across similar consumer markets or issues, especially where there is increased convergence between markets. Regulator convergence could also enable more effective prioritisation and enable better sharing of expertise and information across sectors, developing a more consistent approach.

Ultimately, however, the impacts of any proposed changes to the manner of market regulation, whether limited to utilities or for wider consumer markets, must be assessed in full for a robust case for reform to be put forward. Energy UK is concerned about the risk of market disruption and uncertainty that could result from large-scale reforms to the system of market regulation, at a time when investment has never been more important to meet decarbonisation targets and fulfill the potential benefits of a digitalised energy system. There may also be benefits to the current sector-specific regulatory system that could be lost. Regulators may take different approaches for similar issues that allows for greater innovation in regulation overall. In addition, any convergence in regulatory regimes could lose the expertise that is needed to address market-specific complexities. In energy, for example, a growing number of consumers are also becoming producers and similar changes may alter the future dynamic between consumers and the energy regulator.

On a more particular point, with or without a multi-utility or wider consumer markets regulator, there is a strong case for greater cooperation and efficiencies to be explored within the identification and protections for customers in vulnerable circumstances. This would include better data-sharing between utilities, as well as relevant governmental departments such as the Department for Work and Pensions.

## **Policy & Regulation**

- *Is the traditional role of economic regulation sufficient to ensure future investment and to meet the needs of consumers, and if not, how might this role need to change?*
- *What should be the boundary between Government setting policy and strategic direction and independent regulation? Do the existing duties and functions need to be adjusted to reflect this?*
- *Has there been a lack of clarity over strategic goals? What is the cause of this, what has been the impact on investment?*
- *Are the Government's principles for economic regulation - accountability, focus, predictability, coherence, adaptability and efficiency - fit for purpose; and if not, how should they change?*
- *How can regulators act in the future to support public trust in the regulatory system for energy?*

## **Regulatory Principles**

With any regulatory reform, there is a fundamental need to ensure that the UK remains a safe and reliable place to invest in order for market competitors to continue to feel confident to innovate in the energy sector. An unreliable and opaque regulatory regime could risk the innovation and investment that is needed to realise the full benefits of the energy system transition that is currently underway. Energy UK's 2017 report on investment<sup>9</sup> showed how policy predictability, coupled with a long-term

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<sup>9</sup> <https://www.energy-uk.org.uk/publication.html?task=file.download&id=6303>

strategy, will deliver innovation, investment and security of supply, as well as attract least-cost capital in a low risk environment.

To attract the necessary investment that fully enables the development and implementation of innovation across the whole of the energy system it is paramount that the Government remains committed to independent and authoritative regulation, in line with the CMA's Energy Market Investigation recommendations. The CMA found that a lack of robustness and transparency in regulatory decision-making increases the risk of policy decisions that have an adverse impact on competition in the energy market.

The role of the Government should be to set out credible long-term targets that stimulate market activity and customer offerings to deliver those commitments. For example, its pledge to ban the sale of petrol and diesel vehicles by 2040 has already demonstrated the value of credible commitments, coupled with an appropriate incentive framework. Markets are already developing for low-carbon transport, and this approach can also deliver in decarbonising heat.

However, there has been insufficient clarity from Government over where decarbonisation sits as a policy priority, and insufficient clarity over how decarbonisation will be achieved in the short, medium and long term. This has made it difficult for Ofgem to create the right incentives sufficiently far in advance for regulated parties to enable this transition, for example enabling the transition to greater dependence in intermittent renewable generation, and the decarbonisation of transport and heat.

To address these concerns, the NIC could explore whether a clearer delineation of what is the locus of Government and what is the locus of independent regulators would be needed. It will be important to ensure that competitive markets are left to independent regulators, for example, and Government should not seek to dictate to or overrule independent regulators in this area. However, the NIC should consider whether an independent regulator should have regard for legally binding policy – and where its proposals would impact heavily upon policy set by Government, how the regulator should assess these impacts publicly and in full. Energy UK is concerned that it is counterproductive for policy (BEIS) and regulation (Ofgem) to fundamentally work against one another, and with neither responsible body having an obligation to discuss the contradictions to come to a robust, and public decision. Government should also be clearer about what level of priority is placed upon decarbonisation and set out further in advance, and in a greater level of detail, how it intends to achieve it. This should allow Ofgem or the relevant regulator to better structure network price controls and other system and market mechanisms to enable the transition.

In terms of Ofgem's current duties, there is a need for the regulator to ensure that a correct balance is struck between protecting the interests of existing consumers, and those of future consumers. This is Ofgem's primary duty, however there are concerns that some decisions by both the Government and Ofgem have unduly favoured the interests of current consumers, to the detriment of future consumers. Ofgem's wider guiding principles are:

- promoting value for money
- promoting security of supply and sustainability, for present and future generations of consumers, domestic and industrial users
- the supervision and development of markets and competition
- regulation and the delivery of government schemes.

Often, these are considered independently from one another rather than together, creating unintended outcomes. On costs, Ofgem is prone to think short-term and focus on what is cheapest for the consumer of today, but not on true value for money for future customers. Rather, it should be value for money which will determine whether consumers now and in the future are protected from paying too much, not how cheap it is today.

Energy UK believes that there may be scope for the NIC to review Ofgem's duties and guiding set of principles to determine how these could best have regards to decarbonisation and the legally binding commitment to reduce greenhouse gas emissions by 80% by 2050 (as well as the forthcoming guidance

from the CCC on net-zero). Ultimately, protecting consumers from the impacts of climate change is very much in their interests.

Internal and external checks and balances on the behaviour of sectoral regulators should also be maintained and strengthened. This could include ensuring greater transparency in decision-making, with the setting out of trade-offs between the interests of current and future consumers. The NIC should, also, recommend that the Government make a renewed commitment to proper scrutiny of regulatory decisions which improves decision-making and helps to sustain investor confidence.

In practice, this means a commitment to appeals on the merits to an expert body, as well as Judicial Review. It is widely recognised that good regulatory decisions are most likely to materialise where the regulator itself can be challenged, as regulators are not infallible and may not always have recognised the scale of the impact of their decisions on specific parties (including customers). For example, Ofgem's decision to impose a limit of four domestic tariffs on suppliers was later revoked by the CMA in its 2014-16 Energy Market Investigation, having been found to be detrimental to consumers. With new technologies and business models it may also not be reasonable to expect any sector-specific regulator to always have robust insight into the impacts of all changes on all parties.

Finally, we would also note that economic modelling is not a guarantee of real-life response and regulators must bear this in mind. In addition, where budgets are tight and the stakes are high an economics-only approach can be significantly undermined by poorly assessed input assumptions.

**If you would like to discuss the above or any other related matters, please contact me directly on 020 7747 2931 or at [steve.kirkwood@energy-uk.org.uk](mailto:steve.kirkwood@energy-uk.org.uk).**