



Making a positive difference
for energy consumers

Industrial Strategy Team
Department for Business, Energy and Industrial Strategy,
1 Victoria Street,
London,
SW1H 0ET

Email: chief.economist@ofgem.gov.uk

Date: 17 April 2017

Dear Sir/Madam

Green Paper on Building our Industrial Strategy

Introduction

Ofgem is the GB energy regulator and a non-ministerial government department. Our principal aim is to protect the interests of current and future energy consumers. This underpins all our activities and our engagement with partners in government, industry, consumer bodies and other regulators. We set out our consumer outcomes and strategic outputs in our Strategy Document.¹

We welcome the opportunity to comment on the government's proposed industrial strategy. A successful industrial strategy could help to achieve a step-change in the working of the UK energy sector, promoting an affordable, reliable and decarbonised energy industry that develops and uses world-leading technology. In our response, we first describe how the changes in the energy sector interact with industrial strategy, then outline some key issues the government may wish to consider in developing its strategy.

Drivers of change in the energy sector

The landscape of the energy sector is changing, and we expect the pace of this change to increase over the coming years. The energy sector in ten years' time will look very different from its current structure, with "as much innovation in the next eight years as we've seen in the last 25".² In addition, the variety of potential developments means that it will be difficult to predict exactly which direction the sector will move in. For instance, technological advances in other sectors could shape the sector in unpredictable ways. Our Future Insights papers have highlighted some of the possible dynamics in future energy system developments.³ Below, we highlight three of the most important drivers of change.

¹ Ofgem: Our Strategy (2015)

https://www.ofgem.gov.uk/sites/default/files/docs/2014/12/corporate_strategy_0.pdf

² EPRI "News spotlight" (September 2015)

³ Ofgem's insights on the future energy system

<https://www.ofgem.gov.uk/ofgem-s-insights-future-energy-system>

Cost reductions

Some energy technologies have seen rapid cost reductions recently, and the most cost-effective pathway to decarbonisation remains uncertain. In particular, the costs of solar photovoltaic and wind energy have fallen much more rapidly than expected. In September last year, Danish offshore wind auctions (in a somewhat different institutional setting) resulted in prices of £51 / MWh, less than half the prices reached just a few years ago. The costs of battery storage have also fallen rapidly, by up to 20% per year. Such cost reductions could be seen as a sign of the success of renewables policies, but they also imply a hangover of funding costs for investments made before costs fell, where these are guaranteed.

A particular issue with technological uncertainty is learning. Support for trialling and even scale deployment of new technologies is justified to learn more about their future costs. However, we should treat with caution arguments about needing to invest early in building supply chains and locking-in to the roll-out of particular technologies a long way into the future. There are substantial potential benefits from agility, from learning over time before making decisions and from commercial decision-making in competition with other options.

Innovation

The green paper identifies investing in science, research and innovation as a key pillar in driving growth. We agree with this assessment; strategic support for innovation can be crucial in overcoming the market failures in developing new technologies and approaches. We welcome the government's consideration of a new research institution to act as a focal point for work on battery technology, energy storage and grid technology, particularly if this can streamline the complex landscape of different bodies involved.

We are taking several actions to facilitate innovation in the energy sector. For instance, we launched the Innovation Link⁴ in December 2016, and the world's first energy regulatory sandbox⁵ in February 2017. The sandbox will allow innovators to trial business propositions that will benefit consumers without incurring all of the usual regulatory requirements. Through our Network Innovation Competitions, we provide an annual opportunity for network companies to compete for funding for the development and demonstration of new technologies, operating and commercial arrangements, with almost £100 million per annum available.

Heat

The decarbonisation of heat is one of the biggest challenges facing UK energy policy over the next few decades. Shifting our supply away from natural gas raises interesting questions regarding cost and choice for future consumers. We are keen to work with government to help answer these questions and create regulatory solutions for heat supply more broadly.

While energy efficiency is a clear short-term priority, we support the promotion of active experimentation in different models of providing decarbonised heat, ensuring that consumer interests are protected. For instance, there may be scope for further trials to investigate whether hydrogen can be used to heat homes and businesses. We discuss these issues more fully in our Future Insights paper – The Decarbonisation of Heat.⁶

⁴ The Innovation Link - <https://www.ofgem.gov.uk/about-us/how-we-engage/innovation-link>

⁵ Regulatory Sandbox: calling for expressions of interest
<https://www.ofgem.gov.uk/publications-and-updates/regulatory-sandbox-calling-expressions-interest>

⁶ Ofgem's Future Insights series – The Decarbonisation of Heat
<https://www.ofgem.gov.uk/publications-and-updates/ofgem-s-future-insights-paper-2-decarbonisation-heat>

Issues to consider

The breadth and importance of the industrial strategy mean that there is a wide range of issues for the government to consider as it is developed. We highlight four here:

- Building competitive markets in the energy sector.
- Reducing business costs – not redistributing them.
- Promoting flexibility – both of the energy sector and its governance.
- Encouraging long-term investment in an uncertain world.

Building competitive markets

The Competition and Markets Authority's recent investigation into the energy market found that several features of energy markets were having an adverse effect on competition, leading to higher consumer prices. It proposed a series of remedies designed to increase competition and lead to lower prices and more innovation over time. Many of the remedies were recommendations to Ofgem, and we are currently implementing them.

As the green paper recognises, subsidies and other forms of state support have played an important role in creating markets for new technologies and reducing costs. Competition for support under Contracts for Difference has already produced substantial benefits for consumers; the Competition and Markets Authority estimated that consumers benefitted by around £110 million per year from the first competitive auction in 2015.

We continue to encourage government to allocate future support competitively as far as possible, so that all technologies compete with each other. These are extremely important decisions, and the scale of the investment decisions involved in technologies such as nuclear, tidal lagoons, CCS, etc, is such that the implications of decisions will be felt on consumer bills for a significant amount of time. Competitive tensions between different technologies could potentially result in savings of billions of pounds on energy bills over the long run. Affordable decarbonisation with the lowest long-term costs for consumers can be achieved through fostering competition between technologies as well as careful modelling and analysis of their impact on consumer bills.

We also note that, the case for public support of some investment projects may rest on non-energy related objectives. For instance, part of the case for investment in tidal lagoons may be their potential role in facilitating regional regeneration. Particularly if costs continue to fall, other renewables such as offshore wind are likely to offer considerably lower costs for consumers than tidal lagoons. While we accept these are policy decisions for government, we would encourage government to consider ways of financing objectives such as regeneration outside of energy bills, for instance through taxation.

Where necessary, if additional support is needed for projects that are 'first of a kind', for example, bidding subsidies can be provided within a single auction. The system value of different technologies should be reflected through wholesale markets and network charges. It will also be important not to disadvantage smaller projects through the administrative costs of entering the auction.

In addition, to mitigate the overhang of past higher costs as technological development reduces costs over time, there may be a case for adjusting future long-term support contracts, for instance by reducing the rate of indexation of payments by several percentage points. This can reduce the likelihood of long-term contracts becoming substantially out of the money over time.

Reducing business costs

The easiest way to reduce the costs that large energy users face would be to redistribute them to other users, such as domestic consumers or smaller businesses. However, this of course creates further problems elsewhere, and cannot be a long-term way of promoting the competitiveness of UK business.

As well as through promoting competition, total costs could be reduced by improving business energy efficiency. This may require support for behavioural changes that build on technological advances such as smart metering. The infrastructure around smart technology will need to ensure ease of use, interoperability between different devices, robust data handling procedures and cyber security. We highlight these issues in our Future Insights paper – The Futures of Domestic Energy Consumption.⁷

There are particular issues with how easily microbusiness consumers can engage with energy sector developments, and microbusinesses typically pay more per unit of energy consumed than other firms. Expanding the scope of the government’s Midata⁸ project to include micro-business consumers could allow them to make better-informed purchasing decisions.

Promoting flexibility

The growth of intermittent sources of energy supply needs a more flexible energy system to maintain security of supply at acceptable levels of cost. We are working with the government to ensure our energy system can respond to the latest challenges, and take advantage of the opportunities offered by innovative technologies and services.

Given the level of technological uncertainty, approaches that prioritise learning, and use market mechanisms to discover the most efficient options, are likely to be most successful. Flexibility can also be promoted by encouraging a range of different business models – meaning that, as the green paper notes, it is important to identify and reduce the barriers to entrepreneurship and scale-up.

Facilitating a more flexible and consumer-focussed energy system will also require more flexibility in the governance of the sector. We can no longer rely on three or four-year projects to develop regulation that will set policy for the next decade. We are adapting our approach by, for instance, moving to a principle-based regime for the energy supply market and publishing our regulatory stances⁹, to give a clearer sense of the broad direction of our decision-making. Government also has a vital role to play here. The current code governance arrangements were not designed for the rapidly-changing energy sector that is emerging, and are a barrier to change, hindering innovative ideas from coming to fruition. Early legislation to enable reform could unlock a more flexible approach to regulating the energy system.

Encouraging long-term investment

The energy sector needs very substantial long-term investment to transition to a low-carbon and more decentralised world. Mobilising investment at reasonable cost will be key to the success of the energy sector in meeting consumer and societal objectives.

⁷ Ofgem’s Future Insights series – The Futures of Domestic Energy Consumption <https://www.ofgem.gov.uk/publications-and-updates/ofgem-future-insights-series-futures-domestic-energy-consumption>

⁸ BEIS (2016) Call for evidence: implementing midata in the energy sector <https://www.gov.uk/government/consultations/call-for-evidence-implementing-midata-in-the-energy-sector>

⁹ Ofgem’s regulatory stances <https://www.ofgem.gov.uk/publications-and-updates/ofgems-regulatory-stances>

Developments such as Electricity Market Reform have successfully reduced the risks that investors in low-carbon generation face.

Encouraging further investment, in a world of significant fundamental uncertainty, will require clarity of objectives and of the trade-offs between them. It will also need clear roles and responsibilities of the various bodies involved in the energy system. Our role as the independent regulator of the GB energy sector plays an important part in providing long-term confidence in developments in the system, allowing us to balance predictability for investment with flexibility to accommodate uncertainty. We believe that a more independent energy system operator will also help realise benefits for consumers by enabling a more secure, competitive and flexible system.

We look forward to working with government as it develops the industrial strategy further and begins to implement it. Successful collaboration, with clear responsibilities, will be key to ensuring the strategy's success. Should you wish to contact us, please do so at chief.economist@ofgem.gov.uk.

Yours sincerely

Martin Crouch
Senior Partner – Improving Regulation Division