

To all interested parties,

Open letter: call for engagement on Ofgem's Research Hub

This letter sets out our plans for developing an organisational Research Hub and outlines four areas where we would like to see further research. These are areas we have identified as particularly important in helping inform our future regulatory activities. We welcome feedback from all interested parties on these proposals. In particular, we would like research institutions, other regulators and businesses who are conducting (or planning) research relevant to these areas to engage with us. Where appropriate, we will seek to explore ways in which Ofgem can help these efforts.

Background

As the GB energy regulator, our principal objective is to protect the interests of existing and future energy consumers. In order to fulfil this objective, we must continually improve our understanding of the markets we regulate, and understand the ways in which these markets might evolve. Utilising and developing high-quality research is not new to us. For instance, our existing Consumer Research and Insight team has a longstanding research function within Ofgem, producing and publishing research about consumers and providing evidence to inform Ofgem's regulatory decisions. Its new Behavioural Insights Unit is currently working with energy suppliers to carry out randomised controlled trials to learn which prompts work best to engage consumers.

Understanding today's energy system is important, but so too is understanding the energy system of tomorrow. The energy sector has experienced considerable change in the last decade, and we expect more radical changes to come. We need to understand better what is driving these fundamental changes to the energy system and what these changes mean for how we regulate. As we cannot be certain about what the future energy system will look like, we must remain mindful of our limitations in predicting the future and prepare for a range of futures. This will help us to make better decisions on behalf of consumer interests.

We have done substantial work to improve our understanding of the energy system transformation, and the associated challenges we are likely to face:

- In early 2015, we published a discussion paper asking for views on the transformative potential of non-traditional business models (NTBMs) and the potential challenges, risks and opportunities associated with their growth and development.¹
- In spring 2016 we launched our Insights for Future Regulation project, where we engaged with a diverse range of stakeholders to understand better the drivers of

¹ <https://www.ofgem.gov.uk/publications-and-updates/non-traditional-business-models-supporting-transformative-change-energy-market>

energy system change, and which drivers had the greatest potential impact on consumers and regulation.²

- Following on from this, we published a series of discussion papers known as the Future Insights series.³ In these papers, we discuss the opportunities and risks of key energy system developments to help us develop a strategic vision for how best to protect consumers. Our Future Insights papers also prompt open and honest debate about how these developments challenge our existing regulatory framework.
- We have recently launched a range of projects across Ofgem which seek to understand the challenges we expect to face in the future, and explore potential policy responses. This includes our work on Flexibility, Innovation Link and our Future Focused Strategy.

Ofgem Research Hub - Rationale

We aim to make regulatory decisions that protect the interests of current and future consumers. This means we need robust research and analysis to inform our decision-making and policy development.⁴ Whilst our Future Insights series has prompted discussion, and poses important questions for Ofgem and industry to consider, we recognise the need to go further. We propose to develop an Ofgem Research Hub to supplement our existing research and ensure we have access to high-quality research and evidence that will help us develop answers to some of these key questions, in collaboration with industry, academics and other key stakeholders. We will also use the Hub to develop research ourselves where appropriate, particularly to support nearer-term policy decisions.

What will our Research Hub do?

The Research Hub will be based in our Office of the Chief Economist and will carry out the following activities:

- **Communicate our research priorities** – We will develop and communicate research priorities. These will be research areas of particular interest to us over the coming years, taking into account feedback from our stakeholders.
- **Improve our awareness of external research** – The Research Hub will serve as a gateway for research institutions to engage with us, particularly if they aren't familiar with our work. We already have strong relationships with the academic community, for example through our academic panel and various advisory boards. Policy teams across Ofgem and our Consumer Research and Insight teams also regularly engage with academics on specific areas. However, as we look more widely for research (eg in other sectors), the Hub provides an easy way for people to tell us about their work. We will then be able to link academics to relevant colleagues within Ofgem. This will improve our understanding and awareness of research in areas we are interested in. It will also help us to build relationships with academics on their research efforts.
- **Develop Ofgem-led research** – We will also develop our own research in line with our priorities. We do not intend to develop work for all of our priority areas of research, but will take forward research to support policy decisions. We will also rely on academic expertise to ensure our own research and analysis is sufficiently robust, for example through engagement with our academic panel.
- **Stimulate external research** – Research bodies regularly tell us that they would like more visibility on areas Ofgem is interested in, to help inform their own research

² <https://www.ofgem.gov.uk/publications-and-updates/open-letter-call-engagement-insights-future-regulation>

³ <https://www.ofgem.gov.uk/publications-and-updates/ofgem-launches-future-insights-programme>

⁴ We have outlined this commitment in our 2017-18 Forward Work Programme
https://www.ofgem.gov.uk/system/files/docs/2017/03/ofgem_forward_work_programme_2017-18.pdf

agendas. In communicating our research priorities through our Research Hub, we hope this clear signal will facilitate increased academic activity in these areas. We will also work with the academic community to understand how we can support the development of external research that is in line with our research priorities. For instance, this may be through testing early thinking or linking academics with data.⁵ Although our research budget is limited, in some cases, we may also be able to devote Ofgem analytical resource to develop collaborative research.

What will the Research Hub focus on?

We want to ensure we have access to research on energy sector developments. Research investigating developments within the GB energy sector will be key, but we also want to learn from global trends in other regulated sectors. We therefore propose four priority areas of research:

1. Cross-sector policy interactions;
2. Facilitating the low-carbon energy transition;
3. The future consumer; and
4. Global trends.

We explore these areas of research further in the annex to this letter. We will revisit their relevance on an ongoing basis, as our understanding of emerging issues develops, and in response to feedback from stakeholders.

Call for engagement

We invite all interested stakeholders to provide views on our proposals for implementing our Research Hub. Specifically, we welcome views on the following areas:

- Our proposed priority areas of research;
- Information about existing published research relevant to these priority areas, including from outside the UK;
- Information about research currently being conducted or planned, which is relevant to these priority areas, including from outside the UK; and
- How Ofgem can help to support the research efforts you are involved in, including where there may be clear benefits in co-ordinated research. For example, we are currently exploring ways in which we can better support graduate students to develop research which can inform and potentially influence the energy policy landscape. We are also exploring ways in which we can make the data we collect available for research, within the confines of data protection legislation.

We plan to take your feedback forward to assess the suitability of our research priorities and improve how we work with research institutions. That means the next stage of this work will largely be informed by responses to this open letter. However, our current plans include a dedicated Research Hub section on our website. This will communicate our research priorities and signpost to relevant research. We also plan to hold a stakeholder event later this year, and publish an update in 2018.

If you would like to engage with us, or would like to be kept up to date with the Research Hub more generally, please respond to energy.futures@ofgem.gov.uk by 10 November. If

⁵ Information which relates to the affairs of individual businesses can only be shared in certain circumstances as this is protected by the provisions of section 105 Utilities Act 2000 which makes the unauthorised sharing of such information a criminal offence.

we collect any of your personal data, we'll process it in accordance with our Privacy Notice⁶ and in accordance with your rights as set-out in the Data Protection Act 1998.

Please note that Ofgem may wish to publish relevant information submitted to us in response. Should you not wish your response to be considered for future publication please let us know, together with an explanation of why and/or what prejudice would be caused by doing so, when responding.

Yours faithfully,

Joe Perkins, Chief Economist, Improving Regulation, Ofgem

⁶ <https://www.ofgem.gov.uk/privacy-notice>

Annex – Initial proposals for priority research areas

1. Cross-sectoral policy interactions

Traditionally, policy decisions have been developed, delivered and governed by institutions with clearly defined jurisdictions and within distinct sectoral boundaries. But increasingly, we are seeing developments in one sector influencing the wider GB economy.

Developments aiming to decarbonise the transport and heating sectors, in particular, will have considerable and potentially irreversible implications for the energy sector - we may see new cross-sector products and services, consumers engaging directly in grid services with plug-in Electric Vehicles (EV), and new heat delivery architecture.

Moreover, many of the challenges we expect to face are mirrored in other sectors – how competition will evolve in an increasingly digitised, data rich world will impact many retail-focused sectors, for example. As sectoral boundaries continue to blur, and as challenges emerge across multiple sectors, we must increasingly be minded to developments outside the confines of the energy system. The opposite is true also, when considering developments in the energy sector, we must be mindful that there could be impacts on other sectors and the wider economy.

These challenges strengthen the argument for more effective coordination of research to understand key issues transcending traditional sectoral boundaries.

Some examples of specific research questions, which could help to inform our understanding in this area, include:

- What are the costs and benefits of competition increasingly relying upon personal consumer data in the supply of tailored, personalised energy products?
- What are the likely costs and benefits to consumers from different future heat scenarios? What do social, economic, environmental and political drivers tell us about the likelihood of these scenarios?
- How might the growth in EV uptake impact the energy system? What new products and services will be available to EV consumers and what will this mean for regulation?
- What evidence is there of bundled services becoming a key feature of the future energy system? How might bundled services improve competition in the energy sector, and what are the challenges for the existing sectoral regulatory framework?

2. Facilitating the low-carbon energy transition

As the energy system shifts from a carbon-intensive model to a low-carbon one, we are seeing new challenges and opportunities emerge, alongside new spaces and niches for non-traditional business models to contest the status quo. The changes will span policy, economics, technology, and society, and contribute to a profound uncertainty about the future shape of the energy system.

The rapid progress of renewable generation is changing every facet of the energy system, shifting the focus from a traditional centralised paradigm, to one of bi-directional flows, decentralised generation and redistributed responsibilities. These new elements are trying to fit into a physical architecture built for a simpler, top-down, system. This is the crux of many of the energy system challenges we see today. Faced with an uncertain future, we are seeking to understand how the energy system is changing in response to these environmental and economic pressures, and specifically, what the regulatory implications of these changes are.

In order to ensure a robust and flexible regulatory framework that ensures consumers can benefit from the transition to a smarter, low-carbon system, we must consider the costs and benefits to consumers (including different types of consumers) of these changes.

Some examples of specific research questions, which could help to inform our understanding in this area, include:

- Are there alternative approaches to encouraging and procuring generation that could lead to better whole-system outcomes?
- In what ways can new, innovative business models in energy markets lead to consumer benefits - financial, environmental or other? To what extent can these benefits be achieved within current arrangements?
- How can demand side and flexibility services such as time-of use tariffs, storage, aggregated loads, and energy efficiency measures contribute to a more efficient energy system? What evidence is there on the relative efficacy of competing options? What evidence is there on consumers' willingness to act upon price signals, and what barriers exist to automated demand side systems?
- How can we more effectively manage the energy networks in a smarter, more flexible world and incentivise efficient investment in consumers' interests? What do current infrastructure usage trends suggest about possible future scenarios? How might consumers respond to economic drivers to meet their own energy needs, with less reliance on the grid?
- What is the impact of uncertainty on how we should make decisions? For instance, should we adopt different approaches to assessing future possibilities? Should we change our decision-making framework to emphasise explicitly the option value of different choices?

3. The Future Consumer

It is becoming increasingly important to understand the attitudes, needs and behavioural responses of different consumers, particularly as technological advancements bring new products and services to market. We expect to see consumers respond in very different ways, based on their ability (or willingness) to engage directly in energy related services, or what incentivises them. For example, some consumers may wish to engage actively with their energy supply – which can range from switching to a cheaper supplier, responding to price signals, or directly purchasing power from neighbours through peer-to-peer platforms. Other consumers may be driven by motivations other than cost saving, such as local / community values, environmental values or simply being tech-savvy. Some consumers may also be in vulnerable situations, which limit their ability to share in the benefits of a smart energy world.

On the other hand, some consumers may not wish to engage directly, but may wish to outsource energy related decisions to companies who can act on their behalf, spurring on a new dynamic of intermediaries driven by consumer demand for simplicity, convenience, and to share in the benefits of competition without having to engage themselves. Whatever form the future energy system takes, consumers will drive the changes that take us there.

We want to understand how trends in consumer preferences and behaviours can help to shape the future energy system, and how different groups of consumers might share in the benefits and costs of new products and services.

Some examples of specific research questions, which could help to inform our understanding in this area, include:

- In what ways will consumers engage with their energy supply in the future? What new contractual relationships might emerge, and what implications will these bring for the current regulatory framework for the retail market? What do customers actually value in a supplier?
- What is the impact of time of use tariffs and demand-side response on providing consumers with an estimated annual cost and on price comparison websites? Further, what is the best way of designing transparent and clear price comparisons for time of use tariffs and other demand-response offerings?
- How might smart developments lead to greater consumer segmentation, and what is the scope for certain vulnerable groups to be impacted by technological innovation?
- What options are available to protect consumers who continually do not engage with the market? What are the advantages of 'libertarian' vs 'paternalistic' approaches?
- To what extent do consumers want to delegate switching decisions to third parties and to what extent would consumers prefer to make active choices over their energy tariff and smart energy services? Does this vary across consumer segments and if so how?
- How can the energy system best support changes among business consumers, including increasing decentralization of work and more intermixing between domestic and business energy usage? How might business consumers respond to incentives to engage in flexibility services in the future, and what whole system benefits might this enable?

4. Global trends

As an organisation, we are affected by events outside of our jurisdiction, and even outside of our national boundaries. Global trends in finance and commodity markets, the political climate and environmental pressures are key components in understanding our own energy sector. This goes beyond just knowing the price of energy in foreign countries. Trends in technology costs and learning rates in more established markets can provide a useful insight into how these markets might affect the GB energy system.

Understanding the drivers of regulatory intervention and associated impacts in other countries and sectors can help us to remain alive to how other institutions are adapting to the changing environmental, social and political climate, and what the impacts of regulatory interventions might be. This is particularly important in managing the energy system trilemma, where balancing affordable and secure energy with environmental objectives will often require a compromise of these competing tensions - each driven by social, environmental and political pressure.

Moreover, there are lessons that we can learn from regulators and organisations abroad, not just in the energy sector, about how to ensure our regulatory activities deliver benefits to consumers. This might include evaluations of specific regulatory interventions, or approaches for evaluating the effectiveness of our regulatory activities more generally.

Some examples of specific research questions, which could help to inform our understanding in this area, include:

- What do global trends regarding technology costs and learning rates tell us about the viability of new technologies which could affect the energy system?
- How is energy efficiency being incentivised by market-led or regulatory mechanisms? How effective have these mechanisms been in delivering a more efficient energy system?
- What do global trends regarding social, environmental and political pressure tell us about the future energy system and balancing the energy trilemma? In what ways are social, environmental and political pressure shaping alternative energy system frameworks elsewhere? For instance, towards local energy, carbon capture and storage, network conversion and shifting balance of regulation from intervention to competition?
- What lessons can we learn about evaluation from other sectors or countries? What value for money do our decisions deliver for consumers? How can we ensure measuring the impact of our policies is robust, reflective and takes into account the long time horizons of our work?
- What tools can we use to improve how we assess distributional impacts of developments and regulatory interventions – specifically assessing impacts to different consumer groups, including current and future consumers?