



Making a positive difference
for energy consumers

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Dear Sir/Madam,

Ofgem Response to Call for Evidence on the Cost of Energy Review

Introduction

Ofgem is the energy regulator for Great Britain and a non-ministerial government department. Our principal aim is to protect the interests of current and future energy consumers.

We welcome the opportunity to respond to the BEIS call for evidence relating to the cost of energy, following the Helm Review.

Cross-cutting messages

Professor Helm's review focussed on the cost of electricity, as specified in its Terms of Reference. Before addressing points relating to electricity, we start with a general perspective that minimising the cost of electricity may not minimise the cost of energy. Increasingly, we see the importance of the interactions between electricity, heat and transport, and of cross-cutting issues such as energy efficiency. We believe that a well-designed integrated energy system will be the most efficient approach and deliver the most benefit for consumers.

As an example of this interaction, we note that the electricity sector has made good progress on decarbonisation, but heat and transport have not yet. Electrification of heat and transport are unlikely to provide a "silver bullet", but are likely to be an important part of the solution. Moving to a low carbon energy system will have knock-on impacts on electricity and gas networks, for example potentially through increased electricity demand and reduced gas demand. We need to embrace smart, flexible approaches to avoid inefficient network reinforcement or investment in assets we won't need in the future. There are several different routes to achieve decarbonisation of heat, but many questions remain over the cost, who would pay, safety and consumer acceptance. Given the importance of public support for key options such as heat networks, we recommend thought is given now to the appropriate regulatory framework for heat. Ofgem has expertise here which we will offer to support good outcomes for consumers.

Within the electricity system, radical transformation is underway, driven by digitalisation, decarbonisation and decentralisation. The boundaries between traditional parts of the sector such as generation, networks, supply and consumers are blurring. So while we follow

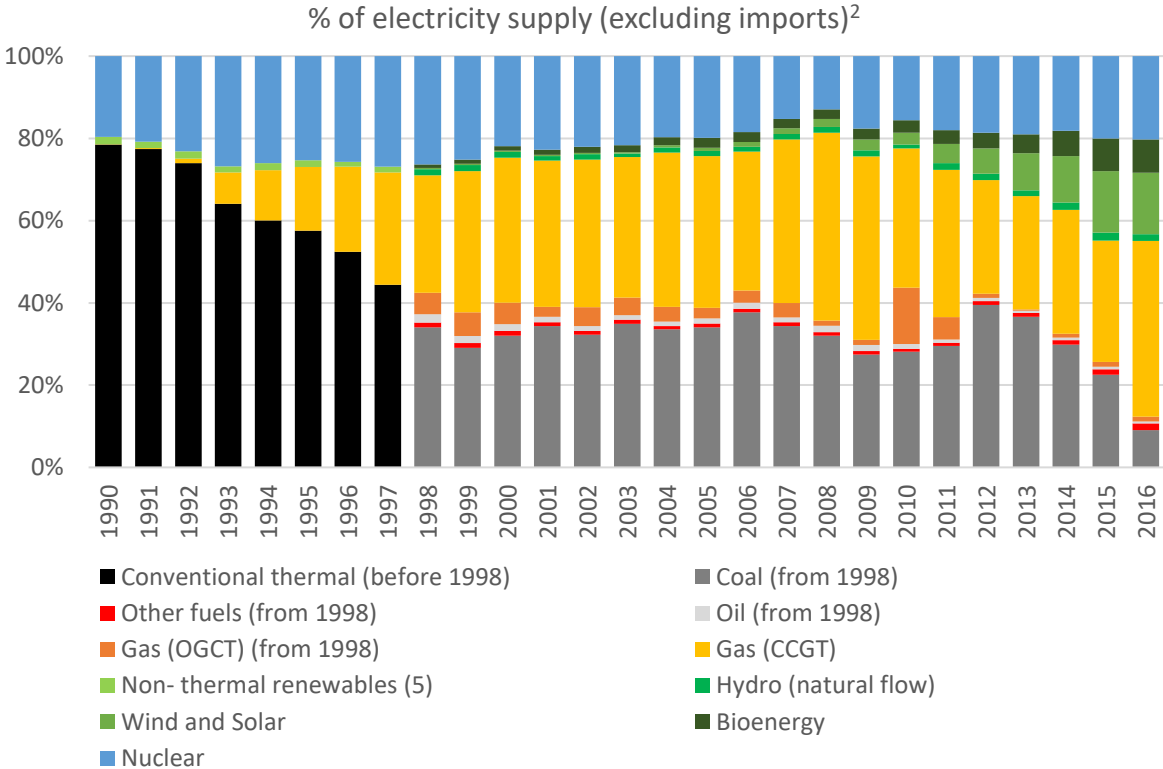
that structure in the remainder of this response (as requested in the call for evidence), we note that the cross-overs are becoming more important.

Government, regulator and industry all have a role to play in delivering the future energy system. Examples of our initiatives to support the transformation include:

- [engagement trials](#), encouraging and supporting new ways for domestic consumers to engage in the retail market;
- our [regulatory sandbox](#), which allows innovators to trial business propositions that will benefit consumers without incurring all of the usual regulatory requirements; and
- [innovation funding](#) under the RIIO price controls.

Electricity Generation

Overall, the wholesale electricity market in Great Britain is working reasonably well¹. Wholesale prices are relatively high compared to other European countries, but this is partly down to the way costs are recovered from generators, for example through carbon price support and balancing charges on generators. The impact of renewables on wholesale prices through the merit order effect also varies across Europe. While Great Britain has a relatively low level of interconnector capacity today, there are 10 new interconnectors planned which, if built, should stimulate price convergence with our neighbours.



Electricity Market Reform (EMR) has achieved notable successes in decarbonising the electricity system while keeping the lights on, with particular changes in the generation mix in the last five years as shown in the chart above. While in the past some policies have cost more than necessary, the current approach of carbon pricing in electricity and competitive auctions have proven their worth compared to administered contracts³ and have helped to bring costs of some technologies down well below initial expectations. This is illustrated by the strike prices of £57.50/MWh seen in the most recent CfD auctions for Offshore Wind

¹ See Ofgem State of the energy market 2017 report for further detail (chapter 2: competition in energy markets)
² Ofgem analysis of BEIS, Digest of UK Energy Statistics
³ CMA Energy Market investigation

projects⁴. We expect that further technological progress will mean the costs of new low carbon electricity to continue to fall. To avoid creating more out-of-market costs by being fully linked to inflation, we recommend that future contract prices should fall significantly in real terms through their term.

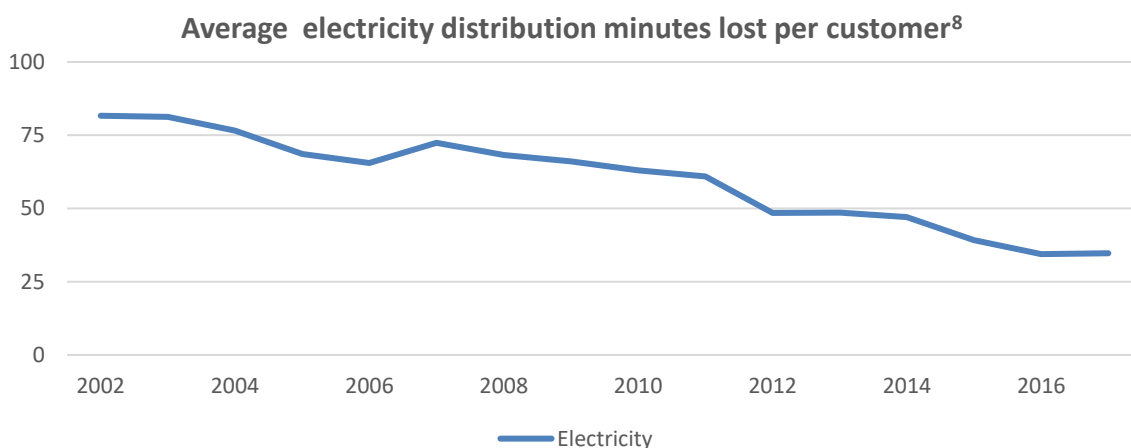
Lower cost decarbonisation can be delivered by ensuring the lowest cost renewables (such as onshore wind and solar) and technologies such as demand side response and storage can compete on a level playing field. This can be delivered through the evolution of roles and responsibilities of different actors in the system, opening up new markets and removing barriers to existing markets, to allow for appropriate price signals and more economic procurement of ancillary services. In the joint BEIS-Ofgem Smart Systems and Flexibility Plan⁵, we set out a number of actions in this regard.

In the longer term, the structures established under EMR may become less appropriate as electricity is decarbonised, and as intermittent sources of generation, supplying energy at zero or low marginal cost, start to dominate. This will not happen immediately, but we need to start planning now. In a future with significant volumes of intermittent generation, there is particular value in flexibility rather than capacity. Alternative auction designs have been proposed, such as Professor Helm’s proposals for an equivalent firm power auction and the model advanced by the Cambridge Energy Policy Research Group⁶. We therefore would recommend further, more specific consultation on options for the future structure of the wholesale market, informed by the work of government, Ofgem and wider stakeholders.

These challenges also give rise to detailed issues on network charging and access, which are other areas Ofgem is working on. In August we published our strategy for regulating the future energy system that describes our work to improve the way capacity on electricity networks is used and developed⁷.

Electricity transmission and distribution

Network regulation has delivered substantial benefits to consumers. Network costs have fallen by about 17% in real terms since privatisation. Service levels have improved significantly, for example the average number of minutes of power cuts per customer for electricity distributors has halved since 2002⁸ as shown below.



In the RIIO-1 price control, network companies generally continue to deliver well on their outputs. However, returns have been higher than expected. This for two main reasons – costs have been lower than we expected and incentive rewards higher. There are several reasons for this, for example improved company innovation and efficiency (new working

⁴ CFD second allocation round results

⁵ Upgrading our energy system- smart systems and flexibility plan

⁶ University of Cambridge Energy Policy Research Group: Market design for a high-renewables European electricity system

⁷ Our strategy for regulating the future energy system

⁸ RIIO-ED1 annual reports 2016/17

practices), volumes of work required and/or unit costs being lower than expected, and/or changing external factors, such as broader economic conditions.

Under the RIIO framework, sharing factors mean that a proportion of all underspend is returned to customers. Therefore, efficient spending leads to better returns for investors and lower network charges for customers.

We recognise the joint responsibility the network operators and we have to ensure value for money for consumers. Within this context, we will continue to pro-actively manage RIIO through the mechanisms we have designed but we also welcome the efforts made to date by network operators through voluntary contributions. We will continue to monitor company performance closely to ensure RIIO-1 delivers for consumers both in terms of outputs and in terms of legitimacy of returns.

We have been clear that RIIO-2 will be tougher for investors, with lower overall returns. It must also drive the network companies to maximise their contribution to secure, low carbon energy at least cost to consumers. This includes meeting future requests for network connection, and providing services to and valuing services from a range of consumers and generators, accommodating new market entrants and trading platforms, as well as data management and privacy.

Along with BEIS, we have driven a better definition of the transmission system operator role appropriate to the future and we are pressing the distribution companies to make the best use of alternative services, including through more active management of smart grids, as distribution system operators (DSOs). For example in the Smart Systems and flexibility Plan, we instructed the network companies, through the Energy Network Association, to lead work that considers how to open up the delivery of network requirements to the market, so that new solutions such as storage or demand-side response could compete directly with more traditional network solutions.

Our experience is that competition in networks reduces costs. As part of current price controls, we already utilise regulatory competition 'in the market' in several ways (eg. fast-tracking, comparative benchmarking) as well as competition 'for the market' e.g. Offshore Transmission Owners (OFTOs), competition for connections, Independent Distribution Network Operators (IDNOs) and Independent Gas Transporters (IGTs).

In RIIO-2, we expect to drive further use of competition in networks and to see further development of the active distribution system operator model. However we expect the networks to retain important elements of monopoly characteristics over this period, so continued regulation will be necessary to deliver value for money for consumers.

Electricity supply

Current market

Overall, despite significant market entry and competition for fixed price tariffs, the energy retail market for domestic consumers⁹ is not working satisfactorily. There is a two-tier market for energy, and disengaged consumers pay substantially more than engaged customers do. Customers in vulnerable circumstances are also more likely to lose out. There is a risk that this becomes more acute as innovations provide new ways for engaged consumers to save money. Ofgem is committed to continuing to work closely with BEIS and the broader industry to address these challenges, including through implementation of retail price caps.

The CMA inquiry¹⁰ looked at the retail market in detail. It introduced price protections for prepayment meter customers, which led the market average price for a dual fuel prepayment meter to fall by around £60/year in April 2017¹¹. We are now introducing caps for vulnerable customers. We have recently published our decision to introduce a

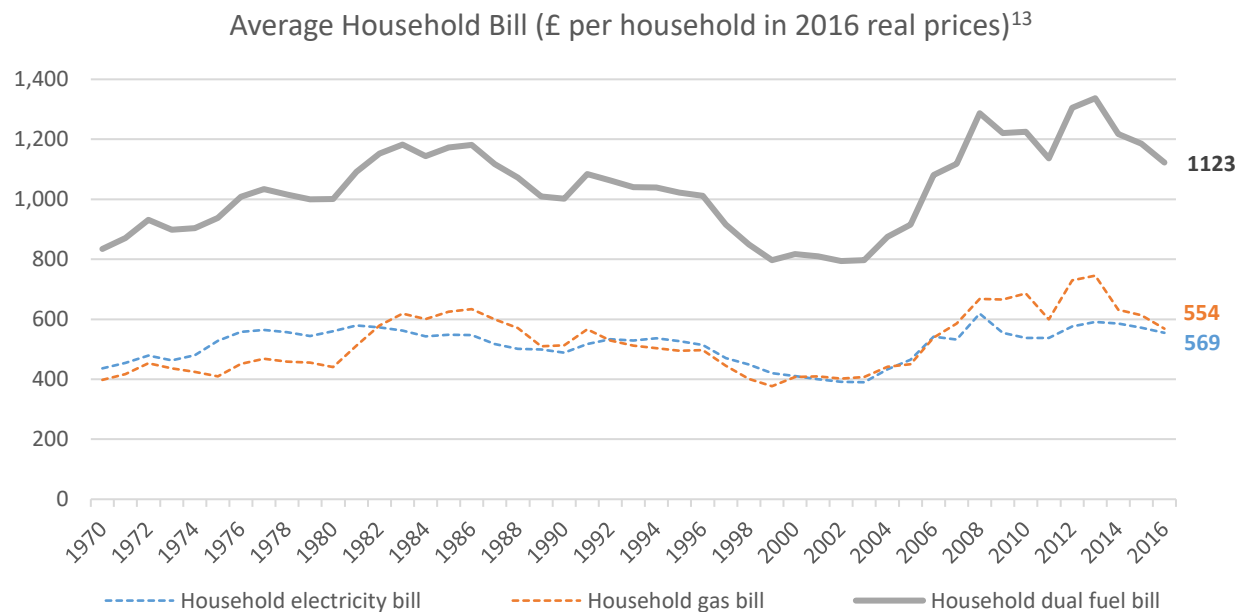
⁹ For those consumers connected to the natural gas network, the energy retail market is best understood by considering gas and electricity alongside each other, not focussing on electricity supply alone.

¹⁰ CMA Energy market investigation final report.

¹¹ Ofgem analysis of Energylinx data from the State of the Energy Market report 2017

safeguard tariff for 1 million vulnerable customers in receipt of the Warm Home Discount (WHD) in February 2018, and will shortly consult on extending this protection to a further 2 million vulnerable customers for winter 2018. The Government has also published a draft Domestic Gas and Electricity (Tariff Cap) Bill¹² to cap SVT and default tariffs. If the Government's cap is introduced next year we will not proceed with the expanded vulnerable protection, as it will no longer be needed. We will continue to monitor market outcomes and consumers' experience closely. Once legislation to cap SVT and default tariffs has passed we will implement them as quickly and effectively as possible.

Despite reductions in consumption due to energy efficiency (from appliance standards, labelling and government energy efficiency schemes), household energy bills remain high relative to historic levels, albeit down on 2013 peaks, as the chart below shows.¹³ Industrial customer electricity prices are towards the upper end of the range of European countries.



There are some encouraging signs of increased consumer engagement in the market, and as we have already seen a rapid increase in the number of suppliers. However, we need a market that does not rely on customers searching for the best deals but allows the best deals to find consumers. This could involve more automation of decision-making, either on a personalised or a collective basis. We are looking at whether there are alternative default arrangements that could boost competition for less active customers as part of our call for evidence on the future of supply market arrangements¹⁴. Industry data needs to be accurate and stored securely; with customers controlling access to their data and being able to share it easily if they choose, including with parties outside the industry. We will do all we can to encourage people to engage in the market and to take the hassle out of switching. We are removing unnecessary prescriptive rules and relying more on enforceable principles.

Future developments

With changes in technology, we see potential for a very different retail market to emerge. There are now over four million electricity smart meters on the system, an increase of almost two million in 2016-17¹⁵. The old industry rules and systems, handling electricity

¹²Draft domestic gas and electricity (tariff cap) bill, Presented to Parliament by the Secretary of State for Business, Energy and Industrial Strategy by Command of Her Majesty October 2017

¹³ Ofgem, Consolidated Segmental Statements, 2009 to 2016; BEIS, Energy Consumption statistics in the UK (1970 to 2008); BEIS, United Kingdom housing energy fact file (1996 to 2008); BEIS, Historical gas data: gas production and consumption and fuel input 1920 to 2016; DCLG, Live tables on household projections, Table 4.01; and Office of National Statistics, Total household expenditure on energy (1970 to 2008).

¹⁴ Future of supply market arrangements – call for evidence

¹⁵ BEIS, Smart Meters, Great Britain, quarter 2 2017.

settlements and switching need to be overhauled, both to speed up processes and to make them more flexible to accommodate future changes.

We expect to see customers use electricity differently. For example, it is highly uncertain what impact electric vehicles will have on overall and peak demand in the future. Their impact will depend on factors such as policy choices, technological development, and the success of smart charging arrangements. This may involve moving away from charges based on kWh to a subscription model or providing comfort¹⁶ or transport as a service.

There is huge potential for innovation to bring benefits to consumers, albeit with major challenges. Current industry rules and structures were designed with the old model in mind and there is a risk that vested interests can frustrate change, which may require legislation to unblock.

The traditional role of licensed energy suppliers managing most interactions with consumers and the wider market, may no longer be in the best interests of consumers. We are considering how the roles and responsibilities of suppliers should change, to reduce their grip on industry processes and make it much easier for new entrants with substantially different business models to enter the market. At the same time, we are assessing how customer protection can work effectively in this environment.

It is time to reconsider the role of suppliers in funding and delivering low-carbon support mechanisms. The current approach reinforces the position of larger suppliers as the 'hub' of the market, while the exemption system for smaller suppliers is an imperfect counterweight. The way costs are recovered can also incentivise those customers who can 'defect' from the grid (eg through private wires) to do so to avoid charges. There appear to be real advantages from alternative models making more use of competition for funds, with area-based solutions, probably working with Local Authorities.

In conclusion, Ofgem look forward to continuing to work with the government to address the current and future challenges posed by the cost of energy review.

Yours Sincerely,

Martin Crouch
Senior Partner, Improving Regulation

¹⁶ For example paying for a certain level of heat or light

Annex

Further Reading

[State of the Energy Market report 2017](#)

[RIIO Annual reports 2016/17](#)

[Future insights series](#)

[Ofgem's Draft Forward Work Programme 2017/18](#)