Making a positive difference
for energy consumers

We are here to make a positive difference for all energy consumers, now and in the future.

2018-19

Office of Gas and Electricity Markets (Ofgem)

Annual Report and Accounts

HC 2317

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Annual Report and Accounts

(For the year ended 31 March 2019)

Accounts presented to the House of Commons pursuant to section 6(4) of the Government Resources and Accounts Act 2000

Annual Report presented to the House of Commons by Command of her Majesty

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About us

We are the Gas and Electricity Markets Authority (the Authority), the independent energy regulator of Great Britain, working to protect the interests of current and future energy consumers. We operate through the Office of Gas and Electricity Markets (Ofgem)[1].

Our core purpose is to ensure that all consumers can get good value and service from the energy market. We favour market solutions where practical, incentive regulation for monopolies, and an approach that seeks to enable innovation and beneficial change while protecting consumers.

Section 5 of the Utilities Act 2000 (under which we are established) requires that we publish this report each year and that certain elements are included. A note on these statutory requirements can be found at Appendix V (page 110).

This report summarises our progress against the projects described in our 2018-19 Forward Work Programme (FWP). It also assesses how our actions have contributed to protecting the interests of all current and future consumers – from domestic, including vulnerable consumers, to commercial businesses – and the strategic outcomes we seek to bring about, which are:

1. **Lower bills** than would otherwise have been the case.
2. **Reduced environmental damage** both now and in the future.
3. **Improved reliability and safety**.
4. **Better quality of service,** appropriate for an essential service.
5. **Benefits for society as a whole** including support for those struggling to pay their bills.

[1] For the purpose of this report the terms "Authority" and "Ofgem" are used interchangeably

Chairman's foreword
Martin Cave

In October 2018, I started my five-year term as Chair of Ofgem. Since then I have learnt a lot about the sector through numerous visits, meetings and events across Great Britain to see first-hand the immense challenges and opportunities the sector faces.

Importantly, I have also had the privilege of meeting directly with the people we serve to understand the many challenges people face accessing energy to meet their needs as an essential service.

Over the past eight months I have been here, seven new people have been added to Ofgem's board, bringing in expertise and experience from a range of sectors and backgrounds. I have been very impressed by the dedication and expertise demonstrated by Ofgem's staff in tackling the highly complex issues that the organisation seeks to respond to.

To help us meet the challenges of the future, in the past year we have been redesigning and reprioritising our work in order to become a more agile, effective organisation. This embraces our work both in regulation and in administration of government schemes supporting sustainability and vulnerabile customers. This has meant economising on some activities, and acting with greater speed and flexibility in response to rapid and sometimes unexpected changes.

At Ofgem, we think it's hugely important for us to put more effort and resources into becoming a more diverse organisation. So this year we launched our first Diversity and Inclusion Strategy which includes targets to improve how diverse we are as an organisation – including in terms of ethnicity, gender, and the number of staff with disabilities or who come from different backgrounds.

We have also challenged the sector to be more diverse itself, particularly at senior levels, as we firmly believe this will help them make better decisions and better serve their customers.

So what about the year ahead – and beyond?

In 2019, Ofgem's board will set out our strategic objectives in how we should change both the nature of the regulatory and other tasks we perform, and how we should change the way we work, as an organisation. The energy system is undergoing a fundamental transformation as the processes of decarbonisation, digitalisation and decentralisation accelerate.

We cannot know how the future will evolve, but we can be sure that the pace of change will continue and that we will have to be a more agile and responsive organisation to meet this challenge.

The Board itself is determined to change the nature of its own contribution, away from the details of economic regulation and scheme administration towards a more selective and strategic focus on the health of the organisation and on Ofgem's overall impact on providing benefits to our ultimate clients – who are all existing and future energy customers.

I am grateful to my predecessor as Chair, David Gray, who served Ofgem with distinction for five years.

I would also like to pay tribute to our outgoing CEO, Dermot Nolan, who over the past six years has steered Ofgem through a period of immense change. His legacy to Ofgem will be to have left an organisation with a clearer vision for the future and an enhanced capacity to fulfil our principal duty to protect consumers.

I look forward to working with you all on these important challenges in the future.

Martin Cave

Martin Cave
Chairman

Chief Executive's Officer's Report

Dermot Nolan

It has been another important year for the sector as the energy transition picks up pace and the public's attention increasingly turns to how we can meet the carbon challenge.

Recently the energy sector reached another milestone on the path to decarbonisation with the first two weeks without using electricity from burning coal since the 1880s.

At Ofgem, we have been preparing ourselves internally to meet the complexity, pace of change and uncertainty facing the energy sector that has recently become the new norm.

At the beginning of the year we introduced a price cap on default tariffs which will save over £1 billion per year for consumers, and have continued to put in place reforms to help transform the energy market so that it works well for all consumers. This new system will be more complex, and so this year we updated our consumer vulnerability strategy to set out what we think is important for the next 5-6 years to make sure the most vulnerable are adequately protected in the future market.

We saw a number of suppliers exit the market over the past year. While this is to be expected in a properly functioning market, we have reviewed our approach to licensing and regulating suppliers in a way that we think will raise standards around financial resilience and customer service.

In May we announced our decision on the methodology that will apply to the RIIO-2 price controls for the energy network companies. This will drive better value for consumers by learning the lessons from the past, at the same time as preparing the networks for the energy system of the future.

The changes we are seeing to the energy system also mean we have had to consult on reforming the network charging systems to promote more efficient use of the existing system, reduce the need for expensive new wires and power stations, and minimise costs to consumers.

Our E-Serve directorate continued to efficiently deliver a diverse array of renewable energy and social schemes on behalf of the governments that we work with, and we have cooperated fully with the public inquiry into the Non-Domestic Renewable Heat Incentive Scheme in Northern Ireland.

This Foreword will be my last as CEO of Ofgem as my term comes to an end in February 2020. As I look to the future for Ofgem and the wider energy sector, whilst the challenges may be significant, it will also be an exciting time to work in a sector that can, and must, play a leading role in meeting the net zero challenge and ensuring no consumers are left behind in the transition.

In the last year a number of new appointments have been made to the executive team and board at Ofgem, including our new Chair, Martin Cave. This new strengthened leadership will undoubtedly equip Ofgem well to deliver on the outcomes we seek to achieve for consumers in the future.

I would finally like to pay tribute to all the staff at Ofgem, who I have immense respect for the professionalism and hard work they demonstrate as public servants. It has been a privilege to work with you to deliver improved outcomes for consumers during my time here – and I wish you all well for the future.

Dermot Nolan
CEO

Performance Report

Overview

The purpose of our performance report is to describe our work towards meeting our objectives, along with our strategic approach and the principal risks we have faced.

During 2018/19, we aimed to work towards five over-arching customer outcomes. These are: lower bills; lower environmental impacts; improved reliability and safety; better quality of service; and benefits for society as a whole.

In working towards these outcomes, we sought to derive maximum benefit for consumers through the following key priorities:

- **Enabling a better functioning retail market,** which works for all consumers, including those in vulnerable circumstances;
- **Facilitating change in the energy system,** supporting the transition to a lower-carbon, more decentralised, flexible and dynamic energy system, which benefits consumers;
- **Ensuring network companies deliver for consumers in a changing system,** as they respond to wider system changes across the sector;
- **Identifying opportunities and managing long-term risk on behalf of consumers,** through our core regulatory role and monitoring, compliance and enforcement work; as well as through consumer research, horizon scanning and maintaining our industry-specialist skills.

As part of our work towards the above priorities and outcomes, we have in place a robust approach to risk management, which aims to identify and address risks that may impact our effectiveness and efficiency in meeting these aspirations.

Detail of our Key Performance Indicators (KPIs) can be found in Appendix I (see page 101).

We have completed several important pieces of work during the year. For example, on 1st January 2019, the temporary tariff cap (or Price Cap) was introduced for customers on Standard Variable Tariffs (SVTs). We also introduced five new enforceable principles, which put an emphasis on allowing suppliers to communicate with customers in new and innovative ways. Separation between National Grid's Electricity System Operator (ESO) and Transmission Owner (TO) went live on 1st April 2019, clearing the way for the ESO to step up and take on enhanced system planning roles. Further detail can be found on these and other achievements below, along with our progress on work which is ongoing into 2019/20.

Enabling a better functioning retail market

Introducing temporary price protections

In July 2018, the Domestic Gas and Electricity (Tariff Cap) Act 2018 came into force, requiring the introduction of a temporary tariff cap (or **Price Cap**) for customers on Standard Variable Tariffs (SVTs). The Government had been concerned that energy suppliers had been overcharging customers who did not switch tariff or supplier, to find a cheaper deal that suited their needs. During the year, we carried out a statutory consultation to consider the design and implementation of a Price Cap, including how that Cap would be set and periodically adjusted.

Our decision was published in November, and **the Price Cap came into force on 1 January 2019.** The Cap level will be reviewed every six months to reflect changes in the underlying costs of supplying energy. In February, we set the level of the Cap for the second period, starting on 1 April 2019. The level increased, reflecting higher costs of wholesale energy. By introducing the Price Cap, customers on SVTs will save an estimated £1 billion on their energy bills each year.[2]

Improving retail market conduct

It is crucially important that suppliers give customers **the right information, in the right format at the right time** to enable customers to understand their costs and consumption, understand their options, and make good decisions. However, we recognised that the rules in place to secure this had become unnecessarily prescriptive.

We adopted a **principles-based approach to reform our rules for supplier-consumer communications**. By putting in place new requirements for suppliers, our aim has been to allow them to communicate with their customers in new innovative ways. In December 2018, we published a decision following extensive stakeholder engagement, confirming that we would **introduce five new enforceable principles**.

Changes to our rules, which came into effect in February 2019, allow us to hold energy suppliers to account for delivering good outcomes for consumers, while at the same time remove the burden of around 50 pages of licence conditions.

We began updating our 2013 **Consumer Vulnerability Strategy,** in which we intend to clarify the Authority's strategy for the next five to six years, as the energy market transitions to smarter technologies and new business models.

Our focus has been to **measure and track the impact on consumers in vulnerable situations** to ensure that they are not left behind, and **experience positive benefits from market change**. We took a whole system approach, to ensure that network companies and suppliers delivered their obligations to their vulnerable consumers. In December 2018, we published an open letter, setting out **five potential areas for us to focus on**. This has been the basis for the draft strategy that was reviewed by the Authority in February 2019. A final version of the Consumer Vulnerability Strategy will be published later in 2019.

The number of entrants to the retail energy markets has increased significantly in the last half decade. This has brought benefits to consumers through increased price competition and pressure on incumbent suppliers to improve their customer service offering. However, we have also seen an **increase in supplier failures and inadequate customer service provision in certain cases.** While our current arrangements have successfully protected consumers when a supplier fails, **failure is disruptive, and can impose costs on the industry**. Also, frequent supplier failures risk undermining consumers' confidence in the market.

Our **Supplier Licensing Review** aims to strengthen our licensing and regulatory regime to drive up standards in the sector and minimise the industry

[2] For further information on methodology, see: https://www.ofgem.gov.uk/system/files/docs/2018/11/appendix_11_-_final_impact_assessment.pdf

and consumers' exposure to financial risks and poor customer service. In June 2018, we published an open letter on the scope and the objectives of our review, and shortly afterwards, a consultation on our 'supplier of last resort' (SoLR) licence conditions.

A decision, to implement tougher entry requirements was published in April 2019 and the legal changes to implement the regime were made in June 2019. Under our new requirements, energy suppliers applying for a licence must demonstrate that they have the appropriate resources to enter the market, understand their regulatory obligations and have appropriate plans in place to meet them, and be 'fit and proper' to hold a supply licence. We are now focusing on the other work streams under our review, and will consult later this year on the ongoing requirements for suppliers operating in the market, as well as on potential improvements to exit arrangements.

Related to this work, we also consulted on changes to the Supplier of Last Resort Supply Licence conditions in June 2018, and the amended licence conditions came into effect on 1 January 2019.

Implementing new markets and systems to support consumer choice and innovation

Based on extensive stakeholder engagement, **we consider that the current 'supplier hub' arrangements are not fit for purpose for energy consumers over the longer-term,** and that there is a strong case for considering fundamental reforms to that model. The 'supplier hub' model came into play following liberalisation of the energy sector, when suppliers became the main interface between consumers and the energy market. We believe that the model has reinforced the dominance of larger suppliers in the retail market and stifled competition. In July 2018, we set out the evidence as part of our **Future Supply Market Arrangements** project, for what immediate steps we could take to address this.

This need for longer-term reform was echoed by the Secretary of State in November 2018, who announced a joint review with the Department for Business, Energy and Industrial Strategy (BEIS) **to consider how the future retail market could be designed**. The heart of this review is to identify reforms needed to ensure that the energy market is fit for the future, by promoting competition and driving innovation, while protecting consumers from harm, and in doing so, unlock benefits such as reduced energy costs and lower carbon emissions for all consumers.

In the summer of 2019, we will publish a joint consultation with BEIS, setting out a range of reforms to innovation, improve consumer protection and safeguard vulnerable customers in future retail market. The Government has indicated a willingness to legislate to drive progress if necessary.

Consumer energy data, such as how much they use and what tariff they are on is currently stored by energy suppliers in different formats and in varying quality. **Accessing this data on behalf of consumers is often cumbersome and time-consuming**, as there is no standard format for suppliers to export and share data with third parties such as price comparison websites.

Following a call for evidence and discussions with digital leads across Government, Ofgem agreed to take over leadership of the MiData project on the basis that a cross-Government, multi stakeholder approach would have the best chance of delivering success. We have been working with BEIS and other stakeholders to **develop an open data standard (MiData)**, to act as a set of rules for consistency across suppliers, as well as to develop an **accreditation framework**, so that consumer data can only be shared with trusted parties. **We also started to develop governance arrangements** that would allow us to monitor compliance with the standard and to allow it to evolve, once it is in place.

Engaging more consumers in energy

Through our **Faster, More Reliable Switching** programme, we continue develop a way for consumers to switch their energy supplier reliably and quickly, including by the end of the next working day if they choose.

Improving the quality of industry data is an important aspect of this project. By 2021, we intend to **simplify and harmonise the gas and electricity switching arrangements** in a cost-effective way, and to develop a package of new regulations to achieve these objectives. This includes the creation of a new, Central Switching Service (CSS).

In June 2018, we proposed new governance arrangements for switching, including a **new Retail Energy Code** to oversee interactions between the new CSS, other energy industry systems and CSS users.

In September 2018, we finalised these arrangements and issued a policy decision for the DCC and all energy suppliers to agree to and comply with the Retail Energy Code. In October, we issued a further decision to impose a 'duty to cooperate' in the DCC's licence, which came into effect in February 2019.

From May 2019, consumers will also benefit from our **Better Data, Better Switching** project, which will introduce automatic compensation for when things go wrong with energy supplier switching.
We believe that this will create strong incentives for suppliers to improve their switching performance and make switching more reliable. We estimated in 2017 that this would result in a transfer of £72 million between energy suppliers and consumers.

Automatic compensation for switching problems will be generated based on new Guaranteed Standards, which were signed into law by the Minister for Energy in February 2019. A second tranche of Guaranteed Standards will 'go live' later in 2019.

Following a review in 2016, the Competition and Markets Authority (CMA) proposed that Ofgem create a **database of disengaged customers** and share the details of these customers with rival suppliers to encourage competition through marketing. The review also proposed that we also **trial methods of prompting customers to switch tariff** by sending them letters with market-wide cheapest tariff offers.

During 2018/19, we continued to trial means of increasing consumer engagement, particularly amongst disengaged consumers. Following successful "nudge" trials, in August we published the results of a small-scale collective switch trial in which more than one in five disengaged customers on poor value deals switched, saving on average £300. We are running further trials building on this learning, the results of which will be published in Autumn 2019.

Facilitating change in the energy system

Evolving future arrangements

We have continued working with Government on the **Smart Systems and Flexibility Plan,** which aims to remove barriers to new technology, encouraging markets that work flexibly. Delivery has proceeded broadly as expected, with only minor delays.

The Electricity System Operator (ESO) balances electricity supply with real-time demand. We think that the ESO's role needs to evolve, to ensure it is best placed to help transform the electricity system over the coming decades.

Separation between National Grid's Electricity System Operator (ESO) and Transmission Owner (TO) functions is important if the ESO is to step up to take on enhanced system planning roles, and greater independence for the ESO will help avoid potential conflicts of interest. **ESO separation successfully went live on 1 April 2019.**

We have progressed well with **Access and Charging Reform**. This work aims to help meet the demands of the future energy system by changing rules on how energy companies access electricity networks, and also by making changes to the associated 'forward looking' charges that these companies pay. We launched our Significant Code Review (SCR) in December 2018, which aims to support this work.

Ofgem and Government launched a **review of industry codes and code governance** in November 2018. The industry codes underpin the energy markets, and energy companies are required to comply with them under the conditions of their licences. The review is in its early stages, and aims to ensure that codes and code governance will be fit for purpose in our transition to a future energy system.

We continued our work with Government on European Union **(EU) Exit implementation,** given the need for the regulatory structure to continue functioning appropriately after the United Kingdom's planned withdrawal from the EU.

We continued to offer our **'Free, Fast Frank'** feedback service to assist entrepreneurs to bring sustainable and affordable energy business models, products and services to the market, within existing regulations. Some of these entrepreneurs were offered to go on to test their services in **our 'Regulatory Sandbox'.**

Our 'Regulatory Sandbox' offered innovators the opportunity to run a trial where some rules were temporarily removed. Each trial was run for a set period of time, with a limited number of customers and explicit learning objectives to test the viability of a model. At the end of the trial, all normal rules were reinstated and the innovator reported to Ofgem on what they have learnt. Together, our 'Free, Fast Frank' feedback advice and 'Regulatory Sandbox' are our **Innovation Link.**

During 2018/19, we supported sixty-seven innovators through our feedback service and continued to receive regular, complex enquiries throughout the year. During two 'Regulatory Sandbox' windows, we worked with innovators to shape, direct and advise on how trials might be carried out. At the end of 2018/19, five of those products / services were preparing to enter the live trial phase.

To evolve future regulatory arrangements, we have also carried out work in **preparing for electric vehicles,** to understand the challenges and opportunities presented by a potentially rapid future uptake.

We engaged with industry, government and consumer bodies to ensure we were feeding into various cross-body initiatives. We have also been active in **engaging with local energy,** including discussing proposals for local energy models with stakeholders and holding a local energy conference to bring stakeholders together.

Network charging and cost recovery

We have continued with our **Targeted Charging Review** (TCR). The main focus of our TCR is to look into 'residual'[3] charges levied on energy companies who connect to electricity networks (such as generation, storage and supply businesses). The current system of residual charges has the potential to distort outcomes and increase charges for some consumers.

Ongoing structural changes to the Great Britain gas market, and EU legislation to harmonise transmission charges across Member States, prompted us to conduct the **Gas Charging Transmission Review**. This work considers changes to the charging regime that might benefit consumers. During 2018/19, we supported industry in taking forward the Review, although experienced some delays in working with industry to finalise proposals. Our support will continue through 2019/20.

Putting in place the critical smart infrastructure and arrangements

We are responsible for regulating suppliers' compliance with their smart metering installation obligations. Our role is to protect consumers' interests by monitoring energy suppliers' **compliance with their smart metering licence obligations,** and regulating the DCC, including through a price control (see 'Engaging more consumers in energy' above).

Based on a submission from the DCC, we developed proposals for, and a decision on **price controls for the 2017/18 regulatory year** in February 2019. This is the mechanism by which the DCC justifies and receives approval for its operating charges.

During 2018/19, energy suppliers began the transition to installing **new-generation smart meters** (SMETS1 to SMETS2), though some 2018 installation targets were not met. We took a compliance and enforcement approach with some suppliers to improve delivery, and worked with BEIS to address mismatches between targets and realistic delivery. **Target rollout plans for 2019** were also received, which showed a significantly reduced ambition for 2020. To address this, we engaged with suppliers on their plans, and BEIS on the design of the post-2020 regulatory delivery framework.

In October 2018, the role as authority for the **Smart Energy Code** transferred from BEIS to Ofgem. As well as issuing decisions on Code modifications, we are now responsible for monitoring compliance with and enforcing the Network and Information Security Regulations, as they relate to the Code.

One of the distinct benefits of smart meters, is their ability to effectively monitor live energy usage, which can be used to generate more accurate billing for consumers. To drive these efficiency gains, we put in place incentives for suppliers to buy energy to meet their customers' demand in each half hour of the day (electricity settlement reform). In July 2017, we launched a Significant Code Review, which set out a **timetable for market-wide half-hourly settlement,** to be delivered thorough a Target Operating Model (TOM).

Half-hourly settlement will place incentives on suppliers to help their consumers move energy consumption to times of day when electricity is cheaper to generate and transport. This will provide savings, both directly to consumers who are rewarded for their flexibility, and also system-wide due to avoided investment in new generation and transport capacity.

To advance this work, a **Design Working Group** led by ELEXON developed options for the TOM design and came to a preferred option. In July 2018, we published consultations on supplier access to half-hourly data for settlement purposes, and on a proposal that data agent functions should not be centralised. Findings from these will be published in early 2019/20, once agreed by the Authority. We also published a call for evidence on the **consumer impacts of electricity settlement reform**, to ensure we properly understand the impact of this reform on different consumer groups.

[3] Electricity networks charge companies (generators, storage businesses and suppliers) to connect to the system. This includes a 'forward looking charge' (designed to reflect users' impact on network costs, including current & future investment costs) and a 'residual charge' (designed to be a 'top up' charge, ensuring the network's costs can be covered after other charges have been levied).

Ensuring network companies deliver for consumers in a changing system – RIIO and wider competitive regime

Regulating monopoly network companies

Work on developing RIIO-2 has continued. RIIO (Revenue=Incentives+Innovation+Outputs) is Ofgem's performance-based framework to set price controls for companies running the gas and electricity networks. RIIO-2 will be the next set of price controls, succeeding the current RIIO1 controls from 2021. Our RIIO-2 Framework Consultation was issued in March 2018, with a decision being published in July 2018. In December we published our consultation on the sector methodologies we propose to apply for gas/electricity transmission sectors, the gas distribution sector and the electricity system operator.

We continued to issue decisions on **allowances for costs that were uncertain at the time of setting the current RIIO1 price controls.** 'Uncertainty mechanisms' allow changes to a network company's permitted revenues in light of such unforeseen costs arising. We also administered the package of **financial and reputational incentive mechanisms** put in place to ensure the efficient delivery of outputs for current and future consumers.

When we developed the RIIO price controls we recognised that there were uncertainties that could affect network companies' ability to deliver. To help address this uncertainty, we made provision for a review half-way through the price control; the **Mid-Period Review** (MPR), if deemed necessary. In Q1 2018, we issued our decision not to proceed with a Mid-Period Review of the current electricity distribution price control (RIIO-ED1), as this was not considered necessary.

When we introduced the RIIO price controls, we established the **Electricity Network Innovation Competition** (NIC), which has continued during 2018/19. The Electricity NIC is an annual opportunity for electricity network companies to compete for funding for the development and demonstration of new technologies, operating and commercial arrangements. We issued funding directions for successful 2018/19 projects during Quarter 4.

Driving competition where suitable

In the 2018/19 Forward Work Programme, we pledged to progress our plans for **introducing competitive-like forces to the delivery of major onshore transmission investments.** We have continued to develop alternative competition models, and apply them to new onshore transmission projects. During 2018/19, we made a decision on the delivery model for the Hinkley-Seabank project, and also consulted on needs cases and delivery models for transmission projects on Shetland and the Western Isles.

We have continued to successfully run tenders for ownership of new networks through the **offshore transmission owner (OFTO) regime**, with the aim of delivering good value for money for consumers. We carried out a periodic review of our OFTO tender processes. In addition, we granted a license for the Dudgeon offshore wind farm, and selected preferred bidders for the Race Bank, Galloper and Wesley Extension projects.

Over the course of 2018/19, Ofgem aimed to **assess the efficacy of the existing interconnector regime.** This work was paused during 2018/19, as it was not clear how many of the pipeline of proposed interconnectors would go ahead, and what trading arrangements will look like after EU Exit. More clarity is required before commencing any review.

Identifying opportunities and managing long-term risk on behalf of consumers

Proactively engaging, monitoring and managing markets

The capacity Market ensures that sufficient electricity capacity is available to meet demand. Our work to help procure the appropriate volume of capacity in capacity auctions, to monitor auction performance and bring about beneficial changes to capacity market rules has continued. However, **the Capacity Market was subject to a decision by the European Court in November, which meant that all future auctions and payments to Capacity Providers have been suspended**. This has impacted the scope of our work over quarters 3 and 4. Despite this, we continued our work on the Five Year Review of the Capacity Market rules, and are working with Government to help with the reinstatement of the Capacity Market.

We remain committed to emphasising to **energy companies their duty to put their consumers first** through our engagement and monitoring approach, in line with their regulatory obligations. We want to see increase of awareness across energy companies of their obligations to consumers, in their ability to **identify risks and manage them effectively**. Where things inevitability go wrong, consumers must be treated with respect, in good time, and where necessary **offered suitable redress**. To inform this, **we monitor both the wholesale and retail energy markets**.

Where energy companies have failed to act within their obligations, the Authority will carry out investigations which may require enforcement activity. **Appendix II** of this Annual Report and Accounts sets out the **investigation and enforcement activity** that we have carried out in 2018/19. Appendix II also contains a summary of actions taken as a result of our **wholesale and retail market monitoring**, as well as our compliance activity. In line with our statutory reporting obligations, this Appendix includes a summary of final and provisional orders made by the Authority in the 2018/2019 reporting year together with a summary of the penalties the Authority imposed during the same period.

To make our compliance and enforcement activity more **transparent**, we continued in 2018/19 to actively **communicate with our regulated community**. In June 2018, we published our fourth Annual Enforcement Overview, which detailed activity from April 2017 to March 2018. In September 2018, we held our Compliance and Enforcement Conference. In August 2018, we published emerging themes in our 'Retail Supplier Compliance and Enforcement Report; Spring / Summer 2018', and in October, an open letter on Ofgem's advanced meter rollout investigations and implications for the smart meter rollout.

Maintaining and enhancing our industry-specialist skills and capabilities

Many of the energy companies regulated by Ofgem have engineering at their core, and technology will be a major driver of change in the transition to a low-carbon future. In response to this challenge, we set up a **Centre of Excellence for Engineering and Technology** within Ofgem, recruiting staff from an engineering and technology background.

In May 2018, Ofgem and BEIS became the joint **Competent Authority for energy** when the EU Directive on security of **Network and Information Systems Regulations** 2018 (NIS Regulations) came into force. The NIS Regulations impose new duties on Operators of Essential Services (OESs) and gives us new powers and responsibilities to ensure OES are meeting those duties.

The intent of the NIS Regulations is to increase the overall **cyber-security and cyber resilience** of OESs, in relation to the network and information systems that support the delivery of essential services. OESs must take appropriate and proportionate technical and organisational cyber-security countermeasures to manage risks posed to the security of the network and information, on which their essential service relies, and to prevent and minimise the impact of incidents on the essential service.

In January 2019, we received our first self-assessments from 23 OESs. A further 24 OES submissions will be requested once a decision has been made regarding NIS Regulation equivalence to the Smart Energy Code (see 'Putting in place the critical smart infrastructure and arrangements' page 12). Internally, Ofgem also began developing its own plans to ensure that we have adequate systems or processes in place to be compliant with the NIS Regulations.

Continuing to provide an authoritative source of analysis and thought leadership

We published our second annual **State of the Energy Market report** in October 2018. The report assess how well energy markets are working for consumers in achieving these outcomes.

As part of our commitments to drive our research collaboration with industry and academia, Ofgem established a dedicated **Research Hub** during the year. Its goal is to develop a programme of research that supports our policy development, by maximising cross-sector policy interactions, facilitating the low-carbon economy transition and identifying the needs of future consumers and global trends. The Hub is driven by a steering committee, which agrees the research projects that we should deliver. During the year, the Hub developed:

- an electric vehicle future insights paper;
- reports looking at international examples of alternative default arrangements and disintermediation of supply;
- research to assist our policy development for the targeted charging review and a consultation on the second round of our network price controls (RIIO-2);
- an energy sector horizon scanning prioritisation exercise;
- a policy evaluation of the CMA's price transparency remedy;
- analysis of the 'cost pass through' tariff, for our future retail market design project; and
- the microbusiness consumer journey.

The Hub also began research into platforms for flexible services, and demand side response, which will be completed in early 2019/20.

We continued to deliver **quality assurance, impact assessment and evaluation**, in line with recommendations in the HM Treasury review of quality assurance and Government analytical models. Through this work, we support our policy teams to develop their analytical models and review their cost-benefit analysis and impact assessments, before it is published.

Ofgem delivery of renewable and social schemes

Ofgem delivers a portfolio of renewable energy and social programmes on behalf of our partners in government (BEIS, and the Northern Ireland Department for the Economy (DfE)). These schemes are worth in excess of £9bn annually and delivered by our operational directorate, E-Serve. The relationship we have with our partners is founded on the delivery of good value for taxpayers' money. It is underpinned by a clear objective to protect the interests of consumers.

In 2018/19, we overhauled our approach to the delivery of our schemes to improve the service we offer and increase the value for money we seek to deliver to our funding partners.

We achieved this through a comprehensive restructure that created four functional Hubs.

In this financial year, we have focussed on:

Delivery: Our core role, where focus is on efficiency and effectiveness. We brought the delivery and administration of all our schemes into a single and more agile specialist unit.

Assurance: We established a strengthened control environment to ensure robust decision making across our scheme portfolio, managed risks and investigated fraud.

Technology: We invested in people and systems, developing technology solutions to future-proof our delivery capabilities. We embraced concepts including machine learning, AI and data automation.

Relationships: We maintained and improved our relationships with our key partners in Government as well as providing real value by assisting in the development of policy.

Delivery

Renewable Electricity

During 2018/19 the Renewables Obligation and the Feed-In Tariff (FIT) schemes closed to new entrants, with FIT closure being managed in 2018/19. We continued to administer both schemes, which provide ongoing support for accredited generators that make up almost 30% of all electricity generation output. In 2018/19, the combined value of these schemes was £6.7bn.

The FIT scheme required participating licensed electricity suppliers to make payments on both generation and export from eligible installations, to promote the uptake of renewable and low-carbon electricity generation technologies. This was the eighth year of the FIT scheme, and the last following a decision in July 2018 by BEIS to consult on scheme closure. The total capacity deployed under the scheme grew from 5.65 GW in year seven to 6.02 GW in year eight, an increase of 6.6%. As a whole, 8,357 GWh of electricity was generated by FIT installations. In response to increasing interest in co-location of storage, we issued new guidance on co-locating storage with FIT installations.

The Renewables Obligation placed an obligation on UK electricity suppliers to source an increasing proportion of the electricity they supply from renewable sources. In 2018/19, we issued 103.2 million Renewables Obligation Certificates based on 75.2TWh of renewable generation. This was equivalent to 26.4% of the UK electricity supply market. When combined with the 8.4TWh generated by FIT installations, this figure rises to 29.3%.

In 2017/18, our most recently reported year, 14 suppliers did not meet their obligation and this resulted in an initial shortfall of £58.6m in the buy-out fund. This shortfall triggered mutualisation for the first time in the Renewables Obligation scheme's history. Mutualisation is when suppliers must make additional payments to make up a shortfall in scheme funds left by other suppliers not meeting their obligations under the scheme. Of those non-compliances, we took the appropriate enforcement action and recouped funds where possible.

Renewable Heat Incentive (RHI)

The RHI teams continued to support regulation change and manage both the Domestic and Non Domestic RHI schemes in Great Britain. In 2018/19 a number of major reforms were introduced to the RHI schemes. These included Tariff Guarantees, feedstock requirements, shared ground loops and eligible heat use changes to the Non-Domestic RHI and the introduction of Assignment of Rights and metering for performance to the Domestic RHI.

This was the fifth year of the Domestic RHI scheme, and since it launched, accredited systems have generated more than 3.5 million MWh of renewable heat. As of March 2019, we had made 67,738 accreditations since the launch of the scheme.

In our role as administrator of the Governments domestic and non-domestic renewable heat incentive schemes, Ofgem made payments to scheme participants totalling £817,898,169 in the financial year 2018/19.

Based on our sampling of the population and subject to our detailed assumptions, we can be 95% confident that the value of error for GB Renewable Heat Incentive scheme payments made or accrued in the financial year 2018/19 is between the upper and lower limits of £21,765,747 and £43,175,637. Based on the same assumptions, the most likely value of error for the same period is £32,470,692.

We continued to support the management of the Northern Ireland Non Domestic RHI scheme, including with their audit programme. New legislation was introduced in Parliament to manage the future value of Northern Ireland scheme payments. We supported changes to relevant regulations to enable payments to continue uninterrupted.

In 2018/19, we gave evidence to the Public Inquiry into the Northern Ireland RHI scheme and assisted the Inquiry with its investigations, which are due to conclude in 2019.

Energy Efficiency and Social Programmes

Our administration of these schemes continued to have a direct impact for consumers, achieving reductions to energy bills and protection for vulnerable consumers. Following the failure of several small suppliers in 2018/19, we collaborated with colleagues managing the SoLR process. We ensured consumers receiving Warm Home Discount (WHD) were not disadvantaged when successor suppliers were appointed for these customer groups.

Our administration of the Energy Company Obligation (ECO) continued throughout the year, with the closure of the ECO2 element of the scheme and the launch of ECO3. Throughout the lifetime of ECO2, the scheme contributed savings of more than 27 MtCO2. We launched ECO3 which refocused the scheme on life time bill savings for those at risk of fuel poverty, we also improved our service to obligated parties by managing the scheme through a more intelligent, automated platform.

Assurance

The management of our entire portfolio of schemes is underpinned by our commitment to achieving assurance on all our activities. Our Assurance Hub was created to deliver excellence in this field, by deploying a system of checks and controls.

We delivered an enhanced audit strategy and worked with Strathclyde University to ensure our statistical audit programme is robust and representative. We invested in data innovation and skills to investigate and probe areas where we suspected our schemes were being manipulated for unintended financial gains. We added further checks to the way we issue payments, reducing the risk of incorrect payments being made, and delivering assurance for consumers that public funds are being well managed.

We also responded to recommendations from the NAO to implement a number of changes within our administration of the RHI schemes. This work was a key element in our engagement with our own independently led Risk and Assurance Committee, which completed its first full year since being established in 2018.

Technology

As the schemes we deliver evolve, grow and in some cases reach their closure point, a key challenge in 2018/19 was to adapt and improve our system functionality and resilience. On ECO, this took the shape of delivering non-legislative functionality (e.g. automation of reporting). For NDRHI and the Renewable Electricity Register this involved starting a major project to look at how the technological architecture can be refreshed to support the needs of scheme in the future.

For the first time, we created and deployed scalable, re-usable modules (micro services) that allowed us to build and maintain a more consolidated code base and infrastructure across all our products. Further, we continued to deliver numerous products across the schemes. These included eight major legislative changes across the schemes: including ECO3, FIT Closure and NDRHI Package 2B.

We also committed to enabling a progressive digital culture for E-Serve by investigating and embracing new capabilities including data analytics products and automated reporting. We developed and implemented a new way of capturing and handling quantitative audit data that enables closer real time collaborative working with our audit partners. We introduced a new Counter Fraud analytics product to enhance our capabilities to detect and identify fraud across our portfolio of schemes.

Engagement

We agreed new administrative arrangements with the Department for the Economy in Northern Ireland and continued to engage regularly through a strategic forum organised with BEIS. We met our requirement to publish quarterly and annual reports on the schemes we administer, as well as providing applicants and participants with an array of advice and resources.

Our contribution to decarbonisation

Ofgem has worked to support the Government's Clean Growth Strategy and Industrial Strategy, through activities aimed at supporting decarbonisation of the economy. Reducing negative environmental impacts was one of the five over-arching consumer outcomes in our 2018/19 Forward Work Programme, and our work outlined above in areas from administration of renewable energy programmes to the running of tenders for offshore transmission owners (OFTOs) supports this aspiration. Our work to date around preparing for electric vehicles has helped lay the groundwork for lowering carbon emissions from transport in the future, and our efforts in areas such as system flexibility or engaging with local energy aim to facilitate the transition of the energy system to one that is lower carbon, more decentralised, more flexible, more dynamic and responsive.

Performance Report

Principal risks to delivery

In 2018/19, we worked towards delivering five outcomes to derive maximum benefit for consumers through our key priority work areas (see Performance Report – Introduction – page 7). During the year, we continued to manage and mitigate key risks and uncertainties that might affect our ability to deliver outcomes for consumers. Details on our risk and control arrangements can be found in our Governance Statement (risk and control – page 44)

Key risk area	Mitigation approach
Cyber security	
In an increasingly digitally interconnected world, the level of risk has increased from individual hackers, through to state sponsored aggression. Our reliance on digital technology is growing – from 'smart' homes to self-driving electric cars – and therefore the risk of an attack on our critical energy and energy-related infrastructure is also increasing.	With BEIS, Ofgem has agreed to be the UK joint Competent Authority (CA) to regulate cyber resilience for downstream gas and electricity, while maintaining our Competent Authority role for the UK Smart Energy Code (see Maintaining and enhancing our industry specialist skills and capabilities – page 14). Our strategy is to establish a consultative and collaborative partnership with the Operators of Essential Services (OES) and to build a foundation of people and processes, including strengthening our technical advisory, audit and research and development capability in cyber threat management in order to encourage engagement, innovation and improvement. In addition, as part of the RIIO2 programme Ofgem's CA will assist operators in developing long term strategic Cyber plans, which are proportionate and appriopriate against more advanced threats.
Operating effectively within our resource	
As with other public bodies, we agreed to rise to the challenge to work within incrementally smaller budgets following SR15. Where Ofgem is asked to take on additional responsibilities, funding conversations are held with HM Treasury.	Our Evolving Ofgem programme commenced in 2018 with the aim of ensuring we are set up to successfully regulate gas and electricity markets on behalf of consumers at a time of unprecedented change across the energy sector. To achieve this, we have adopted a more 'agile' approach to how we operate – rethinking how we work to be as efficient and effective at what we do as possible. In 2019/20 we completed a thorough prioritisation exercise to identify programmes and activities that deliver maximum benefit to consumers, prioritising these for progression. We will continue to prioritise our work over the course of the year as new opportunities and/or risks materialise.

Key risk area	Mitigation approach
EU exit	
The terms and timescales for the UK's departure from the EU are uncertain, but may have a significant impact on the sector that we regulate (e.g. consumer choice, investment, competition, cross-border energy trading), on our regulatory framework and on our ability to recruit and retain high quality people.	Although we do not presently anticipate EU exit causing significant disruption to the UK energy market, we continue to prepare for a range of EU exit scenarios through working closely with central government and stakeholders across industry to ensure that our regulatory framework is fit-for-purpose (see evolving future arrangements, page 11). The Ofgem Board receives regular reports from our EU exit co-ordination team on our risks.
Supplier exit and licensing	
Competitive pressure in the supplier market has increased over recent years, which has benefitted consumers through increased price competition and improved customer service. Our current arrangements successfully protect consumers when a supplier fails, but there is a risk that supplier failure could cause disruption and impose costs on consumers.	We have commenced a review of our supplier licensing arrangements, to assess if minimum licensee standards are robust enough to protect consumers in terms of supplier financial viability and service standards. With this work, we aim to ensure appropriate protections are in place against poor customer service and financial instability. (See improving retail market conduct, page 8.)
Next network price controls	
RIIO-2 is our next price control regime for network companies running gas and electricity transmission and distribution networks (see regulating monopoly network companies, page 13). It's vital that RIIO-2 reflects the lessons learnt from RIIO-1, and prepares the networks for the energy system transition over the next two decades. There is a risk we don't get the decisions necessary to achieve this right.	We have been engaging and consulting with key stakeholders on our RIIO-2 approach and proposals since 2016, and have made a number of decisions on aspects of the next price control, including our decision on the RIIO-2 framework published in 2018 and our sector specific methodology decision, published in May 2019.

Key risk area	Mitigation approach
Protecting the public purse	
We administer a number of environmental and social programmes (schemes) on behalf of Government that expend very substantial sums of public money (see delivery of renewable and social schemes – page 16). Whilst we have a zero tolerance for fraud, there is still a risk that undetected fraud and 'gaming' of these schemes by participants will be unacceptably high.	We have a dedicated counter fraud team who work closely in partnership with BEIS and other organisations to reduce fraud risk across the environmental or social programmes, taking action where fraud is detected to maintain the integrity of the schemes. Over the past year we have made a significant investment in assurance of scheme audit, risk, fraud and compliance functions, and have devised a detailed Audit Strategy covering all our UK and Northern Ireland schemes. We are committed to increasing the number of scheme audits undertaken.
Litigation	
Litigation by stakeholders can delay and potentially undermine decisions we make in the interests of consumers, and can deter innovation and investment.	In 2018, we restructured our legal function into a single Office of General Counsel, appointing a senior General Counsel to lead it.

Our GB stakeholders

Stakeholder engagement is at the heart of our work, helping to ensure that the views of our stakeholders are considered in the way we regulate the energy system.

Consumer and industry engagement

In 2018/19, we continued a successful events programme across Great Britain including hosting our first ever Ofgem Energy Conferences In London, Glasgow, Cardiff and Manchester, where we consulted on the Forward Work Programme as well as set out our vision for future energy. We have held events in more locations across Great Britain and we are reaching more stakeholders than ever before. Feedback for these events has improved year on year, with the Ofgem Energy Conferences receiving very positive feedback. We have also held more webinars to support policy development by reaching a wider range of stakeholders throughout Great Britain.

We have increased the programme of stakeholder engagement for our senior leaders, including an Authority Away Day to a local community centre in Tower Hamlets, visiting local charities who had successfully applied to the consumer redress scheme in Liverpool and Oldham, innovative schemes which had used the Ofgem innovation link service and a number of site visits in Wales and Scotland.

Ofgem was represented at many of the major energy conferences across Britain this year including policy forums, roundtables, major industry conferences and consumer summits. We spoke to our audiences about our work on regulating the energy networks, the future energy system, and protecting consumers.

We also continue to support key industry representative groups, such as the Large Users Group, Independent Suppliers Forum and the Sustainable Development Advisory Group.

See the speeches and presentations page on the Ofgem website for speeches from the range of events where we have spoken.

Government engagement

Our work involves regular engagement with government departments and ministers (including BEIS) and we've continued to share our insight and expertise as the energy regulator over the last year.

Ofgem is accountable to Parliament, and our external relations team act as a dedicated point of contact for elected representatives in Westminster and the devolved administrations. We work to ensure a regular dialogue on Ofgem's action to protect consumers, and the development of our Forward Work Programme. We have contributed written and oral evidence to relevant parliamentary inquiries, provided speakers at cross party groups, as well as holding meetings with individual parliamentarians on energy issues at a national and constituency level.

Consumer Impact Report (CIR)

We are committed to making a positive difference for consumers. As part of this, we want to communicate clearly how our work delivers value for money. It is also important that we earn the public's trust by demonstrating and communicating the benefits that Ofgem as an independent regulator brings to consumers and wider society.

As it states in Ofgem's Corporate Strategy:

"We would like to report on the cumulative costs and benefits to consumers of our regulation and how these results change with each intervention. In practice, this is very difficult. Many factors throughout the industry, including the actions of government, influence outcomes, and it can be hard to highlight the particular impact of our contribution. However, we aim to be as transparent and accountable as possible and we will explore what we might be able to provide."

To carry out this strategy, Ofgem has committed to assess annually the expected impacts that its regulatory activities have on consumers. Our Consumer Impact Report provides an assessment of the expected consumer benefits from Ofgem's recent regulatory decisions.

The costs of funding Ofgem's activities are ultimately passed to consumers through their energy bills or through the taxes that they pay. It is therefore essential that we understand the impact of our actions and decisions, to make sure that we are delivering value to consumers for the money that we spend.

We published our second Consumer Impact Report in June 2019, which assesses the benefits that some of Ofgem's regulatory activities and decisions undertaken between April 2018 and March 2019 are expected to have. We do not include E-Serve activities in this report, which is a division of Ofgem that runs government environmental and social schemes. To date, we have concentrated on assessing the impact of our regulatory decisions, but we are considering whether to include E-Serve activities in future years.

While many of our decisions are intended to benefit all consumers, such as those related to when or how companies should communicate with their customers, others target particular groups where we have identified that the market is not working well for them. For example, the default tariff price cap is expected to benefit more than 10 million consumers on standard variable tariffs, while our Supplier of Last Resort processes have ensured that more than 800,000 customers of failed suppliers have not had disruption to their service. We recognise that different consumers can have very different needs and personal circumstances, so we include specific consideration of how our decisions will affect consumers whose circumstances make them vulnerable to experiencing worse outcomes.

In a given year, Ofgem typically has over 100 specific regulatory decisions in progress and so it is not practical for this report to cover all our activities. For those we do report, not all of the benefits we deliver to consumers can reasonably be estimated and given a monetary value – the reported monetised estimates below represent only a fraction of our overall impact. For example, in terms of our enforcement and compliance actions, while compensation for past detriment suffered by consumers can be quantified, it is much harder to place a value on the avoided detriment that would have occurred in the absence of Ofgem's intervention. It is also difficult to quantify future harm that our decisions avoid by discouraging other parties from acting in the same way. These types of non-monetised benefits may outweigh the ones we can monetise. We have therefore set out some of the benefits to consumers resulting from our decisions through a combination of both qualitative and quantitative analysis.

Retail market interventions

- We implemented a cap on default and standard variable tariffs to protect consumers from unjustified price increases. Direct benefits to consumers are estimated to be £2,395 million over the two years of 2019-2020.
- We put in place a package of service level requirements on suppliers, such as automatic compensation for customers, to ensure that consumers have adequate financial protection in case something goes wrong with the switching process. The net benefits to consumers are expected to amount to £54m in 2019.
- We conducted a series of randomised controlled trials designed to test the impact of targeted communication interventions on switching behaviour. Consumers who participated in the trials generally saved money on their projected annual energy bills, with savings of around £10 million in 2019.
- We ran 10 Supplier of Last Resort processes during the 2018-19 financial year to protect customers of failed suppliers by guaranteeing them continuity of services and adequate protection of their credit balances.
- We introduced new principles relating to domestic supplier-customer communications. These changes should enable consumers to understand better their costs and consumption and make an informed choice about their tariff and supplier.
- We removed the requirement on price comparison websites to show all deals available in the market, allowing them instead to show only the deals that consumers can switch to directly through their websites. We expect this to encourage greater customer engagement and potentially competition.

Networks regulation and energy system measures

- We confirmed the final regulatory arrangements for the Hinkley-Seabank Project. Net direct benefits are expected to be around £89m over the period 2019-2069.
- We disallowed £136m of costs as part of our price control measures governing the operation of the Data and Communication Company (DCC).
- We decided not to launch a Mid Period Review of the outputs electricity distribution network operators must deliver as part of the current network price control. This should help to maintain regulatory confidence and avoid increases in bills resulting from higher costs.
- As part of the network price control reopener process, we accepted some of the funding requests from four transmission and distribution companies. We expect this to secure better compliance with emissions legislation and environmental benefits.
- We improved the incentives for network companies to engage with and meet the needs of their stakeholders through our Stakeholder Engagement Incentive (SEI) and Stakeholder Engagement and Consumer Vulnerability Incentive (SECVI) guidance.

Enforcement and compliance

- Our enforcement and compliance activities ensure that consumers can benefit from us stopping unlawful or anti-competitive conduct or activities in breach of licence conditions or other requirements; ensuring timely and proportionate redress to compensate customers for the detriment suffered because of breaches by suppliers; and improving the supplier-customer relationship.

- We estimate the direct consumer benefits from our enforcement actions to be £5.6 million in 2018-19, including compensation payments to consumers, fines, redress payments to charities and avoided costs to consumers. For compliance decisions taken over the same peiod, we estimate the direct benefits to be £1.2 million.
- Impacts on vulnerable consumers across our priority areas
- Supporting those struggling with their bills: we implemented a price cap which has led to energy savings for customers who are on default tariffs. We expect the cap to deliver savings of around £60m per annum over the period 2019-2020, for approximatively 800,000 customers previously protected by the safeguard tariff.
- Improving customer service for vulnerable consumers: we placed a requirement on suppliers to compensate customers when they fail to refund credit balances within two weeks of the final bill. This will benefit those who are vulnerable to financial shocks.
- Encouraging positive and inclusive innovation: we imposed a responsibility on suppliers to identify vulnerable consumers and adapt the type and frequency of communication to fit their circumstances.
- Improving identification of vulnerability and smarter use of data: we rewarded gas distribution network companies for developing energy solutions for the fuel poor through the Gas Discretionary Reward Scheme.

The benefits we were able to quantify for the decisions we made in 2018-19, amounted to estimated direct benefits of £2,555 million. These benefits are uncertain, and will be realised over a long time period (up to 50 years). Since they are largely forecasted consumer impacts, they may, in the future, differ from the actual amount realised. They are also only partially reflective of our impact but they give a strong indication of the positive impact that our decisions have for consumers.
In terms of the costs incurred in delivering these benefits, Ofgem's costs for the financial year April 2018 to March 2019 were £97 million. This gives a ratio of direct benefits to costs of 26:1, which means that, for the every £1 we spent in the last financial year, we deliver direct benefits to consumers worth at least £26.

Sustainability report[4]

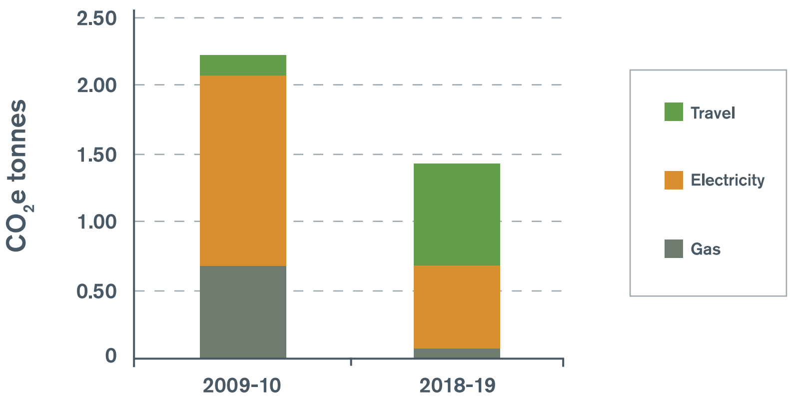
Over recent years, we have significantly reduced our carbon usage, water consumption and waste tonnage. In Summer 2018, we moved our London office to new accommodation within the Government Hub building at 10 South Colonnade, Canary Wharf. This new building is more environmentally efficient than our previous one, with a BREEAM rating of Very Good. Our accommodation footprint has reduced by around 45% as a result.

We remain committed to the Greening Government Targets, which challenge us to achieve the following against a 2009/10 baseline:

- **32% reduction in overall carbon**
- **Reduce landfill to 10% of total waste**
- **Increase the proportion of waste that is recycled**
- **Reduce paper consumption by 50%**
- **Reduce water consumption**

Building and activity related carbon emissions

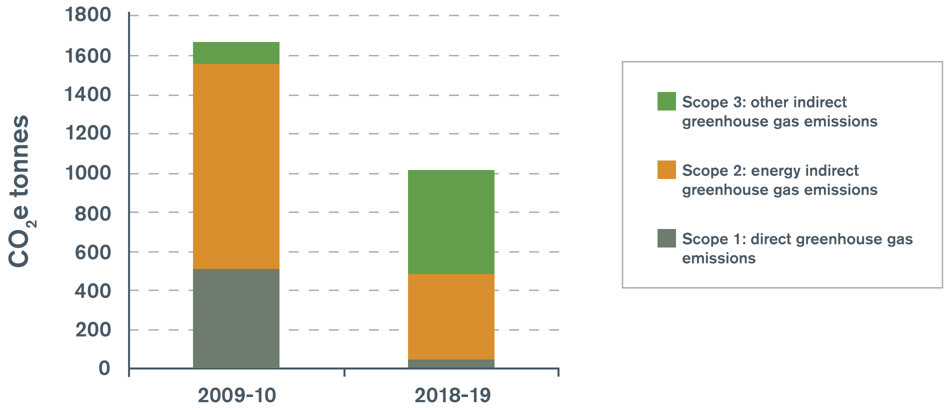
Carbon usage by FTE



Carbon usage per FTE has reduced by 36% since 2009/10.

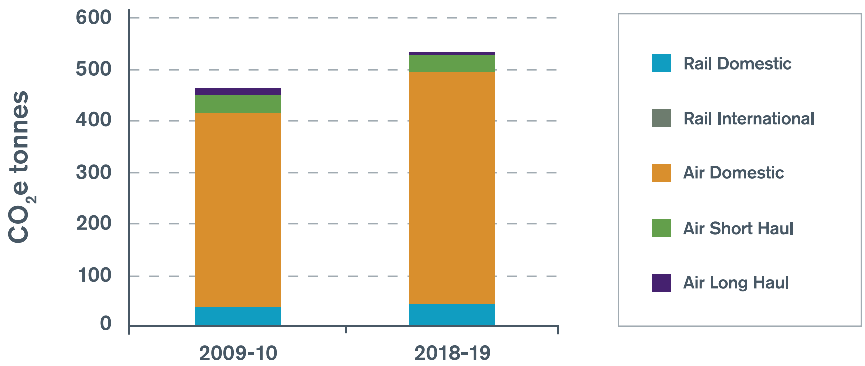
[4] Due to the recent move of our London office, and in accordance with the Sustainability Reporting Guidance 2018-19 (Paras 2.18 and 2.29) published by HM Treasury, we have changed our reporting boundaries. We have normalised our data to full-time equivalent (FTE) staff numbers for the baseline year and all years going forward. We are able to do this based on the 2009-10 FTE numbers multiplied by the number of FTE that moved to the new London office.

Total Carbon



Total carbon has reduced by 39% since 2009/10, mainly due to the increased efficiency of our new London office when compared with our previous accommodation. This means we have achieved the Greening Government Target of a 32% reduction.

Travel Carbon



As noted above, we have significantly cut our carbon usage over recent years, meeting the Greening Government Target. We remain committed to lessening the need for staff travel, and have continued to step up our use of technologies such as video conferencing, aiming to cut down the need to travel between sites.

Since 2009/10, we have increased the number of staff based within our Glasgow office (from under 30 staff in 2009/10 to over 350 in 2018/19). This move towards a more 'dual site' model has led to an increased need to travel between sites, meaning our travel carbon has increased. However, we will continue striving to improve our use of technology and adopting smarter ways of working, in order to reduce the need for travel.

Reductions in Greenhouse Gas Emissions

Greenhouse gas emissions		2009-10	2018-19
Non-financial indicators (tCO_2e)	Total gross emissions	1,670	1,015
	Per FTE	2.23	1.43
	Total net emissions	1,671	1,015
	Scope 1: Direct GHG emissions	511	49
	Scope 2: Energy indirect GHG emissions	1,045	431
	Scope 3: Other indirect GHG emissions	115	535
Related consumption data (kWh)	Electricity: Renewable (k)	1,130	1,521
	Gas (k)	1,578	269
Financial indicators	Expenditure on energy	£138,240	£308,870
	Expenditure on official business travel	N/A	£523,530

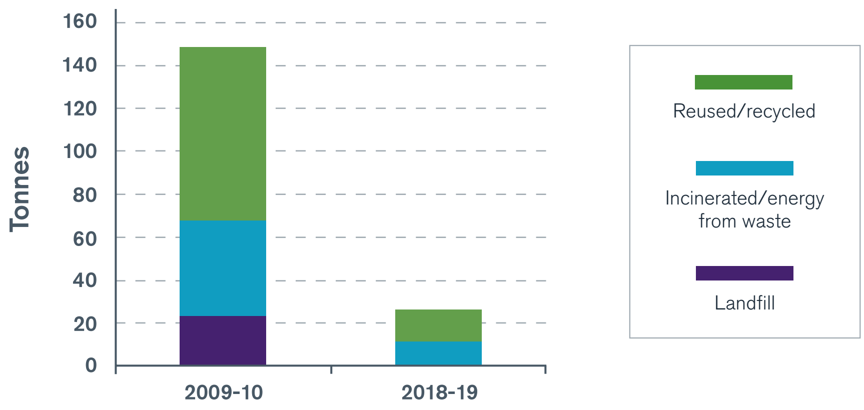
DEC & EPC performance

Usually in this section we would show our Display Energy Certificate (DEC) rating. This is not possible this year as our new London office will not seek a DEC until twelve months after full occupation (which is not until October 2019). Scotland does not participate in DEC ratings which excludes our Glasgow Office.

Energy Performance Certificates (EPC) provide potential buyers and tenants with an indication of the energy efficiency of a property. Our Glasgow office has an EPC of just 37, making it the second most efficient office in the government estate in the 2017/18 State of the Estate report. 10SC has an EPC of 72, mainly due to the building being fully air conditioned.

Eliminating waste

Total waste



Our waste has dropped 123 tonnes, or by 82%, since 2009/10 due to a number of factors including:

- Introducing a laptop/tablet as the standard IT kit, reducing the need to print documents
- Reducing office filing allocation to 0.75 linear metres per person
- Closing the onsite reprographics unit
- Reducing the number of printers in our offices by over half

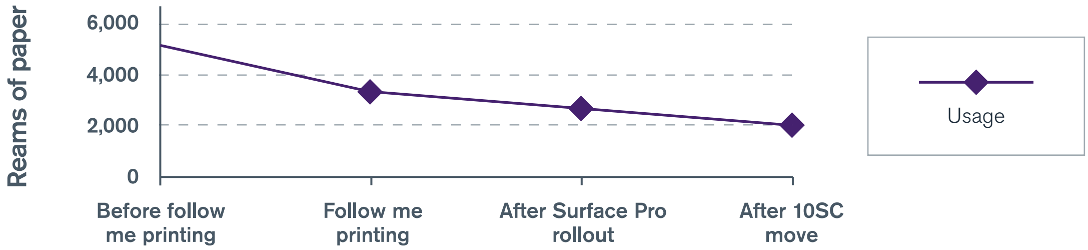
We have not sent waste to landfill since 2010, thereby meeting the Greening Government target to reduce the proportion of landfill waste to 10%.

Waste			2009-10	2018-19
Non-financial indicators (tonnes)	**Target**		-	-
	Total waste		149	26
	Total waste per FTE		0.2	0.04
	Hazardous waste		1	-
	Non-hazardous waste	Landfill	23	0
		Reused/Recycled	81	15
		Incinerated/ energy from waste	44	11
Financial indicators	Total disposal cost		£11,845	£9,798

Reducing paper use

We have reduced paper consumption by 60% since 2009/10, thereby meeting the Greening Government target to reduce by 50%. This has been due in large part to the roll-out of out 'follow me' printing system, which has reduced the number of printers in our offices. We have also introduced Surface Pro laptops as standard IT kit, further reducing the need to print documents.

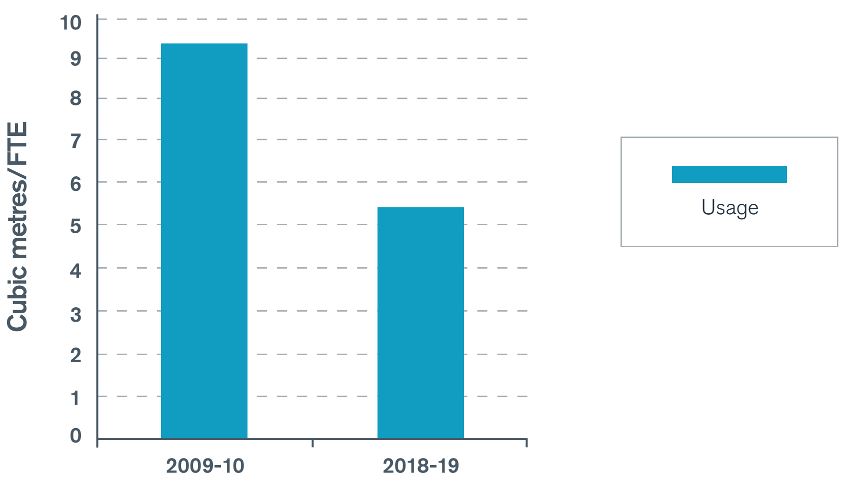
Annual paper use



Reducing water use

Our water use per FTE has almost halved since 2009/10. The reduction is principally due to our new London accommodation's Very Good BREEAM rating.

Water per FTE



Water			2009-10	2018-19
Non-financial indicators	**Target**			**6.00**
	Water consumption (m^3)	Supplied	7,116	3,608
		Per FTE	9.5	5.6
Financial indicators	Water supply costs		£9,026	£8,444

Dermot Nolan
Accounting officer

21 June 2019