ofgem Making a positive difference for energy consumers

Great Britain and Northern Ireland Regulatory Authorities Reports 2017

Regulatory Authorities Report pursuant to section 5ZA of the Utilities Act 2000 and section 6A of the Energy (Northern Ireland) Order 2003

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Ofgem 2017 National Report to the European Commission

Overview
The Great Britain (GB) report covers:

- Developments in the GB energy markets in the calendar year 2016 and the first six months of 2017. In some cases, data is only available for a subset of this period (eg the 2016 calendar year only). Where this is the case, it is clearly stated.

- The regulation and performance of the GB electricity and gas markets along the themes of network regulation, promoting competition, and security of supply

- Our compliance with the Electricity and Gas Directives on consumer protection and dispute settlement. Since GB energy markets have been fully liberalised and the regulatory structures in place for a number of years, this report is intended as an updated version of the submissions made since 2007.

Finally, for further information on Ofgem's wider activities, please consult our Annual Report. The 2016-17 Ofgem Annual Report is available at the link below.[1]

Legal Basis
All National Regulatory Authorities (NRAs) are obliged to report annually to the European Commission, in accordance with Directives 2009/72/EC (Electricity Directive) and 2009/73/EC (Gas Directive). The structure of the report is agreed at the Council of European Energy Regulators (CEER).

Ofgem is the GB Office of Gas and Electricity Markets. It is governed by the Gas and Electricity Markets Authority (the Authority). The terms 'the Authority', 'Ofgem', 'us' and 'we' are used interchangeably in this document. The Northern Ireland National Report, from the Northern Ireland Utility Regulator, is in the second section of this UK Report.

As the NRA for GB, Ofgem's above annual reporting requirement is specified in section 5ZA of the Utilities Act 2000. The Utility Regulator's equivalent requirement is specified in section 6A of the Energy (Northern Ireland) Order 2003.

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[1] https://www.ofgem.gov.uk/about-us/corporate-policy-planning-and-reporting/annual-report-and-accounts

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Chair's foreword

There is no doubt that the period covered by this Report will be remembered within the UK, and indeed across Europe, as year of dramatic change.

But at Ofgem, dramatic change is something we have been getting increasingly used to in recent years. The rapid evolution of both technology and markets mean that the GB energy sector is continuing to transform radically, with reports of new records being set, seemingly every other day. A recent case in point – on 8 June, for the first time ever, more than 50% of the UK's electricity came from renewable sources.

The challenge for Ofgem is how best to regulate in such a fast-changing environment. It can be a difficult and, at times, an unclear task. There are two core approaches that allow us to navigate the uncertainty and to continue to work effectively, in the midst of all this change.

Firstly, in everything we do, we are guided by our primary objective to protect the interests of existing and future GB energy consumers. This will underpin the support we provide to the government, in their work to leave the EU and secure a new relationship with the UK's European neighbours.

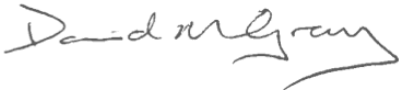
But it equally informs our continued engagement on European issues. As stated by our Government, we remain full members of the EU until the time that we leave. So this year we have focused on the shaping and implementation of the European Network Codes, and have contributed towards the development of common-regulatory positions on the proposed 'Clean Energy Package'.

Secondly, we rely upon rigorous analysis, objective economic principles and in-depth consultation to shape our work. The more information and insight available to us, the better we are able to formulate strong regulatory responses.

These approaches have informed our most high-profile initiatives over the past year – such as the pending separation of National Grid's 'System Operator' and 'Transmission Owner' functions, our ongoing work on the charging arrangements for small distribution-connected generators, our joint preparations with the government for the needs of tomorrow's flexible energy system, and of course our implementation of the recommendations of the Competition and Markets Authority.

I would like to pay tribute to my team here in Ofgem, for all their work and commitment over the past year and a half. Working in such dynamic circumstances is exciting, but it can also be tough, and our staff's resilience and ability to manage ambiguity has been an essential foundation to all of our accomplishments.

Finally, on the subject of change, after many years our own Lord Mogg will shortly be stepping down as both President of CEER and Chair of ACER's Board of Regulators. Lord Mogg's leadership has been a cornerstone of European energy regulation, and he will be sorely missed. We wish him all the best.



David Gray, Chairman

Main developments in gas and electricity markets

Chapter Summary

This chapter shows some of the most notable work that we have done since the last Regulatory Authorities Report was published in August 2016. Further information about our activities is in our Annual Report and Accounts 2016-17. [2]

We have grouped the main developments into four areas:

- *Investment*
- *Wholesale Markets*
- *Retail Markets*
- *Compliance and Enforcement*

Investment

Interconnectors
Interconnectors are the physical links that allow the transfer of gas and electricity across national borders.

We assess and regulate new electricity interconnectors through our cap and floor regime[3]. During the reporting period, we introduced licence changes to give effect to the cap and floor regime for the Nemo Link project to Belgium (our first cap and floor project) and consulted on the Final Project Assessment for the North Sea Link project to Norway. Both projects are now under construction. Contracts for the construction of the Interconnexion France-Angleterre 2 (IFA2) were issued in April 2017. The other projects approved to date continue to progress towards Final Project Assessment stage.

During the reporting period, we ran our second cap and floor application window, which closed in October. We received three submissions and are currently assessing these to determine whether they are likely to benefit GB consumers and if they should be approved as part of our cap and floor regime. In June 2017 we launched an on-going consultation, concerning our minded-to position on the Initial Project Assessment (IPA) of these three projects.

The exemption route for new interconnector investment remains available. In 2016-17 we granted an extension to the existing regulatory exemption in conjunction with

[2] https://www.ofgem.gov.uk/about-us/corporate-policy-planning-and-reporting/annual-report-and-accounts
[3] For more information on cap and floor, see:
https://www.ofgem.gov.uk/system/files/docs/2016/05/cap_and_floor_brochure.pdf

Commission de régulation de l'énergie (CRE) for the ElecLink project, which took its investment decision in late 2016. The final decision to exempt Eleclink contained amendments as requested by the European Commission. ElecLink will begin construction between Britain and France later in 2017.

*See **Section 2.1.4** on 'Cross-border issues' for more information on electricity interconnectors.*

Offshore transmission owners and tenders

Offshore transmission is needed to connect offshore wind generation. In late 2016, we published our report into offshore transmission owner (OFTO) revenues for the preceding year.[4] The report found that:

- Nearly £3bn had so far been committed to developing OFTOs
- In 2015-16, OFTOs enabled over 13TWh of electricity to be transmitted (1TWh can keep the UK rail network moving for over three months)
- Offshore wind currently contributes to 5% of annual UK electricity requirements
- The UK generates more electricity from wind than any other country.

We continued to manage the offshore transmission competitive tender process to grant licences to operate new offshore transmission assets. We completed the third tender round of OFTO projects, the first under the enduring regime[5], bringing the total investment to date to just under £3bn and connecting over 4.3GW of offshore wind generation to the onshore grid, and delivering £700m in savings.

Tender round four began in April 2016 and the fifth in October 2016 – with both rounds combined representing over £2bn of transmission investment and connecting over 2.3GW of offshore wind generating capacity – the biggest tender round to date. We choose the most competitive bids from companies to own and operate the links to offshore sites over 20 years.

In September 2016, we announced a shortlist of five bidders to own and run the £230m transmission link for the Burbo Bank Extension offshore windfarm in the Bay of Liverpool. In March 2017, we announced a shortlist of bidders competing to own and operate transmission links to the Dudgeon, Rampion, and Race Bank windfarms off the Norfolk and Sussex coasts. We invited companies to submit bids to own and run links to the Galloper wind farm off the east coast of England, and the Walney Extension wind farm in the Irish Sea.

Mid-period review: Adjusting National Grid's allowances

In 2013, we set the eight-year price controls for energy transmission and gas distribution.[6] We made provision to review regulated companies' outputs midway

[4] https://www.ofgem.gov.uk/system/files/docs/2016/12/offshore_transmission_ofto_revenue_report.pdf

[5] The offshore transmission regime comprises two parts: transitional and enduring. Any project which meets the qualifying requirements after 31 March 2012 is part of the enduring regime. For more information see: https://www.ofgem.gov.uk/electricity/transmission-networks/offshore-transmission/offshore-transmission-policy-design/enduring-tenders

[6] For contemporary information on the price control decision, see: https://www.ofgem.gov.uk/ofgem-publications/64003/pricecontrolexplainedmarch13web.pdf

through this period, if there were changes in government policy or changes to the needs of network users and consumers.

In May 2016, we launched a mid-period review into the 2013-2021 price controls, but limited to National Grid Electricity Transmission plc (NGET) and National Grid Gas plc (NGG). After considering stakeholder responses to our proposals to change outputs and funding, in February 2017 we decided to reduce National Grid's allowances across gas and electricity by £185m.

We decided to remove NGG's Avonmouth pipelines output and £168.8m in funding, as the pipelines are no longer required.

We decided to reduce NGET's allowances by £16.6m. This reflects a reduced requirement to protect sites against rising fault levels (lowering allowances by £38.1m) and new activities relating to the new enhanced system operator role (increasing allowances by £21.5m).[7]

Mid-period review parallel work
In deciding to do our mid-period review (MPR) we identified areas we would like to look at further. We call this MPR parallel work, and it looks at both the transmission and gas distribution price controls.

In February 2017, we published a consultation paper on our proposals for the MPR parallel work. First, we looked at two outputs where it is unclear how we will hold companies to account. Our proposal is to focus on consumer outcomes rather than the output detail.

Second, we identified two areas of the price controls where we think it is in consumers' interests to make adjustments. We intend to delay the allowances provided to NGET and SP Transmission[8] because of the late delivery of the Western HVDC, a £1bn subsea link. We also intend to accept National Grid Gas Distribution's offer to refund consumers £53.9m for medium pressure iron mains replacement work that has been delayed beyond this price control.

Section 2.11 *on 'network unbundling',* ***Section 2.2.2*** *on 'technical functioning' and* ***Section 2.1.3*** *on 'network tariffs for connection and access' contain more information on transmission networks.*

[7] The Enhanced system operator role for NGET includes obligations arising from the Integrated Transmission Planning and Regulation (ITPR) project, this includes improving system planning and the annual delivery of the Network Options Assessment report

[8] A wholly owned subsidiary of SP Energy Networks, which is in turn a part of the ScottishPower Group of companies

Wholesale markets

Flexibility
Imperial College London and the Carbon Trust estimate that a smarter, more flexible energy system could save consumers in the UK between £17-40bn in total by 2050.[9] We believe it can help make sure GB continues to benefit from a secure, affordable energy system as we move towards a lower carbon future.

In November 2016, the government's Department for Business, Energy and Industrial Strategy (BEIS) published a joint call for evidence called 'A Smart, Flexible Energy System'.[10] We asked stakeholders for their views on the flexible energy system of tomorrow, and how we can make sure our regulatory regime enables it.

This included:

- Intelligently using new technology and services to make supplies more secure and support the move to a low-carbon energy system
- Removing barriers for energy storage technologies, such as batteries, in homes, businesses and networks – these can hold energy for times when demand is high or energy is more expensive
- The changing role of network companies, to manage a system with more low carbon generation
- Making it easier for businesses to provide voluntary demand-side response, ie turning down their electricity use at peak times in exchange for payment
- How Ofgem and government can create the environment for new ideas to flourish by removing barriers to innovation.

Our work in this area attracted a lot of interest and we have received over 200 responses to the call for evidence.

Creating a more independent, future-proofed system operator
NGET is the system operator (SO) for Great Britain's electricity transmission network. It has a major role in balancing the electricity system, but this role has grown into other areas over the years. The SO is now more active in transmission network development and the capacity market, and is expected to take on new functions as competition for onshore transmission assets is introduced.

We regulate the SO to make sure it is aligned with consumers' interests. We sometimes incentivise it to innovate and improve its performance. However, we believe it needs to evolve to make sure it can respond to and facilitate the energy system's transformation over the next decades. The transformation is highlighting

9 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/568982/An_analysis_of_electricity_flexibility_for_Great_Britain.pdf
10 https://www.ofgem.gov.uk/publications-and-updates/smart-flexible-energy-system-call-evidence

the need for a more coordinated, tailored approach to planning and operating the transmission and distribution systems.

We also believe there should be more separation between National Grid plc's system operator (SO) and electricity transmission owner (TO) network functions, so that the market and Ofgem can be assured that the SO acts in consumers' interests.

We recently consulted on the roles the SO should perform, the governance changes to ensure it acts independently and on how the SO regulatory framework can be designed so it delivers the best possible outcomes for consumers. At the time of publishing, we are still gathering responses. However, we expect separation to be in place by April 2019 and consider that the SO can begin the transition to its new role immediately.

Network charging and embedded benefits
Electricity generation in Britain is moving away from using large fossil-fuelled plants, towards local, renewable plants. More generation is connecting to the lower voltage distribution grids, instead of the high voltage grids.

This rapid change has meant that the arrangements currently in place may not allow large and small generators to compete on a level playing field. This is why we are looking at the charging arrangements for small distribution-connected generators – otherwise known as embedded benefits: payments made to (and charges avoided by) distribution-connected generators with a capacity of less than 100MW.

We opened a review into embedded benefits because we are concerned that the current arrangements are distorting the Capacity Market[11] and wholesale markets, and driving up costs to consumers. We believe that users who benefit from the network should face charges that broadly reflect the costs that they impose, as when faced with the true cost of their behaviour, they are more likely to make efficient choices. Where a payment is made, it should reflect the savings that users bring to the system.

Following a consultation to replace these arrangements, we have decided to accept an industry proposal to phase in a reduction in these specific payments that smaller embedded generators can receive from suppliers, for helping them to reduce their charges to use the transmission network. The current level of this payment is around £47/kW, and they will be reduced to between £3/kW and £7/kW over three years from 2018-21. We believe the reforms will make the energy system more efficient overall.

Security of supply
Security of supply, in both electricity and gas, is a priority for both Ofgem and government. During the reporting period, work in this area included:

[11] The government has established the Capacity Market (CM) as part of its Electricity Market Reform policy. It is intended to incentivise investment in more sustainable, low-carbon electricity capacity at the least cost for energy consumers. This is needed to help secure electricity supplies for the future.

- Ensuring National Grid Electricity Transmission plc's (NGET) new balancing services costs for winter 2015-16 were thoroughly scrutinised and only costs incurred in line with approved methodologies were recovered

- Managing changes to the Capacity Market Rules to ensure consumers are protected and objectives delivered

- Delivering our mandatory Electricity Market Reform roles: dealing with disputes on Contracts for Difference and the capacity market; publishing reports on NGET's delivery of its Electricity Market Reform delivery body role and the operation of the capacity market; receiving and logging price maker memorandums

- Overseeing the behaviour of participants in the capacity market and referring to enforcement, and taking part in BEIS's operational and policy boards.

Last winter saw several interconnector outages. We monitored the impact of these on security of supply. From this, we were able to give internal and external stakeholders confidence that there was sufficient supply to meet demand even in tight winter periods.

European Network Codes
European Network Codes and Guidelines are a suite of binding European rules that promote competition, efficient use of transmission capacity, integration of energy markets and the harmonisation of rules for the operation of transmission and distribution networks. Our work to implement them involves multiple changes to GB industry arrangements, licences and legislation.

We have seen four new Network Codes and Guidelines adopted in the last year. In gas, the tariff code has been adopted and in electricity, the System Operation Guideline has been adopted and Electricity Balancing code extensively discussed, and subsequently approved by European Member States in March 2017.

Ofgem influenced the content of these documents while they were being developed. This involved discussions with the Agency for the Cooperation of European Regulators (ACER), the European Network of Transmission System Operators for Electricity (ENTSO-E), fellow regulators and transmission system operators (TSOs) who develop these rules, and supporting BEIS during negotiations. We continued to work closely with industry to implement the Network Codes approved before this year.

Wider European work
Since the referendum decision to leave the European Union, Ofgem has continued working very closely with government to provide impartial, expert advice on energy issues by liaising with colleagues in BEIS and the Department for Exiting the European Union, as well as understanding the views of industry and maintaining productive working relationships with our neighbouring regulators. We expect this work to increase in volume and complexity now that Article 50 has been triggered and as the European Union (Withdrawal) Bill is being considered by Parliament.

We are developing our planning to ensure the process of implementing the necessary regulatory changes to facilitate the new relationship with the EU is as smooth as possible.

In December, the European Commission published wide-ranging proposals on the redesign of the European energy market called 'Clean Energy for All Europeans'. Ofgem has been working closely with our fellow regulators, via ACER and the Council of European Energy Regulators (CEER), to engage with European institutions to deliver legislation that works in the best interest of consumers

Our engagement through CEER focuses on the future role of DSOs; the development of smart grids, and on proposals for improving the functioning of retail markets. Our work in ACER makes sure wholesale markets are competitive, that governance frameworks are effective, and that infrastructure is developed and used efficiently.

Sections, or even the entirety of the final Clean Energy Package are likely to have entered the EU acquis before the end of the UK's Brexit negotiations, so it is important that we continue this engagement, developing market regulations that work in the best interests of consumers in Britain.

*See **Section 2.1.3** on 'network tariffs for connection and access' and **Sections 2.3 and 3.3** on 'security of supply' (for electricity and gas respectively) for more information on network charging, embedded benefits and security of supply. **Section 3.1.4** on 'cross-border issues' contains more information on Network Codes concerning gas.*

Retail Markets

Competition and Markets Authority remedies
In summer 2016, the Competition and Markets Authority (CMA) published findings from its investigation into the energy market, which we had prompted two years previously.

It set out remedies for fixing the problems it saw – namely, a two-tier market: one where some consumers were engaged and got the best deals, and another where two-thirds of households rarely or never engage in the market and pay more for their energy than they need to.

We then began implementing the remedies around five objectives: regulation for effective competition, prompting greater consumer engagement, protecting and empowering those on non-standard meters, building industry systems and governance for the future, and enhancing our role as a robust and independent regulator.

These remedies include:

- A price cap on prepayment meters, saving consumers around £80 per year on gas until 2020. It came into effect in April

- Trialling prompts for the 'stickiest' customers to engage in the market and shop around for cheaper tariffs. We have worked with suppliers to conduct these trials and issued guidance on good trialling

- A database which will lead to disengaged customers being contacted about better value deals. We have already run a small trial of different variants of the database service

- Removed part of our Retail Market Review reforms so customers can enjoy a wider selection of deals

- Consulting on a system of code governance that allows strategic change to be delivered smoothly, efficiently, and in consumers' interests

- Consulting on the new Confidence Code rules for price comparison websites.

We believe these initiatives will stimulate engagement in the market, and help make competition work for all consumers, as suppliers compete for them by driving down prices and improving service. For consumers, it will be easier and quicker to get a better deal, as we head towards a smarter market.

Future retail regulation
This year, we have begun moving towards regulating the retail energy market through enforceable principles, and making less use of detailed prescriptive rules. This provides future-proofing protection for consumers in a rapidly changing market and allows more room for suppliers to compete and innovate.

We worked closely with stakeholders on how to make the transition a success. We held workshops and events, and published papers to take stakeholders with us as we progressed our thinking.

We began streamlining the supply licence by removing lots of the prescription, including 30 pages of detailed licence conditions, which should allow suppliers to innovate more in their tariff offerings. We issued a statutory consultation on how to enable consumers to make informed choices, and another on ensuring the Standards of Conduct achieve policy objectives, including consulting on a new principle to better protect vulnerable consumers.

We challenged suppliers to change how they operate, and to focus more on delivering good consumer outcomes. We worked to resolve hundreds of compliance issues through this engagement, to make sure consumers are protected and suppliers put things right quickly – and in the most egregious cases, we took enforcement action.

On 3 July 2017, we announced plans to protect vulnerable consumers in particular, including the option of introducing a safeguard tariff.[12]

[12] https://www.ofgem.gov.uk/publications-and-updates/ofgem-announces-plans-deliver-fairer-more-competitive-market-all-consumers

Switching programme
We want consumers to be able to switch energy supplier quickly and reliably, and by the next day if they want. We are simplifying and harmonising the gas and electricity switching systems, while minimising the risk of erroneous transfers.

We believe faster and more reliable switching will help improve consumer engagement and trust in the market. The customer experience has been central to our designing of policy underpinning the entire programme.

This year, we shortlisted three reform packages: improving industry process, creating new central systems, and harmonising switching systems in gas and electricity.

Smart meter rollout
Smart meters will transform the competitive energy markets and help create a smarter energy system fit for the future. Gas and electricity suppliers must take all reasonable steps to install smart meters to all domestic and small business premises by the end of 2020.

In 2016, we received energy suppliers' plans for the rollout. We monitored progress towards their installation targets, and in early 2017, suppliers had the opportunity to update their plans.

In parallel, we have focused on the consumer experience of the rollout, working with Citizens Advice and the Energy Ombudsman. This includes regulatory oversight of Smart Energy GB, who is responsible for the national communications campaign, and the Smart Metering Installation Code of Practice, to ensure that the consumer experience is positive.

The Data and Communications Company is the licensed monopoly responsible for linking smart meters in homes and small businesses with the systems of energy suppliers, network operators and energy service companies. We scrutinise its costs through the annual price control so that it provides value for money and, in February 2017, published our price control decision for the 2015-16 regulatory year. We consulted on introducing new incentives into the price control to reward good performance.

Settlement
Settlement reconciles discrepancies between a supplier's contractual purchases of electricity and its customers' actual demand. Smart meters will record the exact amounts consumed in each half-hour rather than estimating patterns using profiles of average customers. This means suppliers will be incentivised to help their customers use electricity at times when is cheaper to generate and transport.

Half-hourly settlement can help deliver a more flexible, innovative and efficient electricity market. The first stage of our work was to remove the barriers to cost-effective elective half-hourly settlement. We simplified, coordinated and accelerated the process for moving customers into and out of half-hourly settlement, created changes to reduce the cost of elective supplier agents, and provided a transitional measure to prevent customers that choose to be half-hourly settled from being charged twice for transmission costs.

As recommended by the CMA, we consulted on a plan for the second stage: moving to mandatory half-hourly settlement and launched a Significant Code Review in July 2017. We have also worked with ELEXON to monitor suppliers' compliance with their obligation in the Balancing and Settlement Code to settle medium and larger non-domestic consumers (profile classes 5-8) on a half-hourly basis by 1 April 2017.

*For more information on retail issues, see **Sections 2.2.2.1** and **3.2.2.1** on 'monitoring the level of prices and the effectiveness of market opening and competition' (for electricity and gas respectively), **Section 2.2.2.2** on 'monitoring transparency', **Section 2.2.2.3** on 'recommendations on supply prices, investigations and measures to promote effective competition', and **Section 4.1** on 'consumer protection'.*

Compliance and Enforcement

In 2016-17 we completed four investigations and concluded alternative enforcement action, resulting in £27.75m returned in compensation to consumers, or in redress.

One investigation led to British Gas agreeing to pay £4.5m in redress to the Carbon Trust after it failed to meet the deadline to supply some larger business customers through advanced electricity meters. Another investigation led to Scottish Power agreeing to pay £18m, of which £15m went to vulnerable customers directly affected by its failings in complaints handling and billing.

We concluded our investigation of SSE under the Competition Act, which concerned essential services it provides when connecting new developments to its electricity network in the South of England. We found inconsistencies in the way in which SSE provided these services, which are needed to allow for effective competition. SSE committed to improving IT systems to prevent inconsistent quotes, regular compliance training and third party audits and reporting.

Our compliance and enforcement approach goes beyond simply penalising companies financially. We secured changes to behaviours and processes, using our statutory and non-statutory tools to prevent harm to consumers.

For example, following our engagement with Co-operative Energy, the supplier agreed to pay £1.8m to consumers because customer complaints reported to us and Citizens Advice increased steeply following its IT billing system migration. Since then, the supplier has worked well with us to restore customer service levels, and has assured us it can now meet its obligations.

*For more information on compliance and enforcement, see **Section 2.1.5 on** 'compliance'.*

2. The Electricity Market

Chapter Summary

This chapter details developments in GB's electricity sector during 2016 and the first half of 2017. This is broken down into sections covering network regulation, promoting competition, and security of supply in the wholesale and retail electricity markets.

2.1 Network regulation

2.1.1 Unbundling[13]

Transmission system operators
Under Article 10 of the Electricity Directive, we have an obligation to ensure that any undertaking that owns a transmission system is certified as ownership unbundled before it is approved and designated as a transmission system operator.

In 2016, we published two final certification decisions to certify new Offshore Transmission Operators (OFTOs) (pursuant to section 10D of the Electricity Act and Article 3(2) of Regulation (EC) No. 714/2009 (Electricity Regulation)). Under Article 10 of the Electricity Directive, we also have an obligation to monitor the continuing compliance of certified TSOs with the requirements of Article 9. We continue to monitor the certification status of the certified TSOs in GB, including through the review of annual declarations submitted by the relevant entities.

Distribution system operators
Under Article 26 of the Electricity Directive, we have an obligation to ensure that where the distribution system operator (DSO) is part of a vertically integrated

[13] Articles 9, 10, 11 and 26 of the Electricity Directive 2009/72 and Article 3 of the Electricity Regulation 714/2009 outline our obligations in certification of transmission system operators (TSOs) as being ownership unbundled. The Electricity and Gas (Internal Markets) Regulations 2011 and the Gas and Electricity (Ownership Unbundling) Regulations 2014 are together known as 'the GB Regulations'. The GB Regulations implement the Third Package into GB domestic legislation, including the ownership unbundling requirements for TSOs and the requirements for Distribution System Operators (DSOs). The GB Regulations have amended the Electricity Act 1989 (Electricity Act) to include the requirement for the holders of electricity interconnector and electricity transmission licences to be certified as independent under one of the grounds for certification in the Electricity Act.
At the request of the European Commission, the Electricity Act was further amended in April 2017 by the Electricity (Internal Markets) Regulations 2017. The effect of the amendment is that, in determining whether a person meets the ownership unbundling requirement, the Gas and Electricity Markets Authority ('the Authority') must take into account producers or suppliers owned or controlled by or connected with that person wherever they are located, instead of only taking into account such producers or suppliers in an European Economic Area (EEA) state. These amendments apply to new certification applications and transitional arrangements are in place for certified TSOs.
The GB Regulations have designated the Authority as the National Regulation Authority (NRA) for GB and have given it the responsibility for administering the certification process in GB. The Authority also has to notify the European Commission when it receives an application for certification where the applicant is from a third country or is controlled by a person from a third country. We have dealt with two such applications in 2016.

undertaking, it should be independent at least in its legal form, organisation and decision-making from other activities not relating to distribution.

During the reporting period, we reviewed the information submitted by DSOs relating to business independence, financial reporting and output performance. In that context, we were satisfied that Directive requirements relating to unbundling were being properly observed.

2.1.2 Technical functioning

The technical functioning of the network is of great importance to ensure safe, secure and reliable electricity supply for consumers. In the following, we report on our responsibilities and activities for electricity balancing services; maintaining security and reliability standards; developing our transmission system; monitoring time taken to connect and repair; monitoring safeguard measures and reporting on the RES regulatory framework over the course of 2016, in the transmission and distribution networks.

Balancing services
Under Article 37(6)(b) of the Electricity Directive, NRAs are responsible for fixing or approving the methodologies used to calculate or establish terms and conditions for the provision of balancing services.

National Grid Electricity Transmission plc (NGET) is the System Operator (SO) for the high voltage electricity transmission system in GB, with responsibility for making sure that electricity supply and demand stay in balance and the system remains within safe technical and operating limits. NGET's licence contains conditions regarding the Balancing and Settlement Code – the document which defines the rules and governance for the balancing mechanism and imbalance settlement – and regarding the procurement and use of balancing services. The Balancing and Settlement Code objectives are in NGET's licence and include the efficient, economic operation of the transmission system and compliance with relevant legally binding European Commission decisions.

The current electricity balancing arrangements are designed to provide commercial incentives for generators to physically match the amount that they notify they will deliver with what they ultimately deliver to the system. The current arrangements are also designed to provide commercial incentives for suppliers to physically match the amount they notify they will offtake, to the amount they ultimately offtake from the system.
Generators' imbalances relate to the difference between the amount they physically deliver and their contracted volume. Suppliers' imbalances relate to the difference between that notified and that which is offtaken. Where there is an imbalance, either the generator or the supplier will incur 'cash-out' charges – thereby providing the incentive to balance.

In late 2015, significant changes were made to the balancing and cash-out arrangements as a result of our Electricity Balancing Significant Code Review, which we launched in 2012. The reforms changed the cash-out arrangements in order to improve incentives to balance efficiently. They also better signals the need for flexible capacity in the market, in particular by ensuring cash-out prices rise more appropriately during scarcity situations to reflect the value consumers place on

electricity. This is becoming increasingly important as we transition into an electricity system with a growing share of intermittent generation.
NGET recovers the costs of balancing the system through Balancing Services Use of System (BSUoS) charges, derived from the BSUoS charging methodology that is set out in the Connection and Use of System Code (CUSC) and approved by Ofgem. We put financial and reputational incentives on the SO to encourage low operating costs within the safety and security bounds set out under the codes and licences. In addition, we are required to approve any change to the charging methodology.

Further details of how BSUoS charges are levied are in **Section 2.1.3** of this report.

Security and reliability standards, quality of service and supply

Transmission
Under Article 37(1)(h) of the Electricity Directive, NRAs must monitor compliance with, and review past performance of, network security and reliability rules as well as set or approve standards and requirements for quality of service and supply.
The National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS) is a technical standard that licensees are required to comply with.

NETS SQSS contains coordinated criteria and methodologies that transmission licensees and the SO are required to use by their respective licences, when planning and operating transmission systems. Ofgem must approve any change to the NETS SQSS. In 2016, we approved three changes in relation to offshore networks, normal infeed loss risk and regional variations. A new version of the NETS SQSS was released and incorporated into the standard licence conditions of the TSOs.

NGET, in its role as SO, submitted a report providing details of system security and quality of service and supply to Ofgem as required under its licence[14].

System reliability
The onshore TSOs are incentivised to maintain a reliable and secure system. For the incentive mechanism, network reliability is measured by the total volume of Energy Not Supplied (ENS) to customers due to loss of supply events. Each TSO has an annual target ENS volume and is either rewarded or penalised each year according to its level of performance against its target. We annually review each TSO's performance compared to its target. In 2015-16, the volume of energy to customers that was not supplied as a result of faults or failures on a TSO's network did not exceed the respective ENS target. We estimate that the 2015-16 performance will be reflected in a combined additional £8.5 million (2015-16 prices) in allowed revenue to the three TSOs.

There is also a suite of network output measures that inform the safety and reliability of a TSO's network, and which will directly affect the funding at the start of next price control, RIIO-T2, in 2021.

OFTOs' system availability incentive targets are set out in each individual OFTO licence. The mechanism incentivises the OFTOs to maintain system availability and

[14] http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589936830

therefore export capacity available to offshore generators. OFTOs receive financial rewards or incur penalties for performance above or below this target.

System development
In 2016, the three Grid Connection Codes (GCCs) of the European Network Codes entered into force (ie the Requirement for Generators, Demand Connection Code and High Voltage Direct Current Code). The GCCs will help ensure security of supply, but will also facilitate the decarbonisation of the energy sector and create a competitive, pan-European market which benefits customers. The industry intend to give effect to the GCC requirements by making modifications to the existing domestic connection codes (ie the Grid Code and the Distribution Code). We are currently engaging with the industry to help develop these modifications.

Distribution
In GB, licensed electricity Distribution Network Operators (DNOs) are required to design their networks to meet the requirements of the Engineering Recommendation standard P2/6. This standard sets out the normal levels of security required for distribution networks, and the requirement for the provision of emergency network capacity. In the event that a licensee cannot comply with this licence condition, it can apply to Ofgem for a derogation.

The electricity distribution price control, RIIO-ED1, began in April 2015 and will run from 2015 to 2023. The revenues that the 14 DNOs are allowed to recover for this period are linked to the delivery of outputs that provide for long-term reliability, minimise the number and duration of interruptions, and ensure adaptation to climate change.

The Electricity (Standards of Performance) Regulations 2015 (SI 2015/699) are a legal framework of specific minimum levels of service customers should expect from their DNO. If a company fails to meet a standard of performance, it must make a payment to the customer affected. The standards cover areas such as restoring supply during an unplanned interruption, connections, and voltage quality.

We also have other financial incentives to encourage improvements in performance. The Interruptions Incentive Scheme incentivises DNOs to reduce the frequency and duration of power cuts experienced by their customers.

Innovation will be essential for DNOs to deliver security and reliability of supply at an efficient cost, while dealing with uncertainty. In the RIIO-ED1 price control, we established the Network Innovation Stimulus, to help network companies understand what they need to do to provide security of supply at value for money as GB moves to a low carbon economy. In 2016, we funded four projects under the Electricity Network Innovation Competition. In addition, the cost efficiencies delivered from rolling out smart grid solutions and wider network innovation from Low Carbon Network Fund trials were reflected in reduced revenues for DNOs in the RIIO-ED1 period.

Monitoring time taken to connect and repair
Regulators, under Article 37(1)(m) of the Electricity Directive, are required to monitor the time taken by transmission and distribution system operators to make connections and repairs. Here we report on how we have monitored this for transmission and distribution system operators during 2016.

Transmission
Since 2011, under the 'Connect and Manage' regime, generators have been able to connect to the transmission system in GB ahead of wider system reinforcements. It is the responsibility of the System Operator to ensure that the power flows across major system boundaries are within the capabilities of the system. The additional cost of these actions and the resulting 'Constrained Dispatch' of generation (constraint costs) are socialised, ie spread across all generation and demand in GB (levied 50:50), and are recovered through BSUoS charges.

We receive biannual 'Timely Connections' reports from the TSOs. These reports provide us with information on the factors affecting the connection dates offered to generators. This lets us assess whether any changes to the existing framework are needed. A non-confidential version of the report is on NGET's website.[15]

Until now, we have submitted an annual report to the Secretary of State which monitors the impacts of the 'Connect and Manage' regime[16]. The most recent report (December 2015) noted that under the regime, connection dates continue to have been brought forward by an average of five years compared with previous arrangements. In December 2015, the Secretary of State removed the obligation on Ofgem to submit an annual report to it. This is because the Connect and Manage regime is now considered business as usual. We are currently reviewing Connect and Manage reporting requirements.

To date all OFTOs own and operate the offshore transmission systems, that are built by offshore generators to connect their generating stations to the National Grid. As such, there have been no problems under the offshore transmission regime with the time taken to connect during 2016. OFTOs' licences require them to report, every quarter, offshore transmission system performance and whether that performance has fallen below target. Where the OFTO is able to demonstrate that performance has fallen as a result of an 'Exceptional Event', this period will not count against their availability target. When reviewing Exceptional Event claims, we look at whether the OFTO has followed good industry practice to restore the outage promptly. We can impose a financial penalty on any OFTO that has failed to meet its system availability incentive target.

Distribution
For reporting distribution network 'time to connect', we consider that it is composed of two elements: 'time to quote' and 'time to connect'. Time to quote is the difference, in working days, between the date the customer applies for a new connection and the date a quotation is issued to the customer. 'Time to connect' is the difference between the date on which the customer accepts the quote and the final connection date (when the connection has been installed, commissioned and left safe).

[15] http://www2.nationalgrid.com/UK/Services/Electricity-connections/Industry-products/timely-connections-report/
[16] https://www.ofgem.gov.uk/sites/default/files/docs/monitoring_the_connect_and_manage_electricity_grid_access_regime_sixth_report_from_ofgem_0.pdf

Historically, we have monitored the time taken by Distribution Network Operators (DNOs) to provide connection offers and (since 2010) complete the connection. We have also established guaranteed standards for connections that provide compensation payments to customers if the DNO fails to deliver specified connection services within minimum timescales. These standards cover the provision of quotations, scheduling agreed dates for works with customers and completing works on the dates agreed with customers. Failure to meet these standards on 90% of occasions in each quarter constitutes a breach of licence.

As part of RIIO-ED1, the electricity distribution price control, we have a 'time to connect' incentive, which rewards DNOs if they are able to issue quotes and complete connections (for smaller connection projects) quicker than the target timescales. The companies have also set their own targets for the time taken to connect which they report on annually.

We also monitor the time taken to repair faults through the Interruptions Incentive Scheme. The time taken to repair has been incentivised as part of the 'customer minutes lost' element of the Scheme.

Monitoring safeguard measures

In the event of a sudden crisis in the energy market that threatens the physical safety or security of people, apparatus or installations of system integrity, a Member State may temporarily take the necessary safeguard measures. Under Article 37(1)(t) of the Electricity Directive, regulators are required to monitor the implementation of those safeguard measures.

During a fuel crisis, the Government has the power to direct the behaviour of the operators of certain power stations and transmission licensees to ensure industry obligations are fulfilled. The details of these arrangements are in the Fuel Security Code[17] (standard licence condition B11) which transmission licensees must comply with. Under the Fuel Security Code, in an emergency the Energy Emergencies Executive Committee will establish the Joint Response Team to liaise between industry and Government and to practically manage the emergency.

The principal objective of this Fuel Security Code is to provide an administrative structure during a fuel crisis so that the Government can take appropriate measures with minimal interference to normal market arrangements. There were no such emergencies during the reporting period; hence the Joint Response Team was not established.

Regulatory framework for Renewable Energy Sources

Under Article 11 of Regulation (EC) 713/2009, NRAs are required to monitor access to the network, including access of electricity produced from renewable energy sources. This obligation is covered under our wider work on network tariffs for connection and access. See details on 'Distribution' in Section 2.1.3.

[17] https://www.gov.uk/government/publications/fuel-security-code

2.1.3 Network tariffs for connection and access

Under Article 37(1)(a), (3)(c), (d), (6)(a), (8), (10), (12), of the Electricity Directive, NRAs are required to fix or approve transmission or distribution tariffs or their methodologies. Here we report on our activities on the regulation of tariffs and network charges (for transmission and distribution) during the reporting period.

Transmission
Users of the electricity transmission system are subject to three types of transmission charges in GB: Connection charges, Transmission Network Use of System (TNUoS) charges and Balancing Services Use of System (BSUoS) charges. For all three charges, the methodologies must be approved by Ofgem, but we do not set or approve the level of individual charges

Connection Charges
Connection charges relate to the provision and maintenance of connection assets that are solely required to connect a particular user (a generator, for example) to the main transmission system. The costs are recovered under NGET's connection charging methodology, which is approved by Ofgem. NGET defines 'connection assets' as assets solely required to connect an individual user to GB's transmission system, which are not and would not normally be used by any other connected party. The costs of these assets are recovered directly from the generator via connection charges.

Transmission Network Use of System Charges
The Transmission Network Use of System (TNUoS) charging methodology is applied by NGET in its role as System Operator and is approved by Ofgem. TNUoS residual charges recover the cost of the provision and maintenance of shared electricity transmission assets, or in other words, assets that cannot be solely attributed to a single user. TNUoS charges are recovered from all users of the GB electricity transmission system (excluding interconnectors and smaller embedded generators). Portions of these charges vary by location, reflecting the costs that users impose on the transmission network to source (demand) or send (generators) their electricity. In February 2016, we approved a proposal (CMP242) to develop charging arrangements to for shared offshore transmission assets.

In August 2016, we approved a proposal (CMP255) to ensure that if restrictions on average generator charges were removed, the 'Generation' proportion of revenue would remain where it was set before the charge range ceasing to have effect. We also indicated that we would be likely to move back towards non-negative residual charges for generation.

In December 2016, we approved a proposal (CMP266) to ensure suppliers are not overcharged for transmission charges where domestic and smaller non-domestic customers move from non-half-hourly to half-hourly settlement, by allowing suppliers to charge customers using the non-half-hourly charging methodology until 2020.

On 29 July 2016, we published an open letter setting out our thinking on charging arrangements for Embedded Generation (EG) and invited stakeholder input. A large number of respondents agreed that the rising TNUoS demand residual payments to EG are unsustainable.

On 1 March 2017, we published a minded-to decision and draft Impact Assessment of two industry-led CUSC modification proposals (CMP264 and CMP265) seeking to change transmission charging arrangements for EG. The consultation ended in April 2017.

On 13 March 2017, we launched a consultation to seek stakeholder input on whether we should review the current system of network residual charges and whether that review should be conducted via a Significant Code Review. The consultation closed on May 2017, and we are currently considering consultation responses.

Balancing Services Use of System Charges
NGET recovers the costs of balancing the system through Balancing Services Use of System (BSUoS) charges, derived from the BSUoS charging methodology that is set out in Section 14 of the Connection and Use of System Code (CUSC) and approved by Ofgem. In 2016, we approved a modification to introduce locational charging for transmission losses in Great Britain as a result of the Competition and Market Authority's 'Locational Pricing Order'.

Distribution
The electricity distribution licence requires DNOs to have in force at all times a Use of System Charging Methodology, and a Connection Charging Methodology (collectively known as 'the Charging Methodologies'). Both must be approved by Ofgem.

DNOs have developed common approaches to connections charging and distribution use-of-system (DUoS) charging. These common approaches include:

- The Common Distribution Charging Methodology for all customers connected at the lower voltages

- The Extra High Voltage Distribution Charging Methodology for all demand and generation customers at the higher voltages

- The Common Connections Charging Methodology, incorporated into all DNO connection methodologies.

Each DNO's connection charging methodology incorporates a company-specific section as well as the common methodology. The licence requires DNOs to comply with their charging methodologies and to publish Charging Statements prepared in accordance with those methodologies – except where explicit consent is given by us.

The Electricity Act 1989 section 23 enables us to determine certain disputes including whether a DNO has applied charges in line with their Charging Methodologies.

Stakeholders can provide inputs to proposed changes to the methodologies or tariffs. This is done either through participation in industry working groups, or through the public consultation processes. We consider any inputs received when reaching a decision on methodologies or tariffs. We do not have the power to review our decisions – appeals can be made either the the Competition and Markets Authority (CMA) or via judicial review.

Stakeholders have the right to apply for a judicial review of any such decision. There has not been any application for judicial review of any decision regarding the methodologies or tariffs during the reporting period.

As with transmission charges above, we are currently considering responses to a consultation[18] on whether we should review the current system of network residual charges, and whether that should be conducted via a Significant Code Review.

As part of the electricity distribution price control RIIO-ED1, we also introduced a specific incentive for large connection customers, the 'Incentive on Connections Engagement'. This aims to drive DNOs to understand and meet the needs of major connection customers (larger metered demand, unmetered, distributed generation). If a DNO fails to do this, then it could incur a penalty. As part of the Incentive on Connections Engagement, DNOs must submit two reports, one at the start of the regulatory year (ie the financial year) outlining their commitments to improve services and another at the end of the year reporting back against the commitments made. Throughout the year, we consult with stakeholders to understand their views on the DNOs' work plans and target outputs.

The DNOs reported on 2015-16 performance in May 2016. We engaged with stakeholders to formally review DNO performance and ultimately decided not to issue any penalties in 2016.

In October 2015 we implemented a new licence condition, which places a duty on DNOs to help facilitate effective competition in the market for connections to the electricity distribution network. The licence condition also requires the DNOs to comply with a new 'Competition in Connections Code of Practice' – which specifies how the DNOs must provide services to their competitors in the connections market. During 2016, we approved several modifications to the Competition in Connections Code of Practice to help make competition in electricity distribution connections work more effectively.

In response to stakeholder feedback, in 2015 we launched a project to deliver 'quicker and more efficient connections'[19] for all connection customers (including distributed generation customers). This project aims to:

- Find ways to make better use of the existing network and avoid the need for time-consuming (and costly) reinforcements to accommodate a new connection

- Identify new funding arrangements for connections, which could enable investment to be made in anticipation of a connection being requested.

We published a work plan for the DNOs, and invited stakeholders to bring forward case studies to trial alternative funding arrangements. The latest update was published in January 2017 and highlights the status of constraints on the electricity

[18] https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-consultation

[19] https://www.ofgem.gov.uk/publications-and-updates/quicker-and-more-efficient-distribution-connections

distribution networks and progress to date that DNOs have made in making better use of the existing capacity, as well as an update on the trials that are enabling investment ahead of need. It also outlined the next steps DNOs will be taking to continue to address constraints (eg developing flexible connection arrangements).

Prevention of cross-subsidies
Each NRA, under Article 37(1)(f) of the Electricity Directive, is required to ensure that there are no cross-subsidies between transmission, distribution and supply activities.

In GB, licensed electricity distribution, gas distribution and transmission network operators (including offshore licensees) are subject to licence conditions prohibiting regulated businesses from giving cross-subsidies to, or receiving cross-subsidies from, related undertakings.

Electricity and gas transmission and distribution licences include a requirement for independent auditors to carry out a range of procedures, agreed with the Authority, to provide assurance that obligations to avoid discrimination and cross-subsidies are being respected. We review the auditors' reports and may raise supplementary questions, as appropriate.

The unbundling requirements as described in **Section 2.1.1** also provide for greater structural separation of transmission interests from generation, production and supply interests in order to prevent cross-subsidies.

One area that we will continue to monitor is the interpretation and application of requirements for financial transactions to be completed at arm's length and on normal commercial terms. This is especially relevant for the terms of loans made to or by the licensee. Other key risk areas that we take into account are:

- the basis of recharging for services provided at a group level
- the justification for any management fees charged to the licensee by related parties
- the interest rates charged on intra-group loans affecting the licensee.

A requirement to have at least two sufficiently independent directors has been in effect since April 2014.

2.1.4 Cross-border issues

To reach a fully integrated European energy market, it is vital that NRAs coordinate effectively on cross-border issues. In this section, we report on our interconnections (including allocation of capacity and congestion management), our investment plans with regard to the Ten Year Network Development Plan (TYNDP) and our cooperation with other NRAs during 2016.

Access rules on interconnection
The GB electricity market is interconnected to the Netherlands (via BritNed), France (IFA), Northern Ireland (Moyle) and the Republic of Ireland (EWIC). A number of new interconnector projects are also at different stages of development.

The Third Package introduced new responsibilities for NRAs regarding the rules for granting access to cross-border electricity infrastructures, which in GB are reflected in the standard licence conditions of the electricity interconnector licence.[20] These responsibilities can be summarised as follows:

- Licensees are required to submit any new or amended charging methodologies and access rules to Ofgem
- Both Ofgem and the interconnector operator must ensure that charging methodologies and access rules, and any modifications to these, are: objective, transparent, non-discriminatory and compliant with any relevant legally binding decision of the European Commission (EC) or the Agency for the Cooperation of Energy Regulators (ACER)
- Interconnector operators are required to review and consult on their access rules at least once each year and to provide us with a report, that should highlight how they will meet the above objectives. The review must take the consultation into account.
- Ofgem has the power to request licensees to review and amend the access rules.

In 2016, Ofgem continued to monitor interconnector statistics, including information on auctions, capacity, nominations and flows.

Existing interconnection

Interconnexion France-Angleterre (IFA)
The England-France Interconnector is jointly operated by National Grid Interconnectors Limited (NGIL) and the French TSO, Réseau de Transport d'Électricité. IFA is a high voltage direct current line with a capacity of 2000MW.

Capacity is allocated explicitly in the long term, using a single coordinated capacity platform. 'Netting'[21] and 'use-it-or-sell-it' are applied to ensure that the maximum possible capacity is made available to market participants in all timeframes. Day-ahead capacity is allocated via implicit auctions following the implementation of market coupling. For intraday trading, explicit auctions are used.

In July 2016, IFA submitted proposed modified Access Rules to the Authority for approval. The changes were to enable IFA to introduce the second iteration of the Harmonised Allocation Rules (HAR) pilot project. This pilot project was for the European Commission Regulation (EU) No 2016/1719 establishing a guideline on

[20] See standard conditions 10, 11 and 11A: https://epr.ofgem.gov.uk//Content/Documents/Electricity_Interconnector_Standard%20Licence%20Conditions%20Consolidated%20-%20Current%20Version.pdf.

[21] Netting means that any capacity sold in one direction is netted off against capacity sold in the other direction. For example, if the technical capacity is 2,000MW in either direction and 500MW has been sold in the import direction, this leaves available capacity of 1,500MW more import, or potentially 2,500MW to export

forward capacity allocation (FCA). We approved the modified Access Rules for IFA in October 2016.[22]

BritNed
The 1000MW BritNed high voltage direct current cable, between GB and the Netherlands, began operating in April 2011. As with IFA, BritNed allocates capacity on its cable through a blend of implicit and explicit auctions. It holds annual, quarterly, monthly, and multi-day explicit auctions, an implicit day-ahead auction, and explicit intraday auctions.

BritNed has a 25-year exemption from rules relating to the use of interconnector revenues and charging methodologies, and certain conditions are not in operation in its licence.[23] However, it must still comply with the interconnector licence condition relating to access rules, introduced as a result of the Third Package.[24]

In July 2016, BritNed submitted proposed modified Access Rules to the Authority for approval. The changes were to enable BritNed to introduce the second iteration of the Harmonised Allocation Rules (HAR) pilot project under forward capacity allocation. We approved the modified Access Rules for BritNed in October 2016.[25]

Moyle
The Moyle interconnector, which links Scotland to Northern Ireland, offers capacity to the market through explicit long-term, daily and intraday auctions. Since February 2017, one cable on the Moyle interconnector has been out of operation due to a fault, reducing the interconnector's available capacity to 250MW. It offers a range of long-term products from one month to one year. To maximise the availability of capacity, the use-it-or-sell-it rule applies to all long-term capacity. Moyle is not exempt from any requirements relating to access rules and charging methodologies.

In August 2016, Moyle told interested parties it did not intend to propose any changes to its Access Rules in 2016.[26]

EirGrid East-West Interconnector (EWIC)
EWIC became operational in November 2012. It has a technical capacity of 500MW between Wales and Ireland and uses the same capacity allocation platform as Moyle. It offers capacity through explicit long-term (monthly and annual), daily and intraday auctions and applies 'use-it-or-sell-it' to long-term capacity. EWIC is not exempt from any requirements relating to access rules and charging methodologies.

In August 2016, EWIC told interested parties it did not intend to propose any changes to its Access Rules in 2016.[27]

[22] https://www.ofgem.gov.uk/publications-and-updates/approval-modified-access-rules-england-france-interconnector-2016
[23] Standard conditions 9 and 10 of the Electricity Interconnector License
[24] Standard condition 11A of the Electricity Interconnector License
[25] https://www.ofgem.gov.uk/publications-and-updates/approval-modified-access-rules-britned-interconnector-2016
[26] http://www.mutual-energy.com/moyle-access-rules-consultation-published-2/
[27] http://www.eirgridgroup.com/site-files/library/EirGrid/160809-EWIC_and_Moyle_-_Draft_Access_Rules_and_Charging_Methodology_Cons....pdf

New Interconnection

Eleclink
Eleclink Limited, a planned 1000MW interconnector project between GB and France, has a partial exemption from use of revenues, third party access and unbundling under Article 17 of Regulation (EC) 714/2009.[28] ElecLink is currently under construction.

Nemo Link
Nemo Link will be a 1000MW electricity interconnector to Belgium and is the first interconnector project to be regulated under our cap and floor regime.[29] We published our final decision to award the cap and floor regime to Nemo Link in December 2014.[30] Nemo Link is currently under construction and is expected to connect to the GB transmission system in 2019.

NSL
NSL (formerly NSN) is a planned interconnector to Norway. At just over 700km, it will be the longest subsea interconnector in the world. Currently under construction, it is expected to start operating in 2021, and will have a capacity of 1400MW. In 2015, we published our decision that NSL will be the second project to be regulated under our cap and floor regime.[31] In July 2017 we made our decision on NSL's Final Project Assessment, setting the provisional cap and floor levels at £89.85m and £50.90m. We will then confirm the final cap and floor levels for the project prior to operation at our post-construction review (PCR) stage.[32]

IFA2
Interconnexion France-Angleterre 2 (IFA2) is a planned interconnector to France, with capacity of 1000MW. In April 2017, contracts were awarded to construct the interconnector.

Cap and floor regime development

In 2015, we granted a cap and floor regime to five interconnector projects as part of the first application window of cap and floor projects.[33] These projects will connect

[28] https://www.ofgem.gov.uk/publications-and-updates/final-decision-eleclink-limited%E2%80%99s-request-exemption-under-article-17-regulation-ec-7142009-great-britain-france-electricity-interconnector REGULATION (EC) No 714/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003

[29] The cap and floor regime is the non-exempt, regulated route for new interconnector investment in GB, which sits alongside the exemption route (whereby project developers apply for exemptions from certain aspects of European legislation).

[30] Our 2014 decision: https://www.ofgem.gov.uk/sites/default/files/docs/2014/12/final_cap_and_floor_regime_design_for_nemo_master_-_for_publication_1.pdf

[31] Our 2015 decision: https://www.ofgem.gov.uk/publications-and-updates/decision-initial-project-assessment-nsn-interconnector-norway

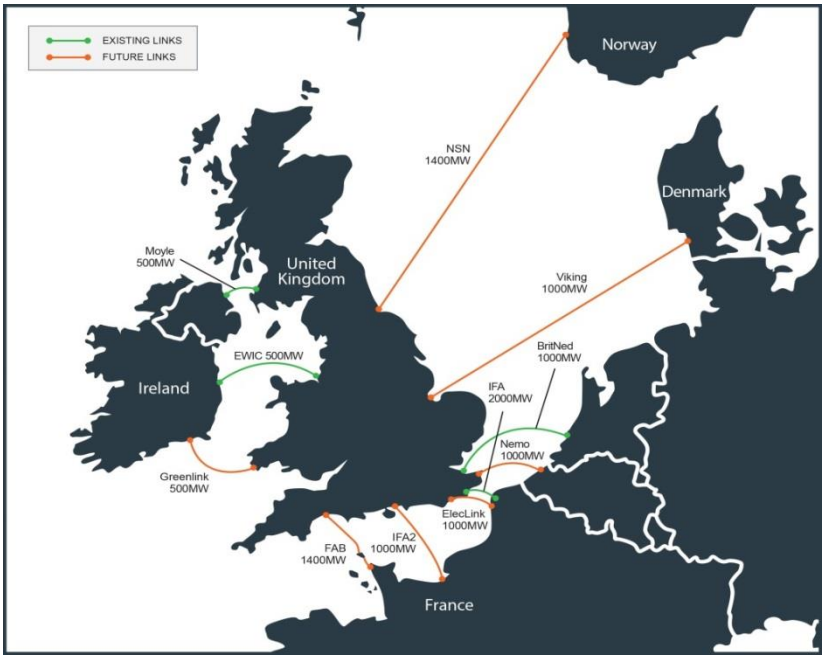
[32] https://www.ofgem.gov.uk/publications-and-updates/decision-final-project-assessment-nsl-interconnector-norway

[33] Under the cap and floor approach, if interconnector developers' revenues exceed the cap then revenue above the cap is returned to consumers. Conversely, if their revenues fall below the floor then consumers top up developers' revenues to the level of the floor. Prior to Window 1, Nemo Link was the pilot project under the cap and floor regime.

GB with France (FAB Link - 1400MW and IFA2 - 1000MW), Denmark (Viking Link - 1400MW), Norway (NSL – 1400MW) and the Republic of Ireland (Greenlink – 500MW). Our analysis showed that all five projects are likely to bring significant net benefits for GB consumers.

The GB transmission system currently has 4GW of interconnection. If these four projects and the other future projects illustrated below in Figure 1 were realised, then interconnector capacity would rise to 11.7GW by 2022.

Figure 1: Existing and future electricity interconnectors



In 2016, we opened a second window for our cap and floor regulatory regime. The second window attracted three projects.[34] These projects plan to connect GB with France (GridLink), Germany (NeuConnect) and Norway (Northconnect). On 18 November 2016, we published a letter following an assessment against our eligibility criteria, and decided that having all met the minimum eligibility criteria, they could therefore progress to the Initial Project Assessment stage of our cap and floor assessment process.[35] This was followed by an ongoing consultation on our minded-to position on the Initial Project Assessments for these three projects, with a view to taking a decision in September 2017.[36]

We are minded to approve the needs case for all three projects, which would represent a further increase in interconnector capacity of 4.2GW.

[34] https://www.ofgem.gov.uk/publications-and-updates/decision-open-second-cap-and-floor-application-window-electricity-interconnectors-2016
[35] https://www.ofgem.gov.uk/publications-and-updates/decision-project-eligibility-part-our-cap-and-floor-regime-electricity-interconnector-applicants-second-window
[36] https://www.ofgem.gov.uk/publications-and-updates/cap-and-floor-regime-initial-project-assessment-gridlink-neuconnect-and-northconnect-interconnectors

2.1.5 Compliance

Ensuring that NRAs and market participants comply with mandatory obligations is essential for a well-functioning energy market. Below, we report on our powers to enforce decisions of the Agency and European Commission, as well as the investigations that have concluded during 2016/17 relating to existing legislation.

Ensuring compliance with binding decisions of the Agency and the European Commission, and with the Guidelines
Under the Third Package, NRAs are required to comply with and implement binding decisions of ACER and of the European Commission. The Electricity Act 1989 has been amended to provide the Authority with the powers to carry out these functions.

On 17 November 2016, ACER made a binding decision concerning the determination of capacity coordination regions.[37]

Consistent with this decision, GB is part of two such regions: Ireland and United Kingdom (IUK) and Channel.

Compliance of transmission and distribution companies, system owners and electricity undertakings with relevant Community legislation, including cross-border issues
Ofgem has powers to investigate compliance of distribution companies, onshore and offshore transmission companies, system owners and electricity undertakings with relevant EU legislation. If we find a breach, we have powers to impose penalties. As a condition of certification, Transmission System Operators (TSOs) must notify the Authority if they know (or reasonably should know) of any events or circumstances which have occurred, or are likely to occur, that may affect their eligibility for certification or their compliance with the legislative framework. They must provide an annual declaration (approved by a resolution of the TSO's board of directors) on this. The Authority also has powers to require information to be provided by a TSO for monitoring the TSO's certification.

Ofgem, in close cooperation with other relevant NRAs, ensures TSOs are complying with Network Codes and Guidelines by monitoring GB TSO compliance with their licence conditions, business rules, standard transportation agreements and all other relevant operational rules and agreements.

Update on Ofgem's Enforcement Investigations
We continue to use our enforcement powers to protect the needs and interests of consumers. Below are details of the enforcement investigations and notable compliance action taken in the period April 2016 to March 2017 relating to electricity and cross-cutting (electricity and gas) undertakings.

37
http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2006-2016%20on%20CCR.pdf

Investigations concluded and notable compliance action:

Connections
In 2014, we reviewed the electricity connections market, and introduced a new licence condition and code of practice to improve competitiveness. Another outcome of this review was a question as to whether SSE had abused its dominant position in the connections market by putting its competitors at a disadvantage in the electricity distribution network in the South of England. Our investigation finished in November 2016 when we published a decision accepting commitments from SSE addressing the competition concerns we had identified during the investigation. We concluded that SSE's practices were capable of favouring SSE's own connections business to the detriment of independent distribution networks in the South of England. These included inconsistency in providing essential services and in quotes.

SSE committed to putting in place new processes and procedures to address the inconsistencies. The steps included separating the teams that provide essential services and completing competitive bids; improving IT systems; compliance training and frequent independent audit of SSE's compliance. We considered that these commitments fully addressed the identified competition concerns.

Missed deadlines
In January 2017, British Gas agreed to pay £4.5 million (less £1 financial penalty) in redress payments to the Carbon Trust as a result of failing to meet its obligation to supply relevant business customers through advanced electricity meters by the April 2014 deadline. British Gas was found to have installed electricity meters at a number of relevant premises after the regulatory deadline (6 April 2009) that were not advanced meters and had not taken all reasonable steps to install or arrange the installation of advanced meters at all relevant premises as at 6 April 2014. The rollout is part of a national project to modernise the energy sector and provide better service by introducing next-generation, smarter meters to help customers control their usage and bills.

Guaranteed Standards of Performance, missed and late appointments
The Guaranteed Standards of Performance require suppliers to meet minimum standards of customer service, including when they need to visit customers' premises. If suppliers fall short of these standards, they must pay customers compensation. It was reported to us that OVO Energy had missed some appointments, or arrived late, and failed to pay compensation to affected customers as required by the Guaranteed Standards. We have worked with the supplier to make improvements and OVO Energy has changed its customer service processes to ensure that when things go wrong customers receive the compensation to which they are entitled. In December 2016 OVO Energy paid £54,000 in redress, but £58,000 in total, to a charity (Step Change) to help indebted customers. Due to the actions and changes undertaken by the supplier, we agreed to the redress package rather than taking formal enforcement action.

E.ON reported to us that it had missed some appointments with customers and failed to pay compensation to affected customers as required by the Guaranteed Standards of Performance. After E.ON volunteered this information, we worked with it to make improvements and agree a redress package rather than taking formal enforcement action. The supplier has improved its customer services processes and will make sure that when things go wrong, customers receive the compensation to which they are entitled.

E.ON had already paid £1.2million to affected customers, and agreed to pay a further £1.9million to help consumers in need. We concluded our action in September 2016.

Standards of conduct, billing and complaints handling
In June 2016, ScottishPower agreed to pay £18m(less £1 financial penalty), concluding an Ofgem investigation into the supplier's complaint resolution and billing practices. We found that ScottishPower failed to treat its customers fairly; it had insufficient contingency plans and did not do enough to protect its customers from issues that arose from the implementation of a new IT system. This resulted in a significant increase in the number of complaints the supplier received. ScottishPower also handled some of these complaints poorly with a significant number taking too long to resolve. The money will be paid to vulnerable ScottishPower customers that were affected by customer service issues (up to £15m) and the remainder to charity.

In October 2016, Co-operative Energy agreed to pay £1.8 million to energy customers, with any money that cannot be returned being paid to the charity Step Change. We engaged with Co-operative Energy following a steep increase in customer complaints reported to Citizens Advice and ourselves. These were caused by customers being unable to log into their accounts online, leaving them unable to submit meter readings or check their bills. Bills were delayed and direct debit updates stopped. New customers also experienced delays in transferring to the supplier. It also took too long to resolve a significant number of customer complaints. The issues were the result of introducing a new IT system. The supplier has worked well with us to restore customer service levels and provided compensation to those customers directly affected by the issues. It also voluntarily withdrew from marketing activities to help focus on improving its services to existing customers.

Distribution charges
In February 2017, Western Power Distribution (WPD) told us of an error it had made in the application of charging methodologies for two of its licence areas for 2017/18. WPD made a goodwill payment of £300,000 to charities assisting fuel poor customers in the affected areas as an appropriate gesture, in light of the scale of the error, as well as making sure no customers lost out due to the error. WPD also put in place measures to prevent this type of error happening again. Given these steps, we decided not to pursue enforcement action in this case.

Ongoing

The following enforcement investigations are ongoing as at March 2017:

- Investigation into npower's compliance with its obligations under the electricity supply licence in relation to electricity meters (Standard Licence Condition 12)

- Investigation into British Gas Trading Limited's compliance with obligations under the gas and electricity supply licences (Standard Licence Conditions 7A, 14, 14A and 21B) and with the Gas and Electricity (Consumer Complaints Handling Standards) Regulations 2008 (Regulations 3(2), 7(1)(a) and 7(1)(b)) in relation to billing, customer service and standards of conduct

- Investigation into whether Extra Energy has complied with its obligations under the gas and electricity supply licences (Standard Licence Conditions 7B,

14, 21B, 25C, 27 and 31A) and with the Gas and Electricity (Consumer Complaints Handling Standards) Regulations 2008 in relation to billing, customer service and complaints handling

- Investigation into whether SSE has complied with Standard Licence Conditions 25C, 27.1, 28.1, 27.5, 27.6, and 27.8 in relation to treating its customers fairly when switching them to prepayment meters

- Investigation into whether Economy Energy has complied with the relevant conditions set out in Standard Licence Condition 25 in relation to its sales and marketing obligations

- Investigation into whether E (Gas and Electricity) has complied with the relevant conditions set out in Standard Licence Condition 25 in relation to its sales and marketing obligations

- Investigation into whether there has been an infringement of Chapter 1 of the competition Act 1998 in relation to possible anticompetitive agreements and concerted practices.

The fact that we have launched investigations does not imply that any company has breached its obligations.

2.2 Promoting competition

Promoting competition is an important part of the regulator's role of protecting the interests of consumers, as greater competition helps to reduce consumers' energy bills. Here we report on the current state of the wholesale and retail markets in GB and the main changes in 2016, as well as our monitoring activities in both markets during the past year. A large amount of Ofgem's engagement with the retail energy market does not distinguish between electricity and gas sectors, and this is covered below. Where we assess the electricity and gas retail sectors separately, this is noted.

2.2.1 Wholesale markets

The following section is an overview of our monitoring under article 37(1)(i), (j), (k), (l), (u) and Article 41(3), and the main developments in the wholesale electricity market in GB during 2016. Details are in the following sections, and summarised below:

- Monthly averaged over-the-counter (OTC) day-ahead baseload and peakload electricity prices for 2016 were up on 2015
- Price spikes in the last quarter of the year driven in part by generation issues in France that added risk to GB supply margins and pulled up the averages
- Annual churn rates for total traded electricity volumes rose in 2016
- The total traded volume of wholesale electricity increased in 2016 by 36% to 1,432 TWh. This was driven by increases in OTC and Exchange trading
- Net imports along GB's interconnectors decreased by around 14% between 2015 and 2016 to 17.8 TWh
- EDF again contributed the largest proportion of power generation in GB. RWE, Centrica, Drax, SSE and Uniper all produced more than 5% of total GB generation.

Policy developments in several areas of GB's wholesale electricity market have continued throughout 2016. Some notable policy areas of our work include:

- Maintaining a set of wholesale market indicators on our website[38]
- Consulting on and subsequently introducing the Transmission Constraint Licence Condition as a permanent, standard licence condition. It prohibits generators from obtaining an excessive benefit for electricity generation when there are transmission constraints

[38] https://www.ofgem.gov.uk/data-portal/wholesale-market-indicators

- Delivering changes to the Capacity Market rules to improve the prequalification process and ensure it is robust
- Developing and implementing European Network Codes and Guidelines.

2.2.1.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

Prices
Wholesale prices are compiled and made available to market participants by a number of independent pricing agencies, energy market brokers, and exchanges.

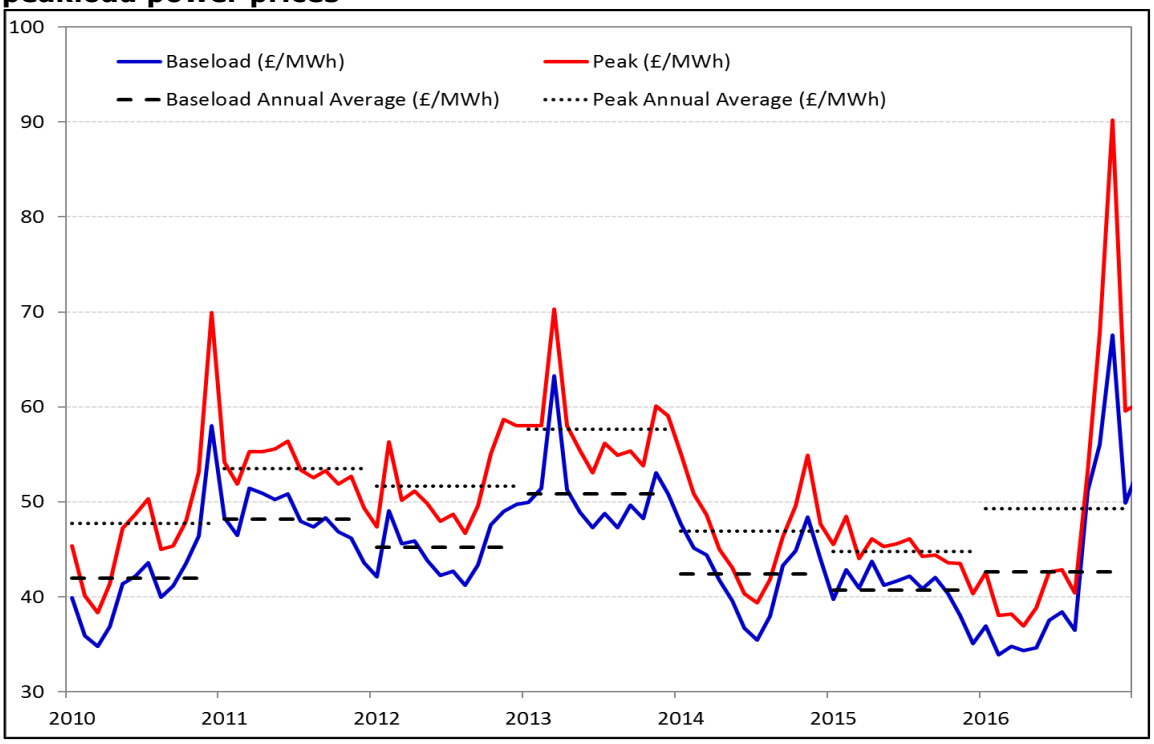
Argus Media, ICIS Energy and Platts provide pricing based on reported OTC trades, which are made available to the market via subscription services. Data providers produce pricing data for a wide variety of peak and baseload contracts up to several years ahead of delivery. Real time energy broker pricing based on OTC trades is also available via financial data providers.

In addition to a wide range of OTC pricing data, the three power exchanges in the GB electricity market[39] all provide pricing data to the market. Cash-out prices from the balancing market are also provided to the market via the Balancing Mechanism Reporting Service site.[40] **Section 3.2** has more details on gas prices.

Figure 2 shows monthly averaged OTC day-ahead baseload and peak electricity prices in GB since the beginning of 2010. Baseload and peak prices continued their downward trend in the first quarter of 2016, a result of falling gas and coal costs, the main fuels used in power generation. Prices increased sharply in the last quarter due to generation issues in France that added risk to GB supply margins. **Section 3.2** has more detail on gas prices.

[39] Epex Spot, N2EX (a Nord pool Spot and Nasdaq OMX commodities joint venture) and the Intercontinental Exchange (ICE).
[40] Balancing mechanism reporting service: https://www.bmreports.com/bmrs/?q=help/about-us

Figure 2: GB monthly and annual averaged day-ahead baseload and peakload power prices



Source: ICIS Energy

Liquidity

On 31 March 2014, new regulatory requirements to promote liquidity in the wholesale electricity market came into effect. We introduced these reforms, known as 'Secure and Promote' because we were concerned that low liquidity was a barrier to effective competition. Secure and Promote was introduced as a special licence condition, in the generation licences of the largest six vertically integrated companies and the two largest independent generators. The requirements aim to help independent suppliers access the wholesale market and ensure that it provides the products and price signals that all companies need to compete effectively.

The regulations include reforms to meet three objectives:

1. **A market-making obligation** that obliges firms to post prices at which they would be prepared to buy and sell electricity. It creates more transparency in the wholesale market as participants can see prices for delivery of electricity up to two years out. This is important for building trust and confidence

2. **Supplier Market Access rules** to improve access to the wholesale market for small suppliers. These rules ensure that the largest eight generators cannot treat requests to trade by independents as a low priority. The rules also set deadlines for them to respond to these requests

3. **A reporting requirement** of day-ahead trading of the six largest vertically integrated companies and the two largest independent generators.

We have been monitoring the effects of the reforms both to assess their impact and to make sure the obligated parties comply with them.

The results show that there has been a slight increase in churn in the wholesale market since the start of 2015, peaking in Q4-16 at 5.2. Independent suppliers have largely told us they are finding it easier to access the products they need.

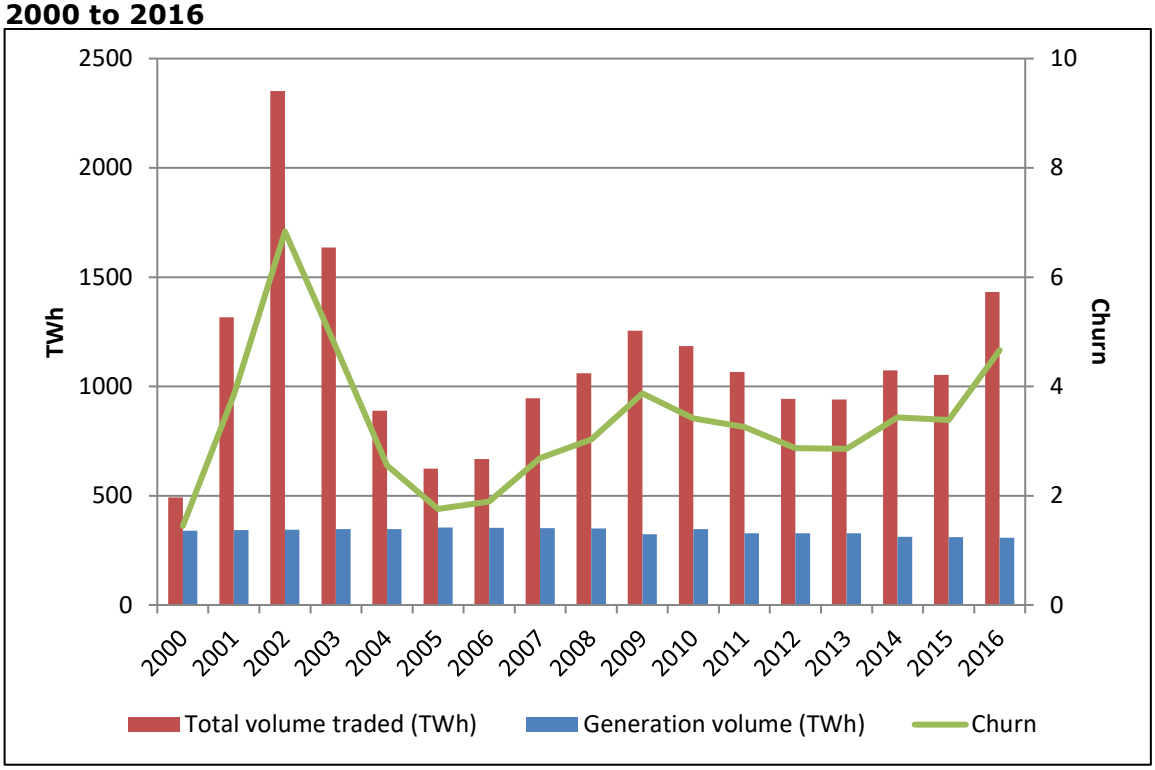
Against the backdrop of the liquidity, we have also seen the key metrics reflect the low-volatile and benign market conditions in 2015, or conversely, the high volatile prices in the last quarter of 2016.

We recognise that liquidity has been affected by many factors. Although it remains difficult to separate out the effects of our reforms from other factors that have had an impact on liquidity, the monitoring results indicate that Secure & Promote, alongside other factors, has contributed to increasing product availability in the market.

We published our second annual report in August 2016[41]. At the time of the Secure and Promote implementation, we said we intended to carry out a review after at least three years. In July 2017, we commenced this review by issuing a consultation requesting views from interested parties on the impact of the licence condition on liquidity and on the possible need for change.

[41] https://www.ofgem.gov.uk/publications-and-updates/wholesale-power-market-liquidity-annual-report-2015

Figure 3: GB total traded volume, generated volume and churn ratios from 2000 to 2016



Source: ICIS Energy, Epex Spot, ICE, N2EX, DECC DUKES.

Transparency

REMIT

The EU Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) is modelled on the trading rules to which financial market participants are subject. It came into force in December 2011 and prohibits attempted or actual market manipulation in wholesale energy markets across the EU, as well as other forms of market abuse. It places rules on market participants to promptly publish relevant market information, such as outages, to improve market transparency.

We have continued to monitor the wholesale market for suspected breaches of REMIT. We also continued to support those market participants who still needed to register. By May 2017, we had a total of 1169 market participants registered with us. On 7 April 2016, the obligation for market participants to report wholesale energy supply contracts executed over-the-counter, transportation contracts and additional fundamental data under REMIT entered into force.

We regularly discuss REMIT issues with ACER and other NRAs as well as financial regulators such as the Financial Conduct Authority. This cooperation helps us deal effectively with potential instances of market abuse that have a negative impact on wholesale energy markets in more than one EU country or that affect financial markets.

The Transparency Regulation

EU Regulation 543/2013 on submission and publication of data in electricity markets ('the Transparency Regulation') is a tool for making sure that the data needed for

participants to take efficient production, consumption and trading decisions is made available promptly. Primary data owners must publish data about the generation, transportation and consumption of electricity on a central European platform. Throughout the reporting period, Ofgem has monitored the compliance of the responsible GB parties and contributed to the ACER opinion on ENTSO-E's[42] review of the Manual of Procedures for the Transparency Platform, which was completed in January 2017. Ofgem will continue to monitor compliance with the data publication requirements of the Transparency Regulation.

Market opening and competition
Ofgem will publish its State of the Market report later this year. This follows our first annual State of the Market report in 2014 and subsequent conclusion of the CMA investigation in 2016. In March 2016, following its investigation of the energy market, the CMA published its provisional decision, including suggested remedies.

The final decision was published in June 2016. Please see **Section 2.2.2** for more details.

Wholesale market trading
A total of 1,432 TWh of wholesale electricity was traded in GB during 2016. This is a significant increase (36%) on total traded volume in 2015.

OTC trading[43]
Total OTC trading in 2016 rose, by 368 TWh year-on-year to 1,238 TWh. The proportion of the total electricity volumes OTC-traded was broadly stable year-on-year. Around 86% of all power traded in GB was OTC traded, up slightly from 83% in 2015

Exchange trading
Volumes traded on the exchanges increased in 2016 to 194 TWh, from 182 TWh in 2015. Volumes on the Epex Spot intraday market were slightly down at 13.5 TWh (from 14.6 TWh in 2015).[44]

The N2EX exchange, which mainly sees day ahead and future trading, saw slight increases in traded volumes. Volumes in its day-ahead auction rose to 112 TWh, up from 110 TWh in 2015. The Epex Spot day-ahead auction saw a slight decrease in activity, with traded volumes falling to 44 TWh in 2016, from 47 TWh in 2015.[45]

UK power futures exchange traded contracts are also available on the Intercontinental Exchange (ICE). Traded volumes on the ICE more than doubled in 2016 to 24.7 TWh, from 10.5 TWh in 2015.

[42] The European Network of Transmission System Operators for Electricity
[43] Over The Counter - bilateral trading between two market participants or where an intermediary (the broker) brings together a buyer and seller
[44] Includes both Epex Spot Continuo available from: http://www.apxgroup.com/
[45] http://www.icis.com/resources/news/2014/03/05/9759907/business-as-usual-for-uk-s-n2ex-auction-as-prompt-and-intraday-markets-set-for-revamp/

Market integration
For background information on GB interconnection, interconnection policy and market coupling please refer to **Section 2.1.4** of this report.

The GB market is broadly integrated with neighbouring markets, with 4GW of electricity interconnection. Prices for trades along these are established using market-based methods. GB typically imports from France (via IFA) and the Netherlands (BritNed), and exports to Northern Ireland (via Moyle) and the Republic of Ireland (East-West). The interconnectors suffered reduced availability in 2016; the Moyle interconnector continued to operate at half capacity (250MW), the East-West interconnector was at zero capacity for the last three months of 2016 and the French interconnector was at reduced capacity for December 2016 – March 2017 (1–1.5GW).[46]

IFA (2GW) and BritNed (1GW) participate in the NWE Day Ahead market coupling pilot project that was launched in February 2014. Market coupling should make sure power is produced where it is most efficient, and transported to areas of consumption where it is most valued. This should lower prices for consumers and support secure and sustainable supply.

On 14 August 2015, the Commission Regulation establishing a guideline on capacity allocation and congestion management (CACM Regulation) entered into force. On 17 October 2016, the Commission Regulation establishing a guideline on forward capacity allocation (FCA Regulation) entered into force. The CACM and FCA Regulations aim to maximise the efficient use of interconnection and facilitate greater cross-border electricity trade, mandating the formal establishment of market coupling in the day-ahead and intraday timeframes, and harmonised allocation rules using a single allocation platform in the forward timeframe. This should lower prices for consumers and support secure and sustainable supply.

The detailed rules are now being developed and approved through a number of regional and pan-European proposals required by the CACM and FCA Regulations. Key steps towards the implementation of the CACM and FCA Regulations that took place in the past 18 months include the designation of Nord Pool Spot AS and of EPEX SPOT SE as 'Nominated Electricity Market Operators' (NEMO) in GB, and ACER's decision on Capacity Calculation Regions.

Net imports of power along GB's four interconnectors decreased in 2016 to 17.8 TWh (from 20.6 TWh in 2015[47]). Gross flows (both imports and exports) reduced slightly from 25.4 TWh in 2015 to 22.7 TWh in 2016. Imports accounted for just over 80% of the gross flows in 2016.
Exports from GB to France were around 1.3 TWh in 2016, meaning 89% of the flows along IFA in 2016 were imports. BritNed similarly imported into GB for a majority of settlement periods in 2016. Moyle and East-West imported to GB from the Irish Single Energy Market 60% of the time in 2016.

[46] Mutual Energy has announced that the cable should be back to full capacity by September 2017
[47] Historical figures have been revised because National Grid have revised its reporting data

Market concentration

Figure 4 below shows that six generation companies had market shares exceeding 5%. The largest three companies generated almost half of the electricity supplied to the GB market 2016.[48]

Metered generation and interconnector volumes in 2016 indicate that EDF again contributed the largest proportion of power supply in GB. Based on this data, EDF's share decreased year-on-year to 24% in 2016. EDF is the majority owner of most of GB's nuclear fleet, which operates as baseload generation capacity. Centrica, Drax, Uniper (previously E.ON), RWE, and SSE all produced more than 5% of total GB generation. The market share of generators outside of the largest eight rose from around 19% last year to 23% in 2016.

Figure 4: Wholesale electricity market share in GB, 2016 metered volume

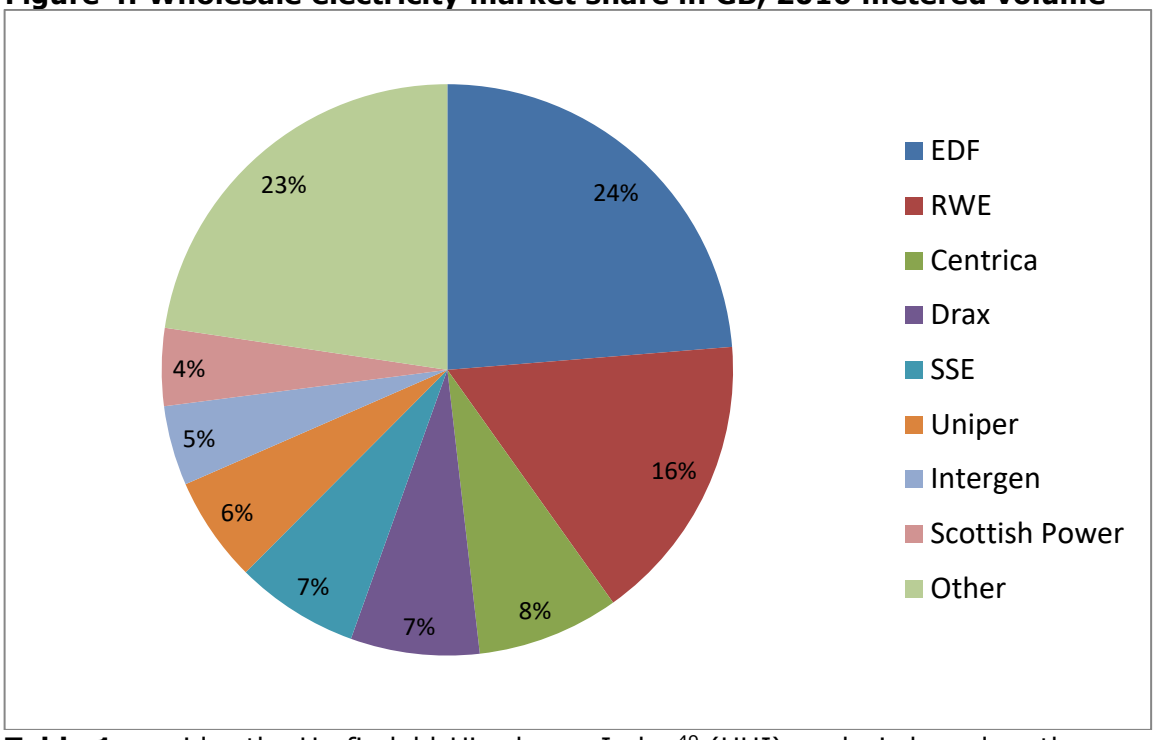


Table 1 provides the Herfindahl-Hirschman Index[49] (HHI) analysis based on the same data as the market shares.

The HHI is an indicator for the level of competition in a specific market. Though HHIs do not provide conclusive evidence on the level of competition, they point to whether there are potential risks to the market not delivering competitive outcomes.

The largest individual HHI by capacity is EDF (HHI of 562), which is lower than 2015. The total HHI fell to 1,117 in 2016.

[48] Based on metered generation volume and interconnector imports. Generation shares are based on proprietary data. Station demand has been excluded.

[49] HHI is commonly used to assess market concentration, ranging from 10,000 for a monopoly to just above zero for perfect competition. The Competition Markets Authority in the UK categorize a market as 'concentrated' if its HHI exceeds 1,000 and 'highly concentrated' if its HHI exceeds 1,800.

Table 1: HHI based on 2016 metered volumes

Company	HHI
EDF	562
RWE	270
Centrica	65
Drax	53
SSE	49
Uniper	36
Intergen	20
Scottish Power	19
Other	**43**

Market power concerns in the electricity wholesale sector
The Transmission Constraint Licence Condition (TCLC) was introduced in 2012 to limit behaviour by electricity generators during periods when there is insufficient capacity to transmit electricity from where it is generated to where demand is. In such circumstances, known as transmission constraints, the System Operator (SO) will need to ensure that the level of electricity supplied equals the level of electricity demanded, by either paying generators to increase their generation, or accepting a payment from (or sometimes pay) generators to reduce their generation. These actions can significantly increase the costs of balancing the electricity system during periods of transmission constraint. TCLC was therefore introduced to prohibit electricity generators from obtaining an excessive benefit from electricity generation in relation to periods of transmission constraints.

The original TCLC was a temporary licence condition that expired in July 2017. Following industry consultation, Ofgem decided to extend part of TCLC as a permanent standard licence condition, which came into force the day after the original one expired.

Throughout 2016, we continued to monitor the bids and offers submitted in the balancing mechanism and generators' compliance with TCLC. In 2016, the average price paid to onshore wind farms to reduce generation was £66/MWh compared to £70/MWh in the previous year.[50]

2.2.2 Retail markets

Ofgem's assessment of and engagement with the retail energy market may not always distinguish between the electricity and gas sectors – rather, the market is considered as a whole. This is reflected below, for example in **Section 4**, which looks at consumer protection and dispute settlement. Where we do assess the electricity and gas retail sectors separately, we have grouped the information accordingly, ie this section (**2.2.2**) primarily covers the electricity market and **Section 3.2.2** largely considers the gas market. Nevertheless, some sources of evidence, such as

[50] The averages were calculated using the weighted average price of bids accepted for system reasons by NGET from all onshore windfarms in the balancing mechanism and are rounded to the nearest pound

consumer surveys on switching trends cover the behaviour in relation to both markets.

The following **Section 2.2.2.1** describes our monitoring activities of the retail electricity market in 2016. To this end, we look separately at the domestic and non-domestic markets. We also distinguish between small and medium enterprises, and large industrial consumers.

2.2.2.1 Monitoring the level of prices and the effectiveness of market opening and competition

Ofgem monitors the effectiveness of competition in retail markets, in particular through regularly collecting market participants' data. We publish our analysis on our website[51], in monitoring reports. We commission consumer research to inform our view of both market engagement and the quality of service consumers receive.

In September 2016, we published our annual market monitoring report 'Retail Energy Markets in 2016'.[52] The report highlighted key developments in the domestic retail markets over the previous year, including the continued growth of small and medium-sized suppliers, which accounted for around 12% of all consumers at the end of 2015, and levels of new entry, which were high by historical standards. The report also found that microbusinesses are more aware of their contract terms but also that they still face a number of barriers to engagement. One problem has been opaque contract terms and customers not being aware of when they can switch supplier. Many smaller business customers have never switched supplier. Smaller non-domestic customers pay significantly more for their energy than larger business customers.

Over the course of the first half of 2016, the Competition and Markets Authority (CMA) continued its investigation of the market. Further details are in **Section 1** above and **Section 2.2.2.3** below. We supported the CMA in its investigation and its final decision. Recommendations were published in June 2016.

Here we report on results of our monitoring activities during 2016 with regard to the supply side of the market (ie market structure and prices on the market), the demand side (ie consumer switching and consumer experience), contractual practices and capability of data exchange processes.

[51] https://www.ofgem.gov.uk/data-portal/retail-market-indicators
[52] https://www.ofgem.gov.uk/system/files/docs/2016/08/retail_energy_markets_in_2016.pdf

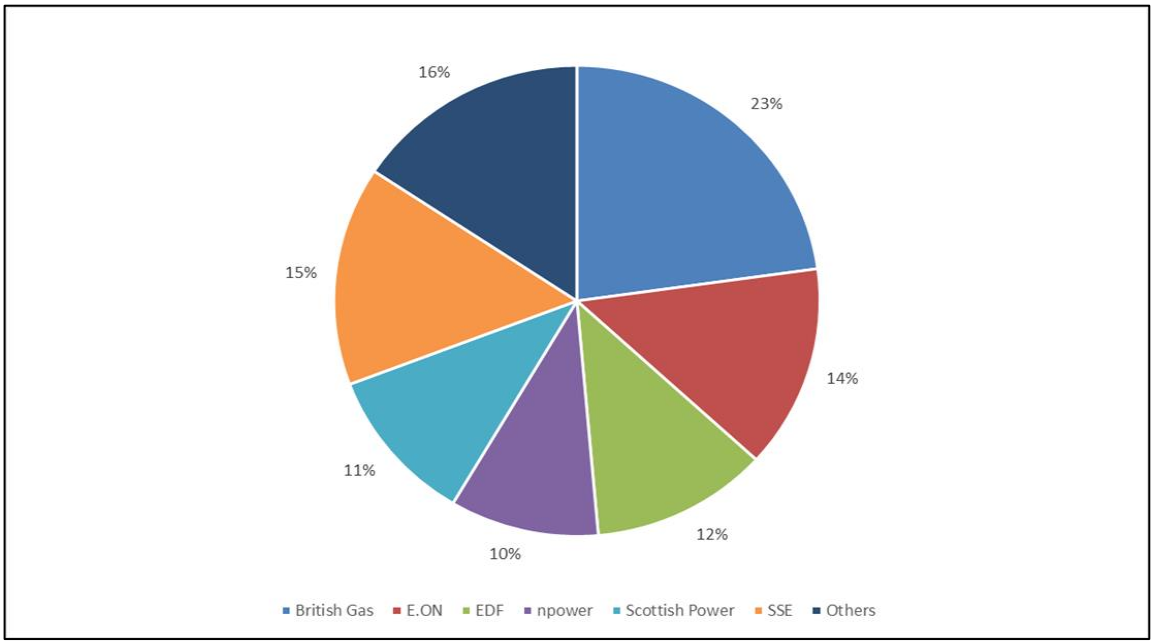
Market structure

Domestic market share

In December 2016, there were 28m domestic electricity consumers in GB. As Figure 5 shows, the largest six suppliers (British Gas, E.ON, EDF, RWE npower, ScottishPower and SSE) supplied 84% of them.[53]

In 2016, 11 new suppliers became active in the domestic segment while two suppliers left the market, resulting in 40 active smaller suppliers in the electricity market. The combined market share of these smaller suppliers has increased to 16% - a four percentage-point increase relative to December 2015. More stable conditions in wholesale markets and the exemption from some environmental charges for smaller suppliers are among the main drivers for the growth. The new entrants are competing on price, quality of service and simplicity (eg offering only one or two tariffs), but some are also using product differentiation strategies to enter into 'niche' markets (eg local tariffs, renewable energy or smart technology).

Figure 5: GB Domestic electricity suppliers' market share, December 2016



Source: Ofgem analysis of DNOs data

Non-domestic market shares

We also regularly monitor non-domestic suppliers' market shares.[54] The six largest suppliers in the domestic market are less present in the non-domestic market, which has seen many independent suppliers enter since 2008. In the segment of non-

[53] The figures relating to the national market shares do not reveal regional characteristics of the electricity market, which are a legacy of the regional monopolies that existed in the electricity sector prior to market liberalisation. The former electricity incumbents retain, on average, a market share of 30% in their home regions

[54] The data presented in this report are based on number of supply points. However, it should be noted that market shares by volume may show a different story as some suppliers may have a low number of supply points which have however very high volumes of energy supplied

domestic sites with non-half hourly meters, which mostly correspond to small businesses, the aggregate market share of the largest six suppliers was 80%, down from 83% in 2015. In the segment of the larger non-domestic sites, those with half-hourly meters, the joint market share of the largest six suppliers was 70%, down from 74% in 2015.

In 2016, independent suppliers supplied 20% of non-half-hourly sites and 26% of half-hourly sites.

Table 2: Electricity suppliers' non-domestic market share in December 2016

Electricity supplier	Non-domestic Sites		
	Non-half hourly	Half-hourly	All non-domestic
SSE	16.6%	13.1%	16.4%
British Gas	16.1%	3.5%	15.4%
E.ON	15.3%	12.6%	15.1%
npower	13.0%	17.1%	13.2%
EDF	11.1%	17.3%	11.5%
Opus	9.9%	1.3%	9.5%
Scottish Power	7.4%	6.5%	7.4%
Total Gas and Power	2.5%	6.2%	2.7%
Haven Power	1.3%	6.9%	1.6%
Dual Energy	1.3%	0.0%	1.2%
BES Commercial Electricity	1.2%	0.0%	1.2%
Others	4.2%	15.5%	4.8%
Total	**100.0%**	**100.0%**	**100.0%**

Source: Ofgem analysis of DNOs data

Herfindahl–Hirschman Index

A Herfindahl–Hirschman Index (HHI)[55] is often used to gauge market concentration. Though a HHI is not conclusive evidence of the level of competition, they suggest whether there are potential risks to the market not delivering competitive outcomes. The relevant HHIs for electricity in December 2016 were as follows (with 2015 figures in brackets):

- domestic: 1,321 *(1,424)*
- non-domestic, non-half hourly metered sites: 1,228 *(1,293)*
- non-domestic, half hourly metered sites: 1,100 *(1,229).*

By comparison with 2015, the HHIs for the domestic and non-domestic non-half hourly metered sites have fallen, as well as for the HHI for the non-domestic half hourly metered sites. All three electricity markets are judged to be 'concentrated' according to the threshold HHI levels (1,000) used by the CMA.

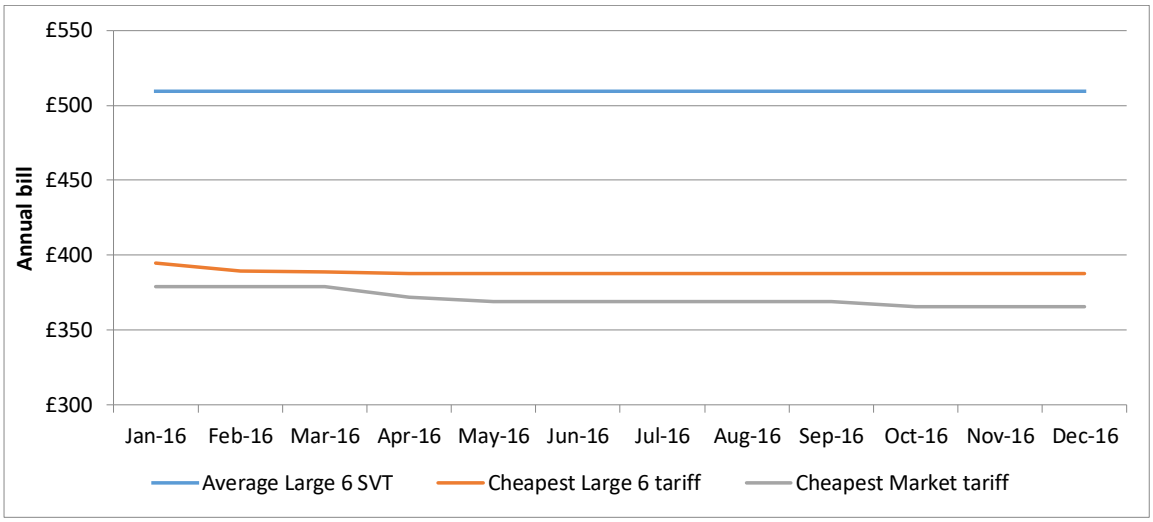
[55] HHI is commonly used to assess market concentration, ranging from 10,000 for a monopoly to just above zero for perfect competition. The Competition Markets Authority in the UK categorise a market as 'concentrated' if its HHI exceeds 1,000 and 'highly concentrated' if its HHI exceeds 1,800

Prices for domestic consumers

Almost all final consumer prices in the GB retail energy markets are determined by market forces, as all price controls on final consumer prices were lifted by April 2002. The prepayment segment is an exception, as a temporary price cap was introduced from April 1 2017 as recommended by the Competition and Markets Authority. In addition, there are elements of the final price that are attributable to the regulated aspects of the market, in particular distribution and transmission charges, which are price controlled. Ofgem monitors domestic suppliers' electricity prices across GB. We receive price change notifications from Energylinx, an independent data provider and one of the comparison sites accredited by the Confidence Code run by Ofgem. We use this information to calculate the implications for domestic customers' retail bills, based on characteristics such as their consumption level, payment type and region.

As Figure 6 below shows, electricity price levels remained largely constant over the year, despite a significant price differential between the largest six average Standard Variable Tariff (SVT) and their cheapest tariffs. The price differential between the two tariffs in December 2016 was £121. At the same time, the differential between the cheapest variable tariff available from the largest six suppliers and independents was £22.

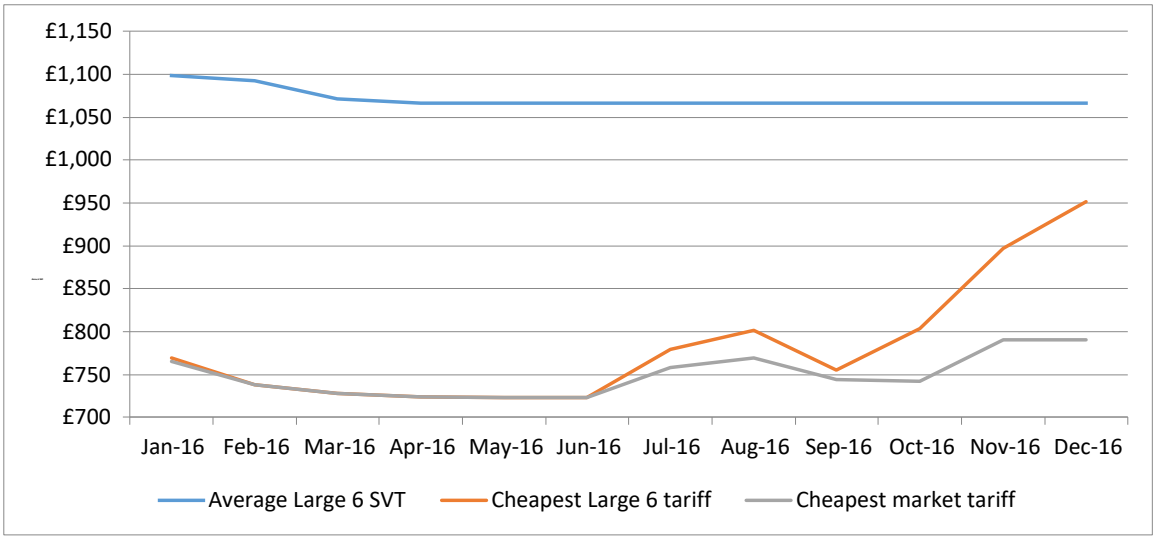
Figure 6: Domestic retail electricity price levels, Jan – Dec 2016



Source: Ofgem analysis of Energylinx data
Notes: Price level is based on revised consumption level of 3,100 kWh per year

Figure 7 shows a small decrease in typical domestic bills based on SVTs in GB's dual fuel market between January and December 2016. Over the year the cheapest available tariff from the largest six suppliers increased remained unchanged, while the cheapest available tariff on the market increased considerably (ie by £181 or 24%). In December 2016 there was a price differential of £161 between the cheapest tariff available on the market and the cheapest tariff available from the largest six suppliers.

Figure 7: Domestic retail dual fuel price levels, Jan – Dec 2016

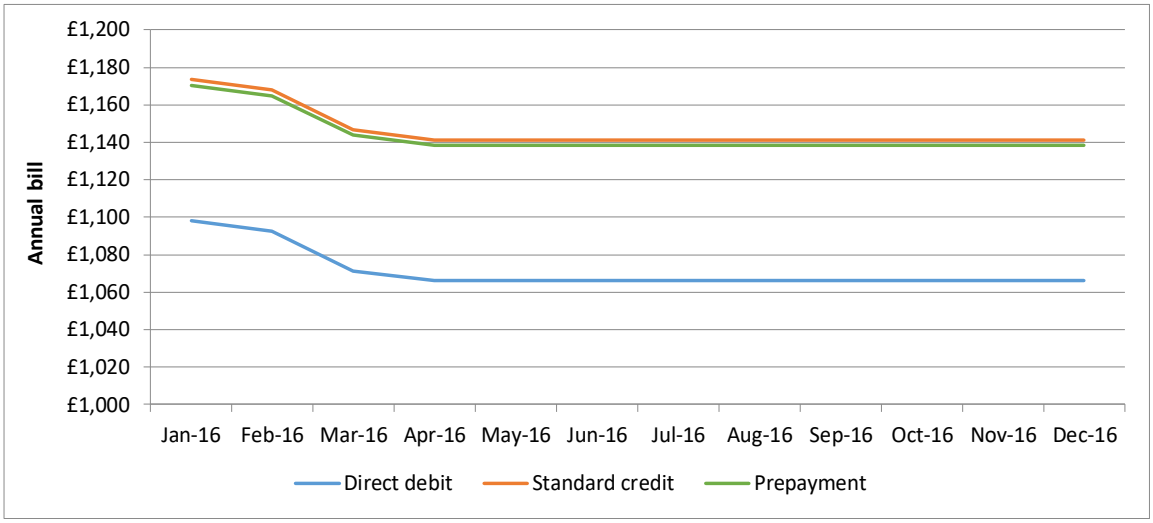


Source: Ofgem analysis of Energylinx data
Notes: Price level is based on revised consumption level of 3,100 kWh per year for electricity, 12,500 kWh per year for gas

Over the year, suppliers continued to offer fixed tariff deals often priced at a discount relative to variable tariffs. In December 2016, the average bill of a one-year fixed tariff across the large suppliers was £986, while the average bill of a standard variable tariff was £1066. The cheapest fixed deals over 2016 were generally offered by small-sized suppliers, with the cheapest in December 2016 offered by a small-sized supplier at an average annual bill of £790.

Figure 8 shows the change in average large supplier SVT by payment method in GB's dual fuel market between January and December 2016. Change was constant across all payment methods over the year, with an annual decrease of approximately 3% for each payment method based on average variable tariffs offered by the largest six suppliers. Payment via direct debit continues to be offered at a discount relative to prepayment and standard credit, and in December 2016 the average payment method differential between direct debit and other payment methods amounted to £75.

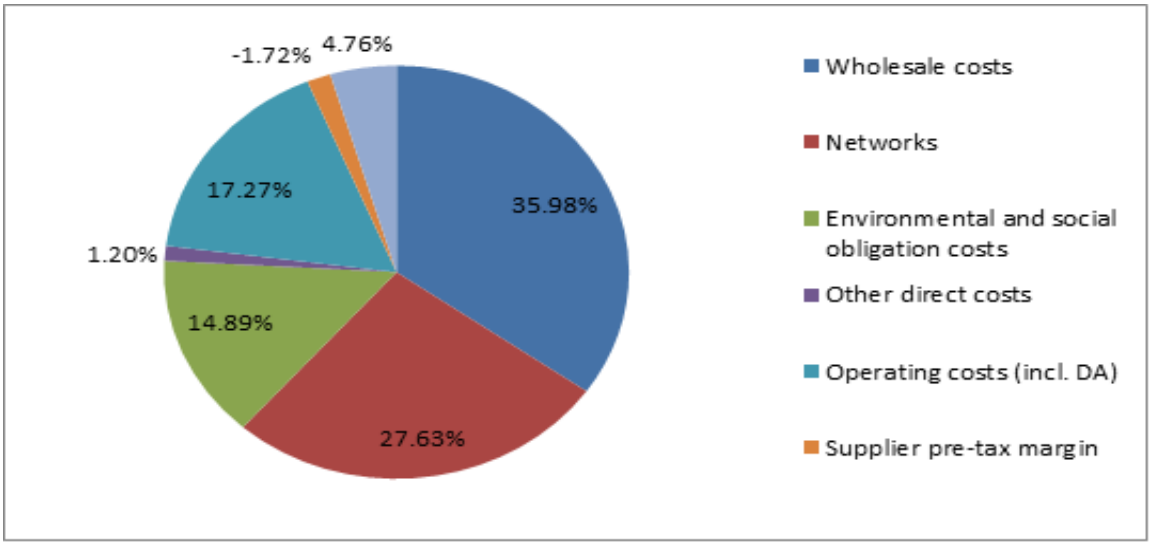
Figure 8: Typical domestic dual fuel bills by payment method, Jan – Dec 2016



Source: Ofgem analysis of Energylinx data
Notes: Average of Big Six's standard tariffs and revised consumption level: 3,100 kWh per year

As well as monitoring domestic electricity bill levels, we also assess the extent to which particular costs have an impact on these bills. Suppliers face a range of costs that influence how they set retail electricity prices. These costs can vary within and between years, and include wholesale energy costs, the costs of the UK Government's environmental and social policies such as the Renewables Obligation and the Warm Home Discount, and transmission and distribution costs. Figure 9 shows the breakdown of an average dual fuel bill for an average domestic customer of a large supplier.

Figure 9: Domestic electricity bill breakdown, 2016



Source: Ofgem analysis of Consolidated Segmental Statements (CSS) published by the six large suppliers

Consumer engagement and experience

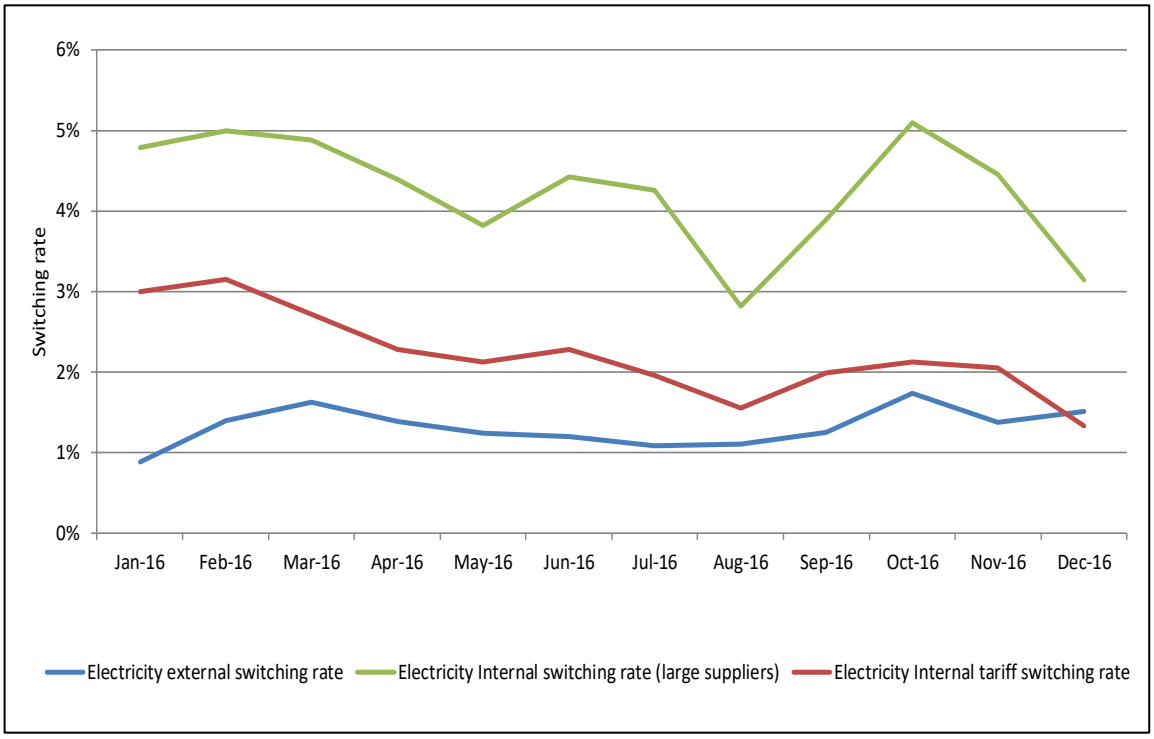
Domestic switching rates

Consumers' ability to switch their energy supplier is important for a well-functioning, competitive energy market, although it should not be considered in isolation. Ofgem monitors switching rates together with pricing and market structure data.

In 2016 4.4m domestic consumers switched their electricity supplier, equivalent to an average of approximately 367,000 per month. This represents an annual switching rate of 15.8%, 3.6 percentage points higher than observed in 2015. We also saw an increase in switching away from the six largest suppliers, with an average of 46% of customers that switched during 2016 moving to smaller or medium suppliers.

We also noted a decrease in customers switching internally to different tariffs, payment methods and type of account management with their existing supplier. The rate of largest six suppliers internal switching was approximately four times higher than external switches in 2016. Internal switching rates, representing an active tariff choice (rather than automatic tariff switching at the end of a contract) were approximately double the rate of external tariff switching. However, there was convergence over the second half of 2016, with external switching becoming larger than internal tariff switching in December 2016.

Figure 10: External and internal electricity switching rates in 2016



Source: Ofgem analysis of suppliers' data

The speed and reliability of switching is also important (see **Section 4.1** for details of our programme to improve the switching process). In December 2016, the system

average time[56] to complete a switch was 15 days, one day shorter than it took in December 2015.

Our consumer surveys are an additional source of information on the consumer switching experience. They show that most of those who switched did so to save money. In our domestic consumer engagement survey[57] we found that 91% of consumers who switched supplier, changed tariff or compared tariffs in the last 12 months were motivated by the prospect of saving money. From those who did switch in the last year, 86% expected to pay less for energy as a result of switching supplier or tariff, which is up from 77% in 2015. However, the number of consumers that are confident that they are on the best energy deal has decreased by five percentage points relative to 2015, at 50%.

Non-domestic switching rates[58]
In 2016, approximately 369,000 nHH (Non-Half Hourly) and 25,000 HH (Half Hourly) electricity consumers switched electricity supplier, and 141,000 non-domestic gas consumers switched gas supplier. This represents an annual switching rate of 15.6% for nHH electricity, 17.2% for HH electricity and 17.6% for gas. The non-domestic nHH and HH switching rates have remained largely the same.

In April 2017, we published our quantitative survey on micro and small business consumer engagement. It showed that one in four smaller business customers (21%) reported having switched suppliers in the last 12 months (down 4% on 2015, though similar to switching rates of 23% in 2014).

Many businesses appear to be making informed switching decisions. On average, businesses that have switched in the last 12 months contacted four suppliers, either directly or through brokers. Businesses using brokers reported a higher number of quotes obtained than those that did not use brokers at all (five, compared with four).

Non-domestic switching is primarily price-driven and cost saving was by far the most likely reason for switching (85% of those who had switched in the last 12 months found or were offered a lower price contract or tariff the last time they switched). Knowing that their contract was coming to an end and receiving a renewal notice from an existing supplier was a significant trigger for switching (73% and 58% respectively), though these are prompting fewer businesses than last year. A price increase from the previous supplier (52%) recommendation from a broker (43%) were also key prompts to switch.

This research also showed that a third of businesses (35%) have not switched in the last five years and nearly half of these (48%, equal to nearly one in five of all businesses) have never considered switching. The primary reasons for not switching remain that businesses are satisfied with their existing supplier, they don't believe

[56] This is the average number of calendar days from the day when the supplier notifies the switching request to the network operator system until the day the switch is executed
[57] https://www.ofgem.gov.uk/system/files/docs/2016/08/consumer_engagement_in_the_energy_market_since_the_retail_market_review_-_2016_survey_findings.pdf
[58] Electricity and gas

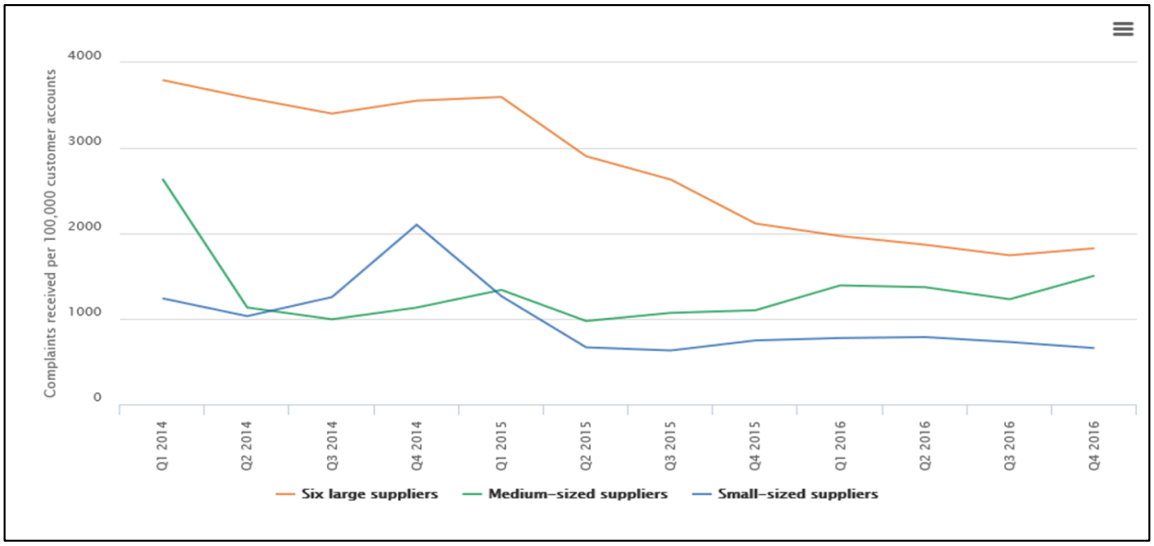
switching will result in significant savings, and many are tied into contracts that prevent them switching.

Complaints by household consumers
Ofgem does not directly investigate domestic customer complaints. If a complaint is raised, suppliers are required to meet the complaints handling standards set by Ofgem.

If a complaint is not resolved to the consumer's satisfaction, and either eight weeks have passed since the complaint was made or it has reached a point of deadlock (where the energy company says it can do no more to resolve the complaint), the supplier must write to the consumer to tell them they can seek redress through the Ombudsman ('alternative dispute resolution'). The Ombudsman received over 54,706 complaints in 2015 and 42,561 in 2016.

All domestic suppliers publish their complaints data on their websites in a common format agreed with Ofgem. Figure 11 shows that complaints per 100,000 customers have continued to decrease in 2016 for the large and the smaller suppliers, while complaints about the medium suppliers increased in 2016.[59]

Figure 11: Complaints received by supplier per 100,000 customers



Source: Ofgem analysis of suppliers' data

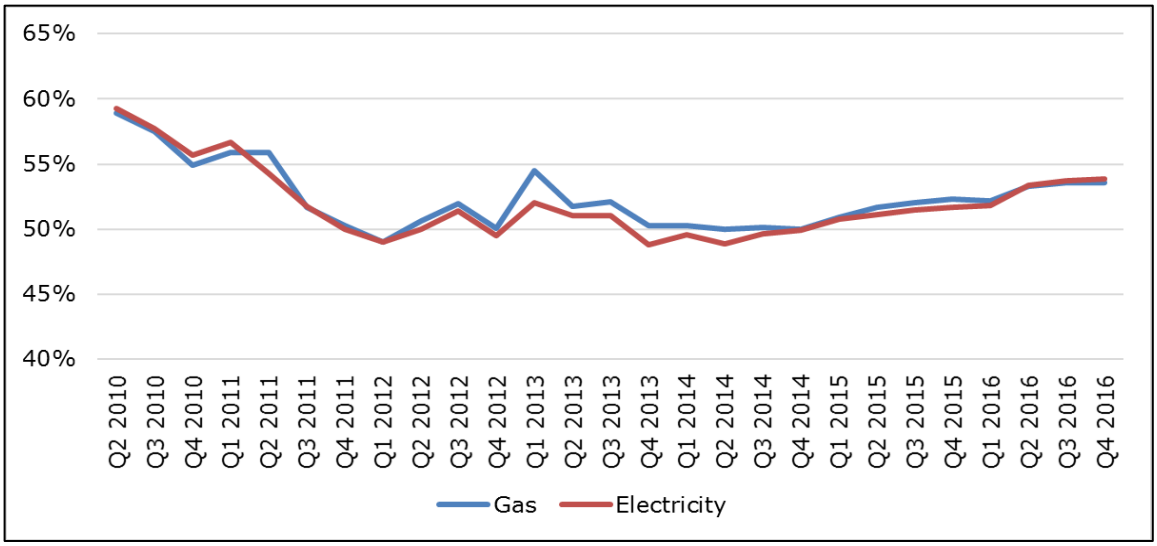
After we published research into customers' satisfaction with suppliers' complaints handling in September 2014,[60] we now require the former incumbent suppliers to publish their plans for improving complaints handling and closing. We will monitor their progress, and repeat the research in 2017.

[59] Large suppliers: British Gas, EDF Energy, E.On, nPower, Scottish Power, SSE. Medium Suppliers: Co-Operative, First Utility, Ovo, Utilita, Utility Warehouse, Extra Energy. Small Suppliers: Ecotricity, Spark Energy, Good Energy, Green Star Energy, Economy Energy, Flow Energy
[60] https://www.ofgem.gov.uk/publications-and-updates/complaints-energy-companies-research-report-2014

Consumer satisfaction

We expect certain things from our energy suppliers, like making it easy for consumers to contact them when needed and providing clear energy bills that consumers can understand. As shown in Figure 12, by the end of 2016, 54% of gas and electricity customers were satisfied with their supplier, compared to 52% at the end of 2015. This indicates a steady recovery in supplier service that fell to a low point of around 50% during 2012 and 2013. The data is based on an aggregate of those reporting being 'satisfied' or 'very satisfied' with their supplier.[61] Further details are published and updated regularly on our website.[62]

Figure 12: Consumer satisfaction with their supplier



Source: GfK Energy Research Panel

Contractual practices

Under Article 37(1) paragraphs (k) and (l), Ofgem is required to monitor restrictive contractual practices and ensure contractual freedom. We have teams to engage with a variety of stakeholders, ensuring that we are monitoring the market, and that we are open to dealing with any issues that may be brought to our attention. Additionally, the suppliers' licences contain conditions about providing clear contractual information to household and small business consumers.

Household customers are also protected by the general national rules that transpose Directive 2011/83/EU of 25 October 2011 on consumer rights and Directive 93/13/EEC of 5 April 1993 on unfair terms in consumer contracts. These rules were transposed by the Consumer Contracts (Information, Cancellation and Additional Charges) Regulations 2013 and the Consumer Rights Act 2015. In respect of contracts concluded before October 2015, transitional provisions exist in the Unfair Terms in Consumer Contracts Regulations 1999 (UTCCRs) and UCTA (Unfair Contract Terms Act 1977). Ofgem is one of the public bodies with enforcement powers.

[61] This data comes from the GfK Energy Research Panel. It's a semi-continuous, nationally representative panel of 10,000 homes in Great Britain

[62] https://www.ofgem.gov.uk/data-portal/customer-service

Compatibility of data exchange processes
Under Article 37(1)(u), Ofgem is required to contribute to the compatibility of data exchange for the most important market processes. All licensed suppliers and network operators must comply with industry codes (changes to which must be approved by Ofgem) in order to operate in the gas and electricity markets.

As described in more detail in **Section 4.1**, access to consumption data from smart meters is managed centrally, through the Data and Communications Company (DCC), regulated by Ofgem.

Disconnections for debt
We require suppliers to tell us about disconnections for debt as part of their Social Obligations Reporting[63]. Monitoring supplier performance in this area allows us to identify issues of concern with supplier performance and take action.

Charges for and the execution of maintenance services
So that we can assess performance, the electricity and gas distribution networks must submit regulatory returns to us each year, showing relevant cost, volume and output information. A component of the Distribution Use of System (DUoS) charges that all customers pay as part of their energy bills reflect the costs of maintenance work.

2.2.2.2 Monitoring transparency

Under Article 37(1)(i) Ofgem is committed to ensuring the energy market is transparent to the benefit of consumers. In this section, we explain the rules about transparency of suppliers' activities and how we monitored compliance in 2016.

Financial transparency
Over the past few years, we have put in place measures to make suppliers' revenues, costs and profits more transparent. Since 2009, we have required large, vertically-integrated suppliers to publish annual Consolidated Segmental Statements (CSS) on their websites. These statements break down suppliers' revenues, costs and profits and are reconcilable to audited accounts. In previous years, we have produced an annual review summarising the large suppliers' CSS. This is archived on our website. In 2016, we published this summary as part of our annual report on the retail energy markets.[64]

We have improved the reporting requirements for the statements. We now require companies to audit their statements, to publish them within four months of their financial year end, to provide a detailed cost breakdown, and insight into their trading activities. In addition, in 2014 we commissioned an in-depth review of the large companies' transfer pricing policies that concluded that they were appropriate and in line with global accounting standards.

[63] https://www.ofgem.gov.uk/about-us/how-we-work/working-consumers/supplier-performance-social-obligations
[64] https://www.ofgem.gov.uk/publications-and-updates/retail-energy-markets-2016

We continue to review the reporting requirements to make sure they remain fit for purpose. One priority for 2016 was to consider the financial reporting requirements that we place on suppliers in the light of the recommendations made by the CMA in its final report on the GB energy markets. In particular, in its final decision[65], the CMA proposed to revise the current financial reporting regime by recommending Ofgem introduce licence conditions for industry to: (i) report its generation and retail supply activities along market lines; (ii) report balance sheets as well as profit and loss accounts for these activities; (iii) disaggregate wholesale energy costs for retail supply across broad tariff types between a standardised purchase opportunity cost and a residual element; and (iv) report prior year figures prepared on the same basis as current period figures.

In light of the CMA recommendation, we have started collecting information from suppliers on their balance sheets and wholesale costs. This will allow us to analyse suppliers' financial performance and the components of their wholesale costs, to be potentially included as part of the State of the Market Report (ie an assessment of how well competition in the energy retail market is serving the interests of households and small business in Great Britain).

Transparency for domestic consumers
As part of the measures to increase transparency in our Retail Market Review (RMR) reforms, we required suppliers to inform their customers about their cheapest tariff in their bills and other communications, whether the tariff is under a white label brand or the licensed supplier's brand[66].

In GB, consumers can compare suppliers' gas and electricity prices using a wide range of online energy price comparison websites. Ofgem currently administers a code of practice, the 'Confidence Code'.[67] This helps ensure that consumers can use a site they trust to provide accurate and reliable pricing information. In August 2016, we reviewed the Confidence Code, addressing the CMA's recommendation to remove the 'Whole of Market' (WoM) requirement from the Code to achieve investment and competition benefits. In our review, we proposed removing the WoM requirement in stages to leverage some of the benefits of its removal, while monitoring the consumer impacts it may have. We will publish our decision on next steps for the Confidence Code in due course.

Transparency for non-domestic consumers
The Competition and Markets Authority (CMA) investigation found that opaque prices in microbusiness customer contracts were causing an adverse effect on competition in the market. In response, it has decided to introduce new rules governing how contracts are offered to microbusiness consumers on change of supply and further restrictions on automatic rollovers, which apply when a microbusiness reaches the end of a fixed-term contract and is moved to a new tariff. It proposes that suppliers must:

[65] https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf
[66] Ofgem is currently reviewing the RMR communications rules and working on the prompts to engage and as result might revisit this requirement
[67] https://www.ofgem.gov.uk/information-consumers/domestic-consumers/switching-your-energy-supplier/confidence-code

- disclose the prices of all available acquisition and retention contracts to smaller microbusiness consumers, either through an online quotation tool made available on their website, or through one or more third party online platforms

- allow microbusiness consumers to give a termination notice up to the last day of the initial fixed-term contract or last day of the fixed-term roll-over period

- not impose a termination fee and/or 'no exit' clause for the roll-over period.

The CMA also examined the transparency of non-domestic Third Party Intermediaries (TPIs). TPIs act as brokers between non-domestic customers and suppliers, assisting customers in finding the best energy deal for their needs. The CMA's findings have confirmed previous Ofgem findings that TPIs are not always delivering the best outcomes for consumers, for example companies pressurising customers into accepting unnecessary long-term contracts. The CMA considers that its requirement on suppliers to disclose the prices of all available acquisition and retention contracts should help consumers assess whether the prices they were quoted by TPIs were reasonable.

In addition, it encouraged Ofgem to proceed with our proposed code of practice for non-domestic TPIs. The code is intended to enhance safeguards for consumers who use TPIs. We propose to prevent suppliers from providing tariff information to any TPI that does not comply with the code. We are currently developing and implementing this code.

2.2.2.3 Recommendations on supply prices, investigations and measures to promote effective competition

Supply prices
In 2016 retail consumer prices in the GB energy market continued to be determined by market forces. Retail prices are inter alia affected by input costs such as wholesale energy prices, security of supply costs such as Capacity Markets auctions, costs associated with government environmental and social programmes, such as the Renewables Obligation[68] and the Warm Home Discount[69] and finally, network transmission and distribution costs.

Ofgem does not make annual recommendations on supply prices, nor provide these to other competition authorities. Ofgem's primary role is to protect the interests of present and future consumers. By fulfilling this, we ensure the electricity and gas markets deliver the best outcomes for consumers. Through our licence conditions, our market monitoring and our regular market reviews, we ensure supply prices comply with the relevant paragraphs in Article 3 of the Electricity and Gas Directives.

This has continued in the first quarter of 2017, with the exception of the prepayment meters segment. With effect from 1 April 2017, prepayment meters prices are regulated by means of cap. Following a two-year investigation, the CMA found that

[68] http://www.ofgem.gov.uk/Sustainability/Environment/RenewablObl/Pages/RenewablObl.aspx.
[69] http://www.ofgem.gov.uk/Sustainability/Environment/WHDS/Pages/WHDS.aspx.

prepayment meter consumers face higher actual and perceived barriers to information and access to switching. As a result, they often face higher annual bills than customers in other market segments. The CMA recommended a cap on prices as a temporary measure until 31 December 2020, to coincide with completion of the smart meter rollout. The prepayment meter cap excludes smart meters. The cap is the limit that suppliers can charge for nil consumption, as well as upper limits for average consumption for each of the 14 regions across GB.

Investigations
The Authority has concurrent competition and consumer protection powers with the CMA. We will work with the CMA, including as members of the United Kingdom Competition Network, which aims to promote best practice and coordination between the sectoral regulators in the use of their concurrent competition powers.

Measures to promote effective competition/monitoring distortions or restrictions of competition
The previous sections have outlined the findings from our report, 'Retail Energy Markets in 2016'[70] and from our regular ongoing monitoring to assess distortions and/or restrictions of competition. These work streams are helping us to identify where further intervention in the market is needed to promote effective competition and improve outcomes for consumers.

It its final decision[71], the CMA published its remedies to reform the energy market, open up competition and help customers get a better deal. The main remedies that the CMA intends to take forward (or has recommended Ofgem or government takes forward) include:

- an Ofgem-controlled database of 'sticky' customers (recommendation includes testing the operation of the database and aspects of the marketing letters sent to consumers and opt out from being included on the database)
- an Ofgem-led programme of trials to promote consumer engagement
- transitional price cap for the 4 million households which are on prepayment meters (will no longer apply to SMETS2 PPM meters)
- removing restrictions on new suppliers to compete for prepayment customers
- strengthening the ability and incentives for third party intermediaries such as price comparison websites to help customers find better deals
- removing the four-tariff rule to promote competition and innovation
- a requirement that suppliers make available single rate tariffs to customers on restricted meters

[70] https://www.ofgem.gov.uk/system/files/docs/2016/08/retail_energy_markets_in_2016.pdf
[71] https://www.gov.uk/government/news/cma-publishes-final-energy-market-reforms

- helping microbusinesses through improved price transparency, tackling 'rollover' contracts with longer notice periods, and ending termination fees
- ensuring that the contracts for difference process (where government supports investment in low carbon generation) is carried out transparently so that the impact on customer bills is assessed beforehand
- ensuring that both electricity and gas settlement processes are reformed to lower costs to consumers by enabling more accurate measurement of consumption and more efficient supply – and to let the full benefit of smart meters be realised
- introducing a locational pricing system to take account of transmission losses incurred when transporting electricity, to reduce the overall cost to customers
- improving the policy and regulatory framework to show clear division of responsibilities and transparency of policy creation and implementation, and changes to industry codes.

2.3 Security of Supply

Under Article 4 of the Electricity Directive, member states have to ensure they monitor security of supply issues.

Responsibility for ensuring security of supply in GB is shared across several entities. In addition, the market is regulated to provide for this. The government's Department for Business, Energy and Industrial Strategy (BEIS) sets overall policy on energy security. Ofgem is responsible for regulating the market. National Grid Electricity Transmission plc (NGET), as system operator of the GB electricity system, has responsibility for ensuring that supply meets demand on a minute-by-minute basis each day.

The Third Package puts an obligation on NRAs to monitor investment in generation capacities to secure supply. We therefore review NGET's annual Electricity Ten Year Statement (ETYS)[72], Future Energy Scenarios (FES) [73], and Winter Outlook Report (WOR)[74] documents, which outline electricity demand and generation (closure and investment) projections. In 2016 we also published the annual Statutory Security of Supply Report (SSSR)[75] jointly with BEIS, which analyses the availability of electricity and gas for meeting the reasonable demands for energy consumers in GB.

Here we report the main results and insights from our monitoring and publications on the balance of electricity supply and demand during the reporting period.

[72] http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/Electricity-Ten-Year-Statement/
[73] http://fes.nationalgrid.com/
[74] http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/FES/Winter-Outlook/
[75] https://www.gov.uk/government/publications/statutory-security-of-supply-report-2016

Generation capacity
NGET assessed total installed maximum capacity on the GB electricity market for winter 2016/17 at 70.2GW. The figure includes total generation capacity on the transmission system and distributed wind generation. Total generation capacity has remained relatively stable since last winter, when it was assessed at 69.6GW. The composition of the installed capacity mix has changed since last year, reflecting a decrease in coal capacity which has been mostly offset by increases in both gas and wind generation capacity. When taking into account plant breakdowns, planned outages and other operational issues that may result in plants not being able to generate, total installed de-rated capacity comes to 55GW.

In addition to total installed generation capacity available on the market, NGET had access to 3.5GW of Contingency Balancing Reserve (CBR) in winter 2016/17. The reserve is composed of different conventional power plants that are not operational in the wholesale market but are available to generate if needed to balance demand and supply.

Demand
Peak power demand on the transmission network was slightly lower in winter 2016/17 than in winter 2015/16. Actual maximum demand for 2016/17 (including station load, pumped storage and interconnectors)[76] decreased by 0.6GW to 51.9GW. This trend is also seen in peak demand excluding station load, pumped storage and interconnectors,[77] which decreased by 1.3GW to 49.9GW in 2016/17.

The fall in demand cannot be attributed only to weather, as weather-corrected demand has been falling in recent years. The trend is instead likely to reflect a medium-term structural change in electricity demand driven by increased embedded generation[78] and higher efficiency in electricity use.

Minimum transmission summer demand has decreased, and low demand can create challenges for the SO. When station load, pumped storage and interconnectors are included, minimum demand dropped by 1.1GW to 18.7GW. A similar small fall of 1.5GW to 16.4GW was observed when station load, pumped storage and interconnectors were excluded. The increase in embedded generation, particularly solar photovoltaic (PV), as well as a decrease in underlying demand are the main drivers of this downward trend.

Statutory Security of Supply Report (SSSR)
In October 2016, we published our joint SSSR[79] alongside BEIS. This is part of an obligation on government and ourselves to report annually to Parliament on the availability of electricity and gas for meeting the reasonable demands of consumers in GB. The report noted that GB's electricity system has delivered secure supplies to date, while facing significant challenges of decarbonisation and replacing ageing and

[76] Transmission System Demand (TSD) or Initial Transmission System Demand Outturn (ITSDO).
[77] National Demand (ND) or Initial Demand Outturn (INDO), based on NGET operational generation metering.
[78] Embedded generation can meet local supply needs, therefore reducing transmission demand
[79] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/563436/57327_HC_717_Print.pdf

polluting plants. The report also showed that Ofgem and government have taken steps to reduce the likelihood of customer disconnections.

2016/17 Winter Outlook Report (WOR)
Each October, NGET publishes a report with the SO's best view on security of supply for the coming winter.[80] NGET assessed capacity margins to be similar to the previous winter, but included a larger proportion of supplemental balancing reserve services. In particular, NGET indicated an expected de-rated capacity margin of 6.6% including the additional reserve, corresponding to a 0.5 hours/year Loss of Load Expectation (LOLE).[81] This was within the government's reliability standard for security of supply, which was set at a LOLE of 3h/y.

Excluding the additional reserve capacity, NGET assessed de-rated capacity margin to be 1.1%, with a LOLE of 8.8 hours/year. Based on this analysis, NGET expected electricity margins to be tight but manageable in winter 2016/17.

Electricity Capacity Report (ECR)
In the past, Ofgem has published a Capacity Assessment (CA) report. This historically fulfilled the Authority's obligation to provide the Secretary of State with an annual report assessing the risks to the security of GB's electricity supply.[82] Since the government decided to introduce a Capacity Market (CM), this obligation was removed from 2015 onwards and replaced with an obligation on NGET to produce an Electricity Capacity Report (ECR) each year.[83]

The ECR sets out NGET's recommendation for the volume to procure for the capacity market auctions. We continue to work closely with NGET and BEIS in scrutinising and reviewing the analysis for the short- to medium-term security of supply outlook as part of our market monitoring role and to inform policy decisions. In 2016, we were sufficiently comfortable with NGET's analysis that we elected not to publish any separate report.

Electricity Market Reform
Electricity Market Reform (EMR) is a government policy to incentivise investment in secure, low-carbon electricity, improve the security of GB's electricity supply, and improve affordability for consumers. The key elements of this reform are being delivered through four key mechanisms:

- The Capacity Market (CM), to ensure that security of electricity supply is secured at least cost to the consumer. Ofgem manages the rules of this mechanism. Ofgem provides a dispute resolution function regarding certain NGET decisions

[80] http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589937050
[81] LOLE is a probabilistic indication of the average number of hours per year in which supply is expected to be lower than demand without intervention from the system operator. Importantly, LOLE is not a measure of the expected number of hours in which customers may be disconnected, as the system operator is expected to use other mitigation actions ahead of any controlled customer disconnections.
[82] As set out in section 47ZA of the Electricity Act 1989
[83] The first report was published in 2014. The ECR 2016 is available here: https://www.emrdeliverybody.com/Lists/Latest%20News/Attachments/47/Electricity%20Capacity%20Report%202016_Final_080716.pdf

- Contracts for Difference (CfD) to support new investment in all forms of low-carbon generation. Ofgem provides a dispute resolution function for certain NGET decisions

- A carbon price floor to reduce uncertainty, put a fair price on carbon and provide a stronger incentive to invest in low-carbon generation now

- An Emissions Performance Standard to provide a clear regulatory signal of the amount of carbon new fossil-fuel power stations can emit.

Ofgem sets and monitors performance outputs, incentives and funding for the EMR Delivery Body, NGET. Ofgem also enforces the Rules and Regulations, the Competition Act 1998, REMIT, and monitors NGET's compliance.

EMR was implemented in 2014 and to date there have been six CM auctions and one CfD allocation round, with a second allocation round underway in 2017. Three CM auctions were held in 2016/17: 2016 T-4 Auction, 2017 Early Capacity Auction and 2017 DSR Transitional Auction. Ofgem received a total of 49 Capacity Market Unit (CMU) appeals in relation to the prequalification process for the three CM auctions, and the initial decision made by NGET to not qualify the appellant was upheld for all but 12 CMUs.

Summary of 2016 T-4 Auction results
Six hundred and twenty-nine CMUs qualified and confirmed their entry for the 2016 T-4 Auction.[84] Eleven CMUs opted-out of the CM. Most of these opt-out decisions were anticipated due to planned closures before the delivery year for capacity market participants (2020/21). The 2016 T-4 Auction was the first market-wide auction in which battery storage won agreements, with 3.2GW of storage capacity having entered the auction.

The target capacity for the auction was 52,000MW. A total of 69,777MW entered the auction, of which 75.13% received Capacity Agreements for delivery in 2020/21. The auction procured 52,425MW of capacity at a clearing price of £22.50/kW/year,[85] at a cost of £1,180m. Below is a breakdown of the full auction results:[86]

[84] A further 345 CMUs opted in to participate in the CM but failed to prequalify for the auction
[85] Capacity auctions are 'pay-as-clear', therefore the same clearing price is paid to every participant that clears the auction for every kW of capacity they have been contracted to provide
[86] https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Final%20Results%20Report%20-%20T-4%202016.pdf

Table 3: Breakdown of 2016 T-4 Auction awarded capacity by CMU classification

CMU Type	Capacity (MW)	%	No. of CMUs	%
Existing Generating	44,464.301	84.81	243	50.31
Existing Interconnector	2,342.100	4.47	4	0.83
New Build Interconnector	0.000	0.00	0	0.00
New Build Generating	3,412.520	6.51	129	26.71
Proven DSR	44.068	0.08	8	1.66
Refurbishing Generating	173.322	0.33	2	0.41
Pre-Refurbishment	622.106	1.19	8	1.66
Unproven DSR	1,366.885	2.61	89	18.43

Source: Final Auction Results - T-4 Capacity Market Auction 2016, National Grid plc.

Table 4: Breakdown of 2016 T-4 Capacity Auction awarded capacity by CMU technology type

CMU Type	Capacity (MW)	%
CCGT	22,596.060	43.10
CHP and autogeneration	4,407.487	8.41
Coal/ biomass	6,089.654	11.62
DSR	1,410.953	2.69
Hydro	711.301	1.36
Nuclear	7,878.366	15.03
OCGT & Recip (Other)	819.264	1.56
OCGT & Recip (Diesel)	678.882	1.29
OCGT & Recip (Gas)	2,290.196	4.37
Storage	3,201.039	6.11
Interconnector	2,342.100	4.47

Source: Final Auction Results - T-4 Capacity Market Auction 2016, National Grid plc.

Summary of 2017 Early Capacity Auction results:
The first-ever CM Early Capacity Auction (ECA) took place in January/February 2017. 507 CMUs qualified and confirmed their entry for the ECA.[87] Eight CMUs opted out of the CM. Most of these opt-out decisions were anticipated due to planned closures before the delivery year for capacity market participants.

The target capacity for the auction was 53,800MW. A total of 59,286MW entered the auction, of which 91.82% received Capacity Agreements for delivery in 2017/18. The auction procured 54,434MW of capacity at a clearing price of £6.95/kW/year,[88] at a cost of £378m. Below is a breakdown of the full auction results:[89]

[87] A further 160 CMUs opted in to participate in the CM but failed to prequalify for the auction
[88] Capacity auctions are 'pay-as-clear', therefore the same clearing price is paid to every participant that clears the auction for every kW of capacity they have been contracted to provide
[89] https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/EA%2017-18%20Final%20Results.pdf

Table 5: Breakdown of 2017 ECA awarded capacity by CMU classification

CMU Type	Capacity (MW)	%	No. of CMUs	%
Existing Generating	50,128.309	92.09	312	75.18
Existing Interconnector	2,362.420	4.34	4	0.96
New Build Generating	1,733.734	3.19	69	16.63
Proven DSR	42.861	0.08	8	1.93
Unproven DSR	166.310	0.31	22	5.30

Source: Final Auction Results - Early Capacity Auction 2017, National Grid plc.

Table 6: Breakdown of 2017 ECA awarded capacity by CMU technology type

CMU Type	Capacity (MW)	%
CCGT	22,062.230	40.53
CHP and autogeneration	4,604.366	8.46
Coal/ biomass	10,479.595	19.25
DSR	209.171	0.38
Hydro	678.671	1.25
Nuclear	7,878.366	14.47
OCGT & Recip (Other)	438.001	0.80
OCGT & Recip (Diesel)	789.177	1.45
OCGT & Recip (Gas)	2,204.394	4.05
Oil-fired steam generators	16.775	0.03
Storage	2,710.468	4.98
Interconnector	2,362.420	4.34

Source: Final Auction Results - Early Capacity Auction 2017, National Grid plc.

Summary of 2017 DSR Transitional Auction results:
The second and final DSR Transitional Arrangements Auction (TA) took place in March 2017. The aim of the TA auctions is to increase levels of participation of Demand-Side Response (DSR) CMUs. Only turn-down DSR (ie load shifting or shedding) was allowed to participate in the 2017 TA.

The target capacity for the auction was 300MW. The capacity entering the auction totalled 373MW de-rated capacity, of which 312.171MW was procured at a price of £45/kW/year. The total forecast cost of Capacity Agreements awarded was £14m for the 2017/18 delivery year.

Table 7: Breakdown of 2017 TA awarded capacity by CMU classification[90]

CMU Type	Capacity (MW)	%	No. of CMUs	%
Proven DSR	37.000	11.85	2	6.25
Unproven DSR	275.171	88.15	30	93.75

Source: Final Auction Results - Early Capacity Auction 2017, National Grid plc.

New Balancing Services (Contingency Balancing Reserve)
In 2015, NGET contracted 3.5GW of Supplemental Balancing Reserve (SBR) capability for winter 2016/17 to help balance the system in the rare event that there

[90] https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Transitional%20Auction%2017-18%20Final%20Results%20Report.pdf

is insufficient generation in the market to meet demand. Due to a number of factors, electricity demand was lower than forecast and generation margins comfortable. As a result, NGET did not need to use the SBR service during winter 2016/17.

Following the government decision to bring forward the Capacity Market mechanism for delivery in 2017/18, these services will not be needed beyond winter 2016/17.

3. The gas market

Chapter Summary

This chapter details developments in GB's gas sector in the reporting period. This is broken down into sections covering network regulation, promoting competition, and security of supply in the wholesale and retail gas markets.

3.1 Network regulation

In this section, we discuss unbundling, technical functioning, tariffs for connection and access, cross-border issues, and compliance. We show briefly what has previously been done, to ensure compliance with legislation, as well as other regulatory activities and market developments in the reporting period.

3.1.1 Unbundling[91]

Transmission System Operators
Under Articles 9 and 10 of the Gas Directive, we have an obligation to ensure any undertaking that owns a transmission system is certified as independent from generation and supply interests before it is designated as a Transmission System Operator (TSO).

In April 2016, the Authority approved an application from GNI(UK) to be certified under the full ownership unbundling certification ground.[92]

[91] Articles 9, 10, 11, 26 of the Gas Directive and Article 3 of Regulation (EC) 715/2009 (the Gas Regulation) outline our obligations in unbundling certification of TSOs. The Electricity and Gas (Internal Markets) Regulations 2011 and the Electricity and Gas (Ownership Unbundling) Regulations 2014 are together known as 'the GB Regulations'.

The GB Regulations implement the Third Package[91] into the GB domestic regulatory regime including legislation, licences and industry codes. Ownership unbundling requirements are included alongside Regulations for TSOs, storage and Liquefied Natural Gas (LNG) system operators, and the unbundling requirements for DSOs. The GB Regulations have amended the Gas Act 1986 ('Gas Act') to include the requirement for the holders of gas transporter and gas interconnector licences to be certified as independent from generation and supply interests under one of the grounds for certification in the Gas Act.

The GB Regulations have amended the Utilities Act 2000 to designate the Authority as the National Regulatory Authority (NRA) for GB and have given it (through amendments to the Gas Act and the Electricity Act) the responsibility for administering the certification process in GB. The Authority is also required by Article 11(1) of the Gas Directive to notify the European Commission upon receipt of an application for certification where the applicant is from a third country or is controlled by a person from a third country. The Authority received no applications which related to third countries during the reporting period.

[92] Having taken 'utmost account' of the European Commission opinion, on 4 April 2016 the Authority has published its decision that GNI(UK) is certified and designated as TSO:

We continue to monitor the certification status of the other four certified gas TSOs in GB, including through the review of annual declarations submitted by the relevant entities. We remain satisfied that the grounds for their certifications remain valid.

Distribution System Operators
In 2016, there were 27 gas Distribution System Operators (DSOs), of which eight were incumbents and 19 embedded.

We continue to have eight incumbent gas DSOs (ie no change in 2016): four network areas[93] for National Grid Gas plc (NGG), Northern Gas Networks Ltd, Scotland Gas Networks plc, Southern Gas Networks plc, and Wales and West Utilities Ltd.

There are 19 independent (embedded) gas distribution system operators who own and operate a number of relatively small networks at various locations. They include 11 Independent Gas Transporters: Energetics Gas Ltd, Energy Assets Pipelines Ltd, ES Pipelines Ltd, ESP Connections Ltd, ESP Networks Ltd, ESP Pipelines Ltd, Fulcrum Pipelines Ltd, GTC Pipelines Ltd, Independent Pipelines Ltd, Quadrant Pipelines Ltd, and Indigo Pipelines Ltd.

They also include eight site-specific operators: Severn Gas Transportation Ltd, Greenpark Energy Transportation Ltd, SP Gas Transportation Cockenzie Ltd, SP Gas Transportation Hatfield Limited, Caythorpe Gas Storage Ltd, Humbly Grove Energy Services Ltd, INOVYN Enterprise Ltd and WINGAS Storage UK Ltd.

We reviewed the returns submitted by DSOs relating to business independence, financial reporting and output performance. In that context, we were satisfied that the Gas Directive requirements relating to unbundling were being properly observed.

Storage and LNG System Operators
The Second and Third Packages established a number of unbundling requirements for storage operators as part of the mandatory third party access arrangements.

In GB, the default access regime for a gas storage facility is negotiated third party access (nTPA). Under nTPA, storage system operators cannot produce gas, except as an unintended consequence of storage activities. They also cannot supply, ship, or sell gas except for the efficient operation of the storage facility or of another storage facility. Legal and functional separation is required from any parent or associated undertakings involved in these activities. These provisions, in Articles 15-16[94] of the Gas Directive, were transposed in Section 8(R) of the Gas Act. Ofgem published the latest version of its guidance on compliance with nTPA requirements in September 2015.[95]

https://www.ofgem.gov.uk/publications-and-updates/certification-decision-gniuk-limited
[93] NGG in 2016 sold its majority stake in these gas distribution businesses
[94] A system storage operator shall be independent at least in terms of their legal form, organisation and decision making from other activities not relating to transmission, distribution and storage
[95] https://www.ofgem.gov.uk/publications-and-updates/guidance-regulatory-regime-gas-storage-facilities-great-britain-version-2

In GB, two storage facilities are subject to nTPA: Rough and Hornsea. Rough is owned and operated by Centrica Storage Limited. Hornsea is owned and operated by SSE Hornsea Limited. They must operate their respective storage facilities independently of the affiliates carrying out any of the above restricted activities. This includes establishing an independence programme to ensure non-discrimination against other parties, and the appropriate disclosure or use of information. In addition, the storage system operator must publish an annual report setting out compliance with the independence programme.

All other storage facilities (seven operational) in GB have been granted Minor Facilities Exemptions (MFEs) from nTPA. MFEs are granted on the basis that the facility is not economically and/or technically necessary for providing efficient access to the system for the operation of an efficient gas market. The nTPA unbundling requirements set out above do not apply to facilities with an MFE.

For LNG facilities, the default access regime under the Third Package is regulated Third Party Access (rTPA). Under rTPA, LNG system operators must keep their (financial) accounts separate from any other business. These provisions, contained in Article 31 of the Gas Directive, were transposed in section 19E(2)-(4) of the Gas Act. Ofgem published guidance on rTPA in April 2012.[96] All three LNG facilities in GB[97] have been granted an exemption from rTPA requirements under the Gas Act section 19(C).

3.1.2 Technical functioning

The technical functioning of the network is of great importance to ensure safe, secure and reliable gas supply for consumers. In this section, we report on our responsibilities and activities for gas balancing services, maintaining security and reliability standards, developing our transmission system, monitoring time taken to connect and repair, monitoring safeguard measures and reporting on the RES regulatory framework over the course of 2016, in the transmission and distribution networks.

We recently published the RIIO-GD1[98] and RIIO Gas Transmission[99] 2015-16 Annual Reports. These reports review the progress made by the relevant companies during the 2015-16 period of the RIIO price control and provide stakeholders with information of how the companies are performing against their obligations and incentives.

Balancing services
Under Article 41(6)(b) of the Gas Directive, regulators must fix or approve the methodologies used to calculate or establish the terms and conditions for the provision of balancing services. These balancing services must be the most economic and incentivise network users to balance their inputs and offtakes.

[96] https://www.ofgem.gov.uk/ofgem-publications/40393/guidance-regulated-third-party-access-regime-liquefied-natural-gas-facilities-gb.pdf.
[97] Isle of Grain, South Hook and Dragon LNG
[98] https://www.ofgem.gov.uk/publications-and-updates/riio-gas-distribution-annual-report-2015-16
[99] https://www.ofgem.gov.uk/publications-and-updates/riio-gas-transmission-annual-report-2015-16

NGG is the gas transmission System Operator (SO) responsible for balancing the system across GB. To do this, NGG buys and sells gas and procures associated services. It also provides information to market participants such as demand forecasts. NGG is obliged to perform its balancing roles economically and efficiently.

Balancing arrangements in GB are designed to provide gas shippers with strong commercial incentives to balance their positions. Market-based imbalance charges are the primary tool used by NGG to balance the system. Shippers who are not in balance at the end of a gas day incur imbalance charges, known as cash-out. The cash-out price is set when NGG buys or sells gas in the market. Rather than procure the entire system imbalance, NGG trades small volumes to set the cash-out price and incentivise shippers to balance their inputs and offtakes.

As part of our gas Significant Code Review, we found evidence that the gas market could benefit from a Demand-Side Response (DSR) mechanism for large consumers. This mechanism, implemented in October 2016, enables large consumers to offer to reduce their demand during the build up to a gas emergency, in return for payment.

Ofgem sets incentives on NGG to promote behaviours that improve the efficient operation of the system. These incentives cover areas such as residual balancing, demand forecasting, shrinkage and maintenance. The current incentives are in place until March 2018.

In 2016, we continued our monitoring of NGG's performance against these incentives and relevant licence conditions. This is detailed in the RIIO Gas Transmission Annual Report 2015-16.[100]

Security and reliability standards, quality of service and supply
Under Article 41(1)(h) of the Gas Directive we are required to monitor the compliance with, and review the past performance of network security and reliability rules for both the transmission and distribution networks. We also have an obligation to set and/or approve standards and requirements for quality of service and supply.

Gas quality is regulated through both the Gas Safety (Management) Regulations 1996 and the Gas (Calculation of Thermal Energy) Regulations 1996. These regulations set rules about the gas composition, calorific value and measurement standards to ensure the safety and quality of the supply.

Transmission
The long-term reliability standards that the National Transmission System (NTS) has to be planned and operated to are provided for by the gas transporter licence and are enforceable by Ofgem.

We enforce quality of service by:

- Requiring National Grid Gas to comply with standard special condition A9 of the gas transporter licence

[100] https://www.ofgem.gov.uk/publications-and-updates/riio-gas-transmission-annual-report-2015-16

- Monitoring the quality of service and supply to individual users as the standards are set out in the Uniform Network Code (UNC).

Distribution
Standard special licence condition D10 of the gas transporter licence for the distribution networks sets timescales within which Gas Distribution Network companies (GDNs) must provide connection services, attend/respond to gas emergencies and respond to telephone calls to its emergency services and enquiry service obligations telephone line. GDNs must provide services within these timescales at least 90 or in some cases 97 per cent of the time (dependent on the obligation) in order to comply with their licence obligations. The guaranteed standards of performance also require GDNs to meet expected levels of service or pay customers compensation if they fail.

We monitor quality of service by:

- Requiring GDNs to comply with and monitor performance against standard special licence condition D10 – quality of service standards of the gas distribution licence

- Monitoring GDN performance against guaranteed standards of performance in the Gas (Standards of Performance) Regulations 2005, and standard special licence condition D10.

Monitoring time taken to connect and repair
Article 41(1)(m) of the Gas Directive requires regulatory authorities to monitor the time taken by transmission and distribution system operators to make connections and repairs. We do this by requiring the GDNs to report on their performance in this regard. In the following paragraphs, we report how we have monitored this for transmission and distribution system operators during 2016.

Transmission
The Uniform Network Code (UNC) governs connections to the National Transmission System. Connections to the NTS are infrequent, and for major pipeline developments can take many years. The UNC requires NGG to provide quarterly data on connections agreements. NGG has published this data for its 2016 quarterly reporting periods under 'Connection Offer Performance Reports'.[101]

Distribution
We set Guaranteed Standards of Performance (GSOP), which the eight Gas Distribution Networks (GDNs) must meet.[102] The GDNs must meet the standards at least 90% of the time. They all achieved this in 2015-16. The performance of the eight GDNs is summarised in Appendix 6 of our price control annual report.[103]

[101] http://www2.nationalgrid.com/uk/services/gas-transmission-connections/connect/performance-reports/
[102] https://www.ofgem.gov.uk/publications-and-updates/direction-modification-riio-gd1-price-control-regulatory-instructions-and-guidance-version-3-0
[103] https://www.ofgem.gov.uk/publications-and-updates/riio-gas-distribution-annual-report-2015-16

Monitoring access to storage, linepack and other ancillary services
Under Article 41(1)(n) of the Gas Directive, regulators are required to monitor and review the access conditions to storage, linepack (the storage of gas by compression in gas transmission and distribution systems) and other ancillary services. In the GB gas market, the default regime is for all storage facilities to offer nTPA unless the facility has been granted an exemption. Key requirements for storage facilities are:

- To be legally unbundled from related undertakings
- To offer access to third parties on non-discriminatory terms.

Ofgem published the latest version of its guidance on compliance with nTPA requirements in September 2015.[104]

National Grid is required by its licence to procure Operating Margins on an annual basis as an ancillary service. The Operating Margins service is used to maintain system pressures in the period before other system management services become effective (eg national or locational balancing actions). Ofgem assesses the tender process and carries out a test to ensure the tender is competitive.

Monitoring correct application of criteria that determine model of access to storage
Under the Article 41(1)(s) of the Gas Directive, regulators must monitor the correct application of the criteria that determine whether a storage facility falls under negotiated or regulated access. As noted above, the GB default regime for all storage facilities is to offer nTPA unless the facility has been granted an exemption.

Ofgem grants a Minor Facilities Exemption (MFE) where we are satisfied that access to the storage facility by other persons is not technically or economically necessary for the operation of an efficient gas market. The owner of a storage facility may apply to Ofgem for such an exemption, and Ofgem may revoke an exemption if the criteria are no longer met. More details of our approach are set out in an open letter.[105]

Monitoring safeguard measures
Under Article 41(1)(t) of the Gas Directive we are also required to monitor the implementation of safeguard measures. These will be used in the event of a sudden crisis in the energy market as referred to in Article 46 of the Gas Directive. Article 46 is taken forward by and further specified in Articles 10 (6) and (7) of the EU Gas Security of Supply Regulation (Regulation (EU) No. 994/2010). As such, under Article 10 of the Gas Security of Supply Regulation, the competent authority (in the case of GB this is the Department for Business, Energy and Industrial Strategy (BEIS)) is required to prepare an emergency plan that outlines the action that it intends to take in an emergency.

[104] https://www.ofgem.gov.uk/publications-and-updates/guidance-regulatory-regime-gas-storage-facilities-great-britain-version-2
[105] https://www.ofgem.gov.uk/publications-and-updates/gas-storage-minor-facility-exemptions-open-letter

In December 2016, BEIS updated the 'National Preventive Action Plan: Gas',[106] which describes the arrangements established between the gas industry, BEIS, and the European Commission for the safe and effective management of gas supply emergencies. Ofgem provided comments to BEIS on the National Preventive Action Plan throughout the drafting process, and we are comfortable that the appropriate safeguard measures have been implemented. The next update of the 'National Preventive Action Plan: Gas' is scheduled for 2018.

3.1.3 Network and LNG tariffs for connection and access

Under Article 41(1)(a), 41(6)(a), 41(8), 41(10) and 41(12) of the Gas Directive, NRAs are required to fix or approve transmission or distribution tariffs or their methodologies. Here we report on our activities surrounding the regulation of tariffs and network charges (for transmission and distribution) during 2016.

NGG is the sole owner and operator of the GB gas NTS. There are eight GB gas distribution networks (GDNs). We determine the revenues that both NGG and the GDNs can collect from users of the NTS and GDN via network charges at the price control review. The current gas transmission and distribution price controls are based on the RIIO model (RIIO-T1[107] and RIIO-GD1[108]) and began on 1 April 2013, running until 31 March 2021.

Following an assessment, we establish cost allowances and performance targets that form the basis of the price control and incentive framework. Included in these arrangements is an incentive that allows allowed revenue to increase in response to user signals for new capacity. Together, these elements determine the total amount of revenue (the 'allowed revenue') that NGG and the GDNs may earn in each year. All are required by the regulatory regime to set charges for use of their networks to comply with the limits on allowed revenue that have been set. Should more or less than the permitted revenue be earned in any formula year, then a compensating adjustment is made in the following year.

Transmission
Users of the gas National Transmission System (NTS) are subject to three main elements of transmission charges:

- Transmission Owner (TO) entry charges
- TO exit charges
- System Operator (SO) charges.

TO charges are for the provision and maintenance of transmission network assets. NGG recovers its TO allowed revenue on the basis of TO entry and exit capacity charges, and TO entry and exit commodity charges (charges based on actual gas flows), with commodity charges being used to make up any forecast shortfall in

[106] https://www.gov.uk/Government/publications/national-preventive-action-plan-gas
[107] https://www.ofgem.gov.uk/network-regulation-%E2%80%93-riio-model/riio-t1-price-control
[108] https://www.ofgem.gov.uk/network-regulation-%E2%80%93-riio-model/riio-gd1-price-control

collected revenue versus target revenue. NGG collects its SO allowed revenue via SO commodity charges which are levied on the basis of gas flows at entry and exit. SO charges recover costs incurred by the SO in its day-to-day operation of the NTS.

Connection charges are levied on new connections to the NTS and reflect the costs incurred by NGG in providing any assets required to connect a user to the NTS. These connection costs are not determined by the price control review.

Under its licence, NGG is obliged to develop and maintain a methodology for determining NTS charges and must comply with these objectives: that the methodology results in charges that reflect the costs incurred by NGG in its transportation business; that it facilitates effective competition between gas shippers and between gas suppliers; that it takes account of developments in the gas transportation business; and that it is in compliance with the Gas Regulation (Regulation 715/2009) and legally binding decisions of the European Commission and/or the Agency for the Cooperation of Energy Regulators (ACER).

We have approved NGG's charging methodology. Since it was implemented, the charging methodology has been incorporated into the contractual framework between GB gas network users and operators, the UNC.[109] This means that modification proposals to the charging methodology are subject to the governance procedures of the UNC. Consequently, any UNC party can raise modification proposals. Implementation of charging methodology modification proposals is subject to approval by us, and whether we think the proposed methodology changes better meet the licence objectives above. Self-governance provisions exist within the UNC governance procedures to allow low-impact modifications to be implemented without our approval. A proposal must meet certain criteria in the licence to be classified as self-governance.

We do not approve the network charges levied, only the charging methodology used to determine them. NGG is obliged to give 150 days' notice of proposed changes to the level of charges, and two months' final notice of actual changes. Subject to the methodology, TO entry and exit capacity charges are levied on all network users, including storage sites, LNG terminals, and beach terminals, in a non-discriminatory way. TO and SO commodity charges are not levied on gas storage users as it is not cost-reflective to do so. NGG is also required to submit a report each year to us, which notes developments in the gas transmission charging methodology in the previous formula year, and outlines the further changes that may be necessary to better comply with objectives.[110] In 2016, no significant changes were made to the gas transmission charging methodology.

The current charging regime was designed to promote the effective use of the network and facilitate effective competition. Significant and ongoing structural changes to the GB gas market since implementation, and new EU legislation to harmonise transmission charges across member states, mean it is necessary to consider changes to the charging regime to further the interests of current and future consumers.

[109] Published on the Joint Office of Gas Transporters website
[110] http://www2.nationalgrid.com/uk/Industry-information/System-charges/Gas-transmission/Forecasts/

In 2016, the Joint Office of Transporters, the entity that administers the UNC, commenced a Gas Charging Review (GCR), following the publication of an open letter in November 2015[111] confirming Ofgem's policy preference of introducing floating capacity charges and reducing the discounts applied to short-term capacity products at all entry points.

We further clarified our policy preferences in an open letter in February 2017[112], after Regulation (EU) 2017/460 was passed on 16 March 2017, which established a network code on harmonised transmission tariff structures for gas (TAR NC). This letter set out our preference, given TAR NC, for:

- introducing floating prices for both NTS entry and exit capacity
- stopping commodity charges for the purpose of managing over- and under-recovery of transmission services revenue at all points
- setting the price of interruptible capacity (including off-peak capacity) at all entry and exit points to reflect the probability of interruption
- reducing reserve price discounts for short-term capacity products at all NTS entry and exit points.

We anticipate that an outcome of the GCR will be modification proposals to the charging methodology by NGG and other industry participants during 2017. We will then consider the proposals against the relevant licence objectives, with successful modification proposals forming part of the consultations required by TAR NC. We aim to approve successful proposals before the end of Q1 2019.

Distribution
The GDNs recover their allowed revenues via a combination of Local Distribution Zones (LDZ) capacity and commodity charges and an LDZ customer charge. The GDNs are obliged to give 150 days' notice of proposed changes to the level of these charges, and two months' final notice for actual changes.

In common with NGG, under the licence the GDNs are obliged to develop and maintain a methodology that sets out how LDZ charges are determined and which complies with the same NTS charging methodology objectives above. The licensee is also not allowed to show preference for anyone who operates (or wants to operate) a pipeline that connects to the system that the licence relates to. These objectives also apply to the GDNs' connection charging methodology that they are also obliged to maintain under the licence.

We do not approve the LDZ charges levied, but only the charging methodology used to determine them. The GDN charging methodologies have also been incorporated into the UNC and as such, any modification proposals to the charging methodologies are subject to the UNC governance procedures. The UNC contains provisions for

[111] https://www.ofgem.gov.uk/publications-and-updates/gas-transmission-charging-review-confirmation-policy-view-and-next-steps
[112] https://www.ofgem.gov.uk/publications-and-updates/open-letter-european-union-network-code-harmonised-transmission-tariff-structures-gas-tar-nc

stakeholders to input into the process too. This is done either by participating in industry working groups, or through the more formalised public consultation processes. We consider any inputs received in reaching a decision on methodologies or tariffs. Stakeholders have the right to request a judicial review of any such decision and the right of appeal to the CMA on modifications to industry codes.

LNG facilities

The three[113] Liquefied Natural Gas (LNG) facilities currently operating in GB are exempt from third party access, and so the provisions of Articles 41(10) and 41(6) of the Gas Directive do not apply to them.

Any exempted LNG facility is required to operate under the terms and conditions of its exemption. Commercial terms and conditions are agreed between the facility operator and its primary capacity holders. However, if we believe terms and conditions published[114] by LNG operators are discriminatory, we are able take actions under the enforcement provisions in the Gas Act 1986, in particular section 28.

Prevention of cross-subsidies

Each NRA, under Article 41(1)(f) of the Gas Directive, is required to ensure that there are no cross-subsidies between transmission, distribution, storage, LNG and supply activities.

In GB, licensed gas transmission operators and DNOs are subject to licence conditions prohibiting regulated businesses from giving cross-subsidies to, or receiving cross-subsidies from, related undertakings. The regular information submissions that licensees are required to make, principally those relating to their price control arrangements, allow us to assess whether any risk or incidence of cross-subsidisation has arisen.[115]

Gas distribution licences include a requirement for independent auditors to carry out a range of procedures, agreed with us, to provide assurance that obligations to avoid discrimination and cross-subsidy are being respected. We review the auditors' reports and raise supplementary questions as appropriate.

One area we will continue to monitor is the interpretation and application of requirements for financial transactions to be completed at arm's length and on normal commercial terms. This is especially relevant for the terms of loans made to or by the relevant licensee. For gas distribution licensees, we also monitor the risk of licensee-owned freehold sites being sold to related parties at insufficient value. This particularly relates to gasholder sites in major cities, where land value for development is especially high at present.

Other key risk areas we take into account are:

[113] Isle of Grain, South Hook and Dragon LNG
[114] Under section 19D Gas Act 1986
[115] The prohibition on cross subsidies is prescribed by: Internal Markets Electricity Directive (IMED) 2009/72/EC at Article 31(3); the Internal Markets in Natural Gas Directive 2009/73/EC at Article 31(3); Standard Licence Condition 4 of the Electricity Distribution Licence; Standard Special Condition A35 of the Gas Transporter Licence (Standard Condition 41 for independent gas transporters); and Standard Condition B5 of the Electricity Transmission Licence (Standard Condition E6 for offshore transmission network operators)

- the basis of recharging for services provided at a group level
- the justification for any management fees charged to the licensee by related parties
- the interest rates charged on intra-group loans affecting the licensee.

Regulated and negotiated access to storage
Under article 41(1)(s) of the Gas Directive, regulators must monitor the correct application of the criteria that determine whether a storage facility falls under negotiated or regulated access. In the GB gas market, the default regime is for all storage facilities to offer nTPA unless the facility has been granted an exemption. Key requirements for storage facilities are:

- to be legally unbundled from related undertakings if the related undertaking does certain other activities eg supplies, sells or ships gas (more information on unbundling is in **Section 3.1.1**)
- to offer access to third parties on non-discriminatory terms.

Ofgem grants an MFE if we are satisfied that access to the storage facility by other people is not technically or economically necessary for the operation of an efficient gas market. The owner of a storage facility may apply to Ofgem for such an exemption and Ofgem may revoke an exemption if the criteria are no longer met. More details of our approach are in an open letter.[116]

3.1.4 Cross-border issues

In order to reach a fully integrated European energy market, it is vital that NRAs coordinate effectively on cross-border issues. In this section, we report on our access to cross-border infrastructure, LNG terminals and storage facilities, our investment plans and cooperation with other NRAs during 2016.

Access to cross-border infrastructure including allocation and congestion management
Under Article 41(6)(c), 41(8) and 41(9) of the Gas Directive, NRAs are responsible for: fixing or approving methodologies used to calculate or establish the terms and conditions used for access to cross-border infrastructures, ensuring transmission and distribution system operators are granted appropriate incentives, monitoring congestion management of national gas transmission networks including interconnectors and the implementation of congestion management rules and capacity allocation mechanisms.

The GB gas system is interconnected with Belgium, the Netherlands, Northern Ireland and the Republic of Ireland. These interconnections play an important role in

[116] https://www.ofgem.gov.uk/ofgem-publications/41204/storage-exemptions-open-letter-09-publication.pdf

gas security of supply by allowing gas to flow to where it is valued most and allowing for a more integrated European gas market.

The paragraphs below give an overview of the arrangements on each of the interconnectors. Each interconnector is licensed by Ofgem and must submit their access rules and charging methodologies to us for approval.

IUK
The interconnector with Belgium, Interconnector UK Limited (IUK) became operational in 1998. IUK can physically flow gas in both directions and has an import capacity of 25.5billion cubic metres (bcm)/year and an export capacity of 20bcm/year.

IUK has sold all of its capacity in long-term contracts until 2018. IUK has also made post-2018 capacity available through auctions consistent with the requirements of Commission Regulation (EU) No 984/2013 establishing a network code on capacity allocation mechanisms in gas transmission systems (CAM NC).

BBL
Balgzand Bacton Leiding Company (BBL) was established in July 2004 to design, construct and operate an interconnector to transport gas from the Netherlands (Balgzand) to GB (Bacton). Transportation of gas started in December 2006, with a total capacity of ~15bcm/year. In April 2011, a fourth compressor was installed, increasing capacity by ~3bcm/year to 18bcm/year.

BBL has an exemption from the Second Package requirements and has certain licence conditions switched off relating to third party access and approval of charging methodologies for 80% of its forward capacity.[117]

Moffat
The Moffat interconnector with the Republic of Ireland became operational in 1993 and is a physically uni-directional interconnector. The capacity available to exit the NTS at Moffat is 32.8 mcm/day. In December 2011, a virtual reverse flow service was introduced. This allows shippers to nominate flows from Ireland to GB on an interruptible basis. The maximum entry capacity at Moffat is 31.1 mcm/day.

From 1996, a branch-off from the Moffat pipeline at Twynholm in Scotland became operational to flow gas from GB to Northern Ireland. This is also known as the Scotland to Northern Ireland Pipeline. In February 2013, a virtual reverse flow service was introduced to nominate flows from Northern Ireland to GB.

Access to LNG terminals and storage facilities
In GB, we do not have a separate licensing regime for LNG system operators and they are regulated through requirements set out in the Gas Act. All LNG system operators currently have an exemption from third party access and therefore Article 41(10) does not apply to them.[118] However, in the event we believe that the terms and conditions published by owners of LNG import or export facilities are

[117] Standard conditions 10,11 and 11A of the Gas Interconnector Licence
[118] See Article 41(10) of the Gas Directive 2009/73/EC and: https://www.ofgem.gov.uk/gas/wholesale-market/market-efficiency-review-and-reform/third-party-access-exemptions

discriminatory, we are able to take action under the enforcement provisions in the Gas Act - in particular section 28.

Storage is also a non-licensed activity in GB and is regulated pursuant to the Gas Act provisions under an nTPA regime, which itself derives from the Gas Directive, part of the Third Package. Under the nTPA regime, we do not have the responsibility for approving tariffs or charging methodologies for storage facilities. Instead, it is up to the storage system operators to ensure that their tariffs meet the requirements of the Gas Regulation. We have the power to proactively monitor storage system operators' compliance with the Gas Regulation and can take enforcement action if we believe any conditions relating to a grant of storage rights by owners of a gas storage facility are discriminatory.[119]

The Gas Directive gives the right to any party affected to submit a complaint for review by the NRA regarding a decision on methodologies used or concerning the proposed tariffs or methodologies. Changes have been made to the Gas Act to extend the scope of the dispute resolution mechanism in order to cover disputes arising from complaints to the Authority against owners of gas storage facilities and owners of LNG import or export facilities.[120] We did not receive any complaints in 2016.

Implementation of the Third Package

The Third Package introduced new responsibilities for regulatory authorities regarding the rules for granting access to cross-border gas infrastructures.[121] In GB, changes were made to the standard conditions of the Gas Interconnectors Licence[122] to take full account of these new responsibilities. In 2016, there were a number of proposals from TSOs to help implement European network codes resulting from the Third Package.

On 7 March 2016, IUK submitted proposed changes to its interconnection agreement with NGG in accordance with Standard Licence Condition (SLC) 3 of the gas interconnector licence. These changes were proposed in order to comply with Commission Regulation (EU) 2015/703 establishing a network code on interoperability and data exchange rules (INT NC) and were approved on 20 April 2016.[123]

On 20 October 2016, Premier Transmission Limited (PTL)[124] submitted access rules to Ofgem for approval, after a review of PTL's proposals we deemed them to be transparent, non-discriminatory, objective and compliant with the relevant legally binding decisions of the European Commission and/or ACER such as CAM NC, Commission Decision (EU) 2015/715 on conditions for access to the natural gas transmission networks (the Network Code on Congestion Management Procedures or CMP NC) and Commission Regulation (EU) No 312/2014 establishing a network code

[119] See section 19B of the Gas Act 1986
[120] Regulation 28 amends sections 27B-27D of the Gas Act
[121] See Articles 41(6)(c), 41(8), 41(9) and 41(10) of the Gas Directive 2009/73/EC
[122] See standard conditions 10, 11 and 11A of the Gas Interconnector License
[123] https://www.ofgem.gov.uk/ofgem-publications/100644.
[124] PTL are the Transmission System Operator for the Scotland to Northern Ireland Pipeline

on gas balancing of Transmission networks (BAL NC). We published our decision approving PTL's access rules on 20 January 2017.[125]

NGG proposed the UNC modification 597 in October 2016 to facilitate compliance with the amendment to CAM NC. We approved the modification on the basis that it will better facilitate achieving the relevant objectives of the UNC[126]. A self-governance modification, UNC modification 598S[127], was also approved by the UNC Modification Panel and implemented in tandem with UNC modification 597 to help facilitate compliance with the amendment to CAM NC. These modifications were both implemented with effect from 6 April 2017, the date the amended CAM NC entered into force.

We expect further UNC modification proposals from NGG in 2017 and 2018 in order to facilitate compliance with TAR NC.

Cooperation
Article 41 (1)(c) of the Gas Directive requires us to cooperate on cross-border issues with the other NRAs concerned and with ACER. These cross-border issues include the integration of national gas markets, jointly managed cross-border trade in gas and the allocation of cross-border capacity. Changes have been made to the Gas Act 1986 to reflect this.[128]

Examples of cooperation
In 2016, we continued to cooperate with neighbouring NRAs over a number of issues concerning interconnectors and full implementation of the European Network Codes.

We have also continued our cooperation at a European level in 2016, with Ofgem chairing CEER's Gas Storage Task Force, and co-chairing ACER's Interoperability Task Force until late 2016.

The Gas Storage Task Force oversaw the publication of a CEER report on barriers for gas storage product development, and responded to several European Commission consultations.

The Interoperability Task Force focused primarily on gas quality standards, in close cooperation with other national regulators and the European Commission.

Monitoring investment plans and assessment of consistency with Community wide network development plan
We set price controls for NGG and as part of this we review the company's business plans. We explicitly require the business plans to consider the interaction with wider European developments. We also require the company to consider the various uncertainties across the period for which the control is set and beyond.

[125] https://www.ofgem.gov.uk/publications-and-updates/approval-premier-transmission-limited-s-access-rules
[126] https://www.ofgem.gov.uk/publications-and-updates/uniform-network-code-unc-597-rules-release-incremental-capacity-interconnection-points
[127] http://www.gasgovernance.co.uk/0598
[128] See Regulation 34 of the Electricity and Gas (Internal Market) Regulations 2011, which inserts section 4D into the Gas Act 1986

In practice, major changes to the gas transmission network including those related to community-wide network developments will arise through the commercial incremental entry and exit arrangements that we will be aware of and involved at major stages of development, eg setting revenue drivers to make sure that National Grid receives an appropriate revenue adjustment. We will therefore have sufficient information to fulfil our duty under Article 41(1)(g).

We have established a monitoring approach to review ongoing performance against the outputs determined in the price control.

3.1.5 Compliance

Ensuring that market participants comply with mandatory obligations is essential for a well-functioning energy market. Below, we report on our powers to enforce ACER's and European Commission's decisions, as well as the investigations that have concluded during 2016 relating to existing legislation.

Compliance of regulatory authorities with binding decisions of the Agency and the European Commission, and with the Guidelines (Article 43)
Under the Third Package, we are required to ensure compliance with and implement binding decisions of ACER and of the European Commission and with the Guidelines. In order to enable Ofgem to do this, s.4C the Gas Act provides that the Authority has to carry out its functions under Part I of that Act in the manner that it considers is best calculated to implement or ensure compliance with any binding decision of ACER or of the European Commission.

Compliance of transmission and distribution companies, system owners and natural gas undertakings with relevant Community legislation, including cross-border issues
We have powers to investigate compliance of transmission and distribution companies, system owners and natural gas undertakings with relevant Community legislation. If a breach is found, we have powers to impose penalties. As a condition of certification, Transmission System Operators (TSOs) are obliged to notify the Authority if they know (or reasonably should know) of an event or circumstances which has occurred, or is likely to occur, that may affect their eligibility for certification and must provide an annual declaration (approved by a resolution of the TSO's board of directors) in this regard. The Authority also has powers to require information to be provided by the TSO for monitoring the TSO's certification.

IUK and BBL are obliged to give quarterly reports to the Authority on progress in complying with conditions set out in the Authority's final certification decision.

Ofgem, in close cooperation with other relevant NRAs, ensures TSOs are compliant with Network Codes and Guidelines (as required by GB TSO licences) by monitoring GB TSO business rules, standard transportation agreements and any other relevant operational rules and agreements. As with certification, we require TSOs to notify the Authority if they know (or reasonably should know) of an event or circumstances that have occurred, or is likely to occur, that may affect their compliance with the legislative framework.

On 2 December 2016, IUK proposed modifications to its charging methodology and access rules. On 6 February 2017 we issued a decision letter[129] rejecting the proposed changes on the grounds that they were not compliant with CAM NC.

Update on Ofgem's enforcement investigations
We have not had any investigations in the reporting period relating solely to gas provisions. Please refer to **Section 2.1.5** to view investigations relating to cross-cutting (electricity and gas) undertakings.

3.2 Promoting competition

In this chapter, we report on the current state of the wholesale and retail gas markets in GB and the main changes in 2016, as well as our monitoring activities in both the wholesale and retail gas markets during the past year. A large amount of Ofgem's engagement with the retail energy market does not distinguish between electricity and gas sectors. Where Ofgem does assess the electricity and gas retail sectors separately, this is noted and dealt with separately.

3.2.1 Wholesale markets

The following section is an overview of our monitoring under Article 37(1)(i), (j), (k), (l), (u) and Article 40, and the main developments in the wholesale gas market in GB during 2016. Detailed information is in the following sections, and summarised below:

- Supply and demand were healthy for most of the year, putting downward pressure on gas prices
- Average day-ahead gas prices in 2016 were down 19% year-on-year
- A combination of near-term fundamentals and relatively low oil prices contributed to falls across the gas forward curve over the year
- Traded volumes decreased marginally in 2016 to 1,826bcm, with annual churn falling from 23 to 22
- Similarly to last year, futures volumes accounted for 51% of total annual traded volume
- LNG imports to GB were down 20% year-on-year, to 10.98bcm in 2016
- In 2016, the UK imported 47.4bcm of gas and exported 11.0bcm, making it a net importer for 36.3bcm.

Policy developments in several areas of GB's wholesale gas market have continued throughout 2016. Some notable policy areas include:

[129] https://www.ofgem.gov.uk/publications-and-updates/decision-proposed-modifications-interconnector-uk-s-charging-methodology-and-access-rules

- Implementing a Demand-Side Response (DSR) mechanism for large consumers, as part of the Gas Significant Code Review
- Development and implementation of European Network Codes and Guidelines.

3.2.1.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

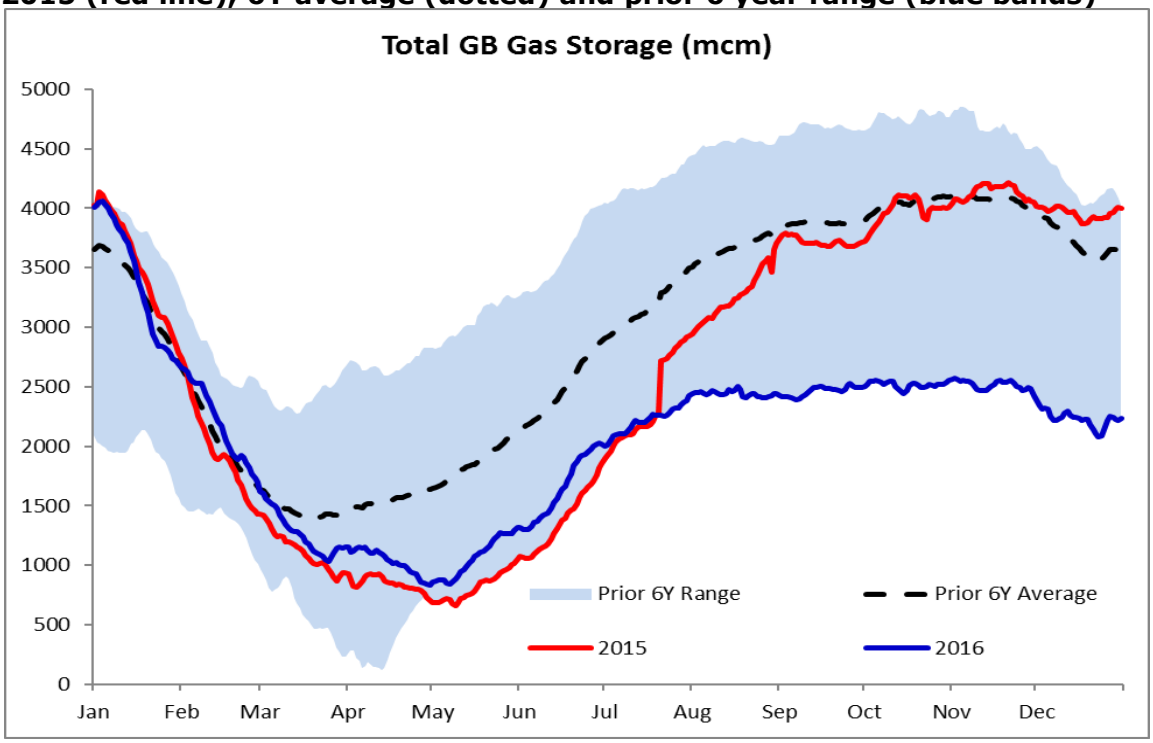
Prices
Wholesale gas prices in GB are compiled and made available to market participants by a number of independent pricing agencies, energy market brokers and via exchanges. Argus Media, ICIS Heren and Platts provide pricing based on reported OTC trades, made available to the market via a subscription service. In addition, financial data providers (such as Bloomberg Professional service) provide close to real-time energy broker pricing based on OTC trades.

In addition to a wide range of OTC pricing data, the Intercontinental (ICE) exchange also provides pricing data to the market, both through the 'On-the-day Commodity Market' (OCM) and through the ICE Futures market.

Fundamentals
A healthy supply and demand picture persisted through the year, with GB benefiting from a diverse gas supply from a range of sources.

Total GB storage stocks in 2016 were broadly lower than in 2015, due to outages at the long range storage facility Rough, although medium range storage responded with greater fill levels.

Figure 13: Total GB gas in storage during 2016 (blue line), compared with 2015 (red line), 6Y average (dotted) and prior 6 year range (blue bands)



Source: National Grid/Bloomberg/Ofgem

LNG flows fell year-on-year by 20% to 10.98bcm in 2016.[130] This was largely a result of price trends in the global LNG market and a decrease in imports from UK's biggest LNG supplier, Qatar.

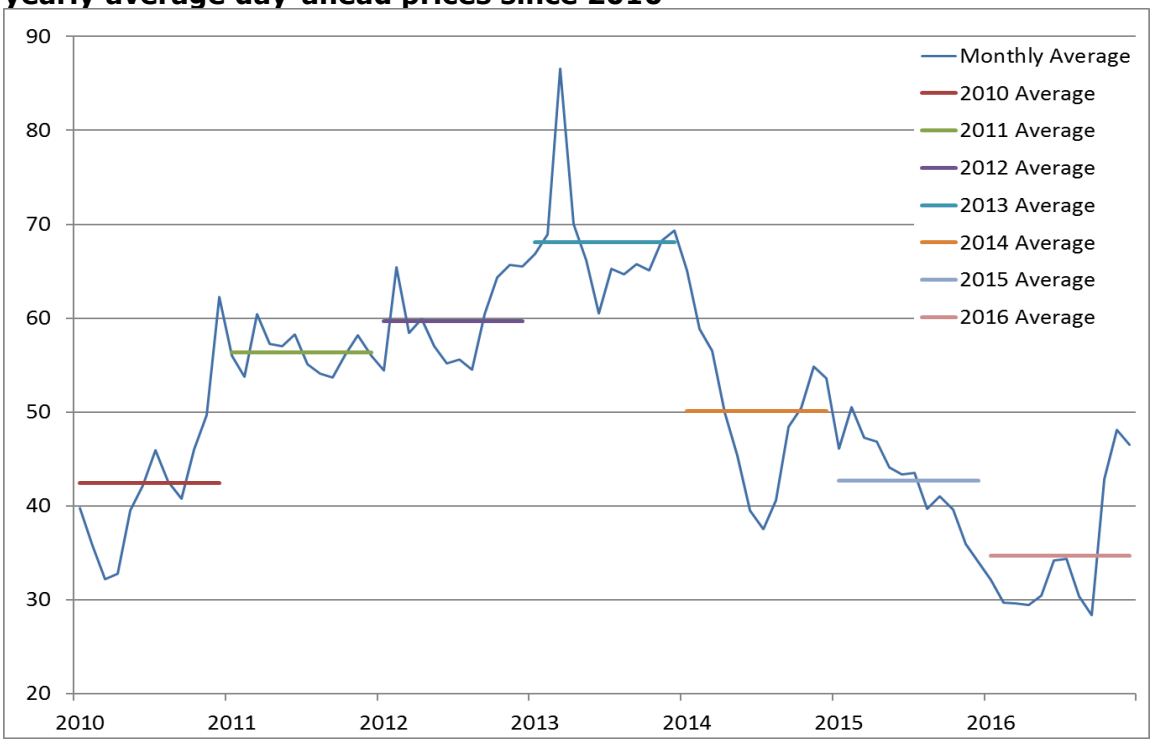
Total GB gas demand increased significantly in 2016, up 9.4bcm year-on-year to 81.1bcm/year, the highest demand figure since 2011. Of this increase, 7.5bcm was due to an increase in demand from gas-fired power stations as a result of less coal generation. Domestic consumption also increased by 1.3bcm, with colder temperatures than 2015 leading to increased heating demand.

Price developments

GB wholesale gas prices both for near-term and forward delivery generally fell throughout 2016 driven by a combination of healthy fundamentals and relatively low oil prices. The average day-ahead gas price in 2016 was the lowest since 2010 at 35p/therm,[131] compared with 50p/therm in 2014 (see Figure 1). Similarly, the average price of the forward contract for delivery of gas in winter 2017/18 decreased by 13% year-on-year.

[130] https://www.gov.uk/Government/statistics/gas-section-4-energy-trends.
[131] Price data from ICIS Energy.

Figure 14: Monthly average day-ahead NBP price (p/therm, light blue) and yearly average day-ahead prices since 2010



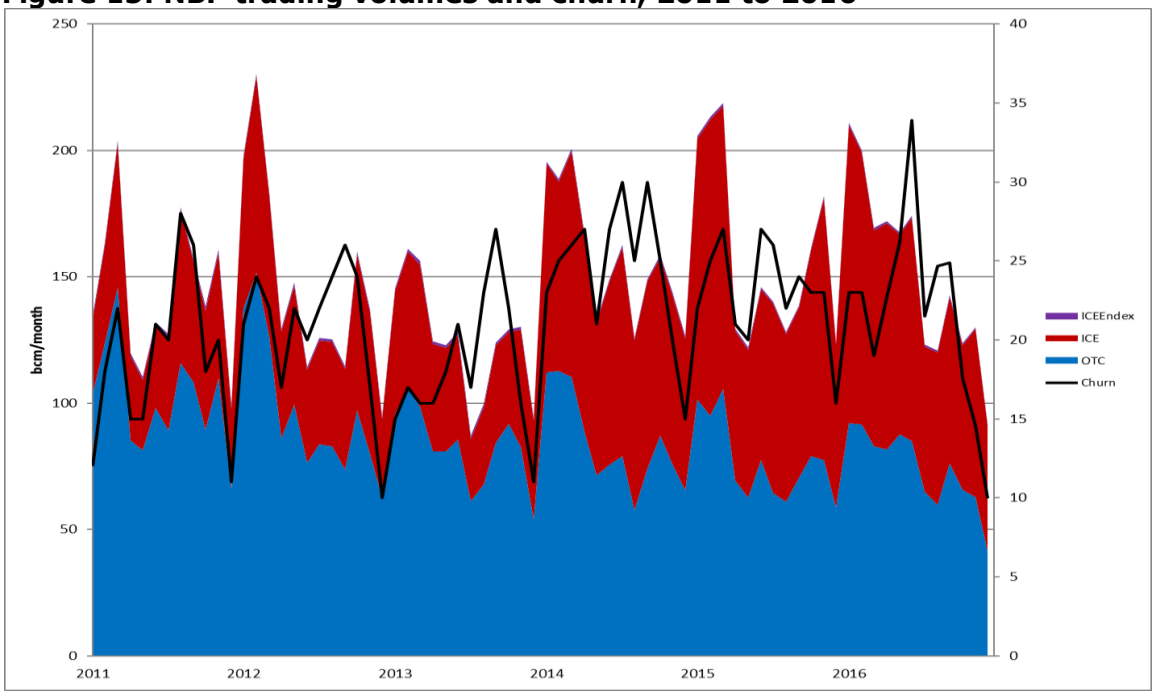
Source: ICIS Energy, Ofgem

Liquidity

Traded volumes and churn were fairly similar in 2016 compared with 2015.[132] Traded volumes decreased fractionally year-on-year to 1,826bcm, with annual average churn falling from 23 to 22. The share of total traded volume of GB gas on the exchange (ICE Futures Europe) remained stable at 51% in 2016.

[132] Based on data from London Energy Brokers' Association, ICE and National Grid plc.

Figure 15: NBP trading volumes and churn, 2011 to 2016



Source: Combined data from LEBA, ICE, ICE Endex, Bloomberg and National Grid plc

Transparency

REMIT
The REMIT legislation is a key tool in ensuring the transparency of prices within the wholesale energy market. For further information, please refer to **Section 2.2.1**.

Market opening and competition

Market integration
The GB gas market is well integrated with both European and global gas markets. IUK interconnector connects GB with Belgium, while BBL connects GB with the Netherlands. GB is connected to the LNG market through the Isle of Grain, South Hook and Dragon LNG terminals.

For IUK, each shipper has a share of the Forward Flow and Reverse Flow Standard Capacity. Historical analysis[133] indicates that IUK is price responsive to a relatively high level of efficiency. In the case of BBL, experience suggests that flows to GB may be becoming more flexible under normal operating conditions.

In 2016, the UK imported 47.4bcm of gas and exported 11.0bcm, making it a net importer for 36.3bcm. Pipeline imports from Norway, the Netherlands and Belgium increased by 18% year-on-year while LNG imports decreased by 21% since last year[134].

[133] https://www.ofgem.gov.uk/sites/default/files/docs/2013/07/interconnector-flows-further-analysis-next-steps-final_0.pdf
[134] Source: DECC Energy Trends 2017 Table ET 4.3

Market concentration
The GB market receives its gas supplies from a variety of different sources comprising indigenous supplies from the UK continental shelf, imports from Norway (via the Vesterled, Langeled and Tampen Link pipelines), imports from continental Europe (via IUK and BBL) and from the LNG market (via the above terminals). With this diversity of supply also comes a diversity of shippers on the wholesale market.

For the interconnectors, originally nine shippers acquired capacity rights in IUK for 20 years from 1 October 1998 through to 30 September 2018. Currently, 15 shippers hold primary capacity rights.[135] On BBL, there are currently 14 shippers.[136]

For LNG, six shippers (BP, Centrica, Engie, Uniper, Iberdrola and Sonatrach) import gas through the Isle of Grain.[137] The South Hook Terminal is owned by a UK joint venture of Qatar Petroleum (67.5%), ExxonMobil (24.15%) and Total (8.35%). Dragon LNG is equally owned by two shareholders, Shell and Petronas.

Rough is the UK's largest gas storage facility and the only long-range seasonal facility. In June 2017, Centrica Storage Limited (CSL) announced it was permanently closing, following technical issues and an extensive well testing programme, which began in 2015. CSL intends to apply to permanently end Rough's status as a storage facility, and to produce all recoverable cushion gas from the field, which is estimated at 183bcf.

3.2.2 Retail market

A large amount of Ofgem's engagement with the retail energy market does not distinguish between the electricity and gas sectors. Rather, the market is considered as a whole and all common themes are covered in **Section 2.2.2**. Where Ofgem does assess the electricity and gas retail markets separately, the information has been documented in **Sections 2.2.2** and **3.2.2** respectively.

3.2.2.1 Monitoring the level of prices and the effectiveness of market opening and competition

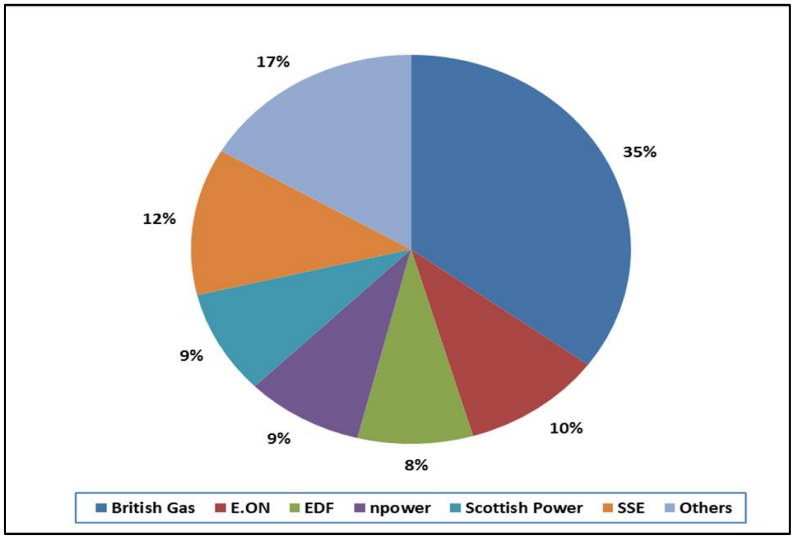
Market structure
Domestic market shares
Before the full introduction of competition in 1999, British Gas had a monopoly to supply all domestic gas consumers in GB. In the subsequent years, competition developed, especially from the former Public Electricity Suppliers (PESs). As a result, the majority of the domestic gas supply market is now accounted for by British Gas and by the five large vertically integrated electricity suppliers (which evolved from

[135] Shippers are listed on IUK's website (accessed in May 2017): http://www.interconnector.com/access-services/products-services/current-shippers/
[136] Shippers are listed on BBL's website (accessed in May 2017): http://www.bblcompany.com/commerce/shippers-list.
[137] Shippers are listed on the Isle of Grain's LNG terminal website (accessed in May 2017): http://grainlng.com/who-are-we/our-customers/

the PESs through mergers and acquisitions). There were also 43 small and medium-sized domestic gas suppliers in December 2016.

In December 2016, there were 21m domestic gas consumers in GB. As Figure 16 shows, the former incumbent suppliers accounted for 83% of gas supply to these customers, down from 87% in 2015. The combined market shares of these smaller suppliers has increased by 4 percentage points relative to December 2015, up to 17%.

Figure 16: GB domestic gas suppliers' market shares, December 2016



Source: Ofgem analysis of Xoserve gas meter point data

Non-domestic market shares[138]
The non-domestic gas market is characterised by a larger number of independent suppliers compared to the domestic gas market. In addition to the former incumbent suppliers, there are 49 independent suppliers, with varying focus and market share across two main segments: one for meter points with annual average consumption below 732,000 kWh (Small Annual Quantity, proxy for small business customers), and the other for meter points with annual average consumption above 732,000 kWh (Large Annual Quantity, proxy for large business customers).

As Table 8 shows, in the segment of small business customers British Gas is the leading supplier, as in the non-domestic market as a whole. Its market share has decreased by 2.6 percentage points relative to 2015. E.ON has seen a decrease of 1.7 percentage points in its market share, while SSE have had a 1.7 percentage point increase. Independent supplier Opus has increased its market share by 1.5 percentage points. The other suppliers' shares have remained relatively unchanged.

International producers have a strong presence in the segment of large business customers, the leading one being British Gas with 19.2% market share by volume,

[138] The data presented in this report is based on number of supply points. However, it should be noted that market shares by volume may show a different story as some suppliers may have a low number of supply points which have however very high volumes of energy supplied.

though it has lost 1.7 percentage points relative to December 2015. Gazprom has registered the largest increase, of around 1.4 percentage points. E.

33ON has also recorded a loss of over 1.2 percentage points. Npower, Total Gas and Power and Corona all saw small losses (below 1 percentage point).

Table 8: Gas suppliers' non-domestic market shares December 2016

Gas Supplier	Non Domestic Sites		
	<732MWh Annual Quantity	>732MWh Annual Quantity	All Non Domestic
British Gas	30.4%	19.2%	26.8%
E.ON	13.9%	7.5%	11.9%
Total Gas and Power	9.8%	18.1%	12.4%
Opus	7.9%	3.3%	6.4%
Contract Natural Gas Ltd	6.3%	4.2%	5.7%
Npower	6.1%	4.5%	5.6%
Gazprom	6.1%	11.1%	7.7%
Corona	5.6%	11.6%	7.5%
SSE	5.1%	8.6%	6.2%
Scottish Power	2.0%	1.2%	1.8%
Business Energy Solutions	1.7%	0.6%	1.4%
EDF	1.4%	1.3%	1.4%
Crown Energy	0.7%	1.1%	0.8%
Dong Energy	0.6%	2.2%	1.1%
Total Energy Gas Supplies	0.5%	0.4%	0.5%
Others	1.8%	5.1%	2.8%
Total	**100.0%**	**100.0%**	**100.0%**

Source: Ofgem analysis of Xoserve meter point data

Herfindahl–Hirschman Indices
The relevant Herfindahl–Hirschman Indices results (HHIs) for gas in December 2016 were as follows (2015 figures in brackets):

- domestic – 1,741 (1,902)
- non-domestic, small businesses – 1,457 (1,642)
- non-domestic, large businesses – 1,147 (1,220)

The HHI has fallen in 2016 relative to 2015. The domestic sector has moved from 'highly concentrated' to 'concentrated' as defined by the Competition and Markets Authority (CMA). The gas domestic, non-domestic small and large business segment are judged to be 'concentrated', being above the 1,000 threshold. The non-domestic large business segment has remained almost unchanged relative to 2015, while the non-domestic small business has fallen.

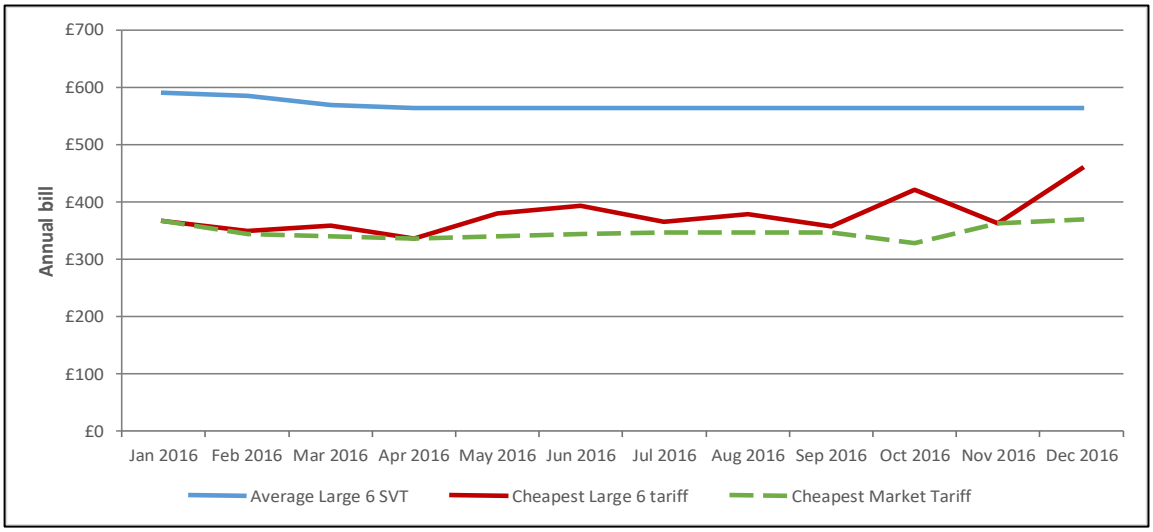
Prices for domestic consumers
Almost all final consumer prices in the GB retail energy markets are determined by market forces as all price controls on final consumer prices were lifted by April 2002. The prepayment segment is an exception, as a temporary price cap was introduced from 1 April 2017 as recommended by the CMA. In addition, there are elements of the final price that are attributable to the regulated aspects of the market, in

particular distribution, metering and transmission charges, which continue to be price controlled. There are also a number of other costs that influence how suppliers set retail gas prices including wholesale energy costs, and the costs of the UK government's environmental and social policies such as the Renewable Obligation and the Warm Home Discount, which can vary over time. As for electricity, Ofgem monitors domestic suppliers' gas prices across GB.

As in the electricity market, over the year suppliers continues to offer fixed tariff with most fixed deals being priced at a discount relative to variable tariffs. Again as the electricity market, smaller suppliers generally offered the cheapest fixed deals.

Figure 17 shows the change in domestic gas bills based on incumbent standard variable tariffs and cheapest tariffs across GB's gas market between January and December 2016. Over the year, the cheapest gas bill offered by the largest six suppliers increased by 25% (£92) in line with the increase in wholesale costs, while the cheapest tariff on the market increased by 1% (£2) driven by new competitive entrants to the market. In December 2016, the price differential between the cheapest tariff offered by the largest six suppliers and independent suppliers had increased to £89.

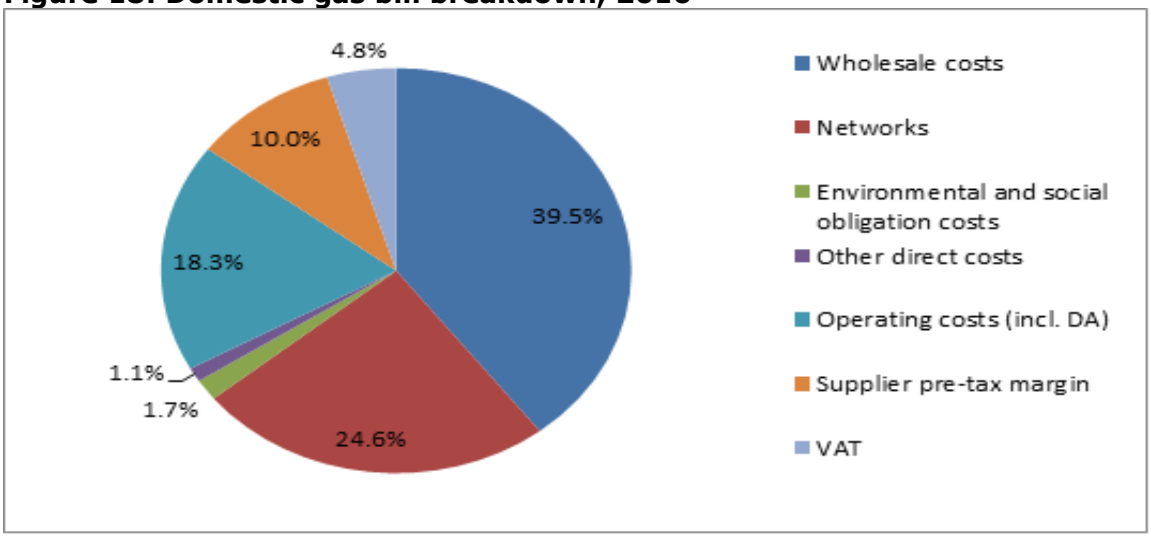
Figure 17: Domestic retail gas price levels, Jan – Dec 2016



Source: Ofgem analysis of Energylinx data
Notes: Price level is based on revised consumption level of 12,500 kWh per year

As well as monitoring domestic gas price levels, we also assess the extent to which particular costs have an impact on these bills. Suppliers face a range of costs that influence how they set retail electricity prices. These costs can vary within and between years, and include wholesale energy costs, the costs of UK government environmental and social policies, and transmission and distribution costs. Figure 18 shows the breakdown of an average gas bill for an average domestic customer of a large supplier.

Figure 18: Domestic gas bill breakdown, 2016



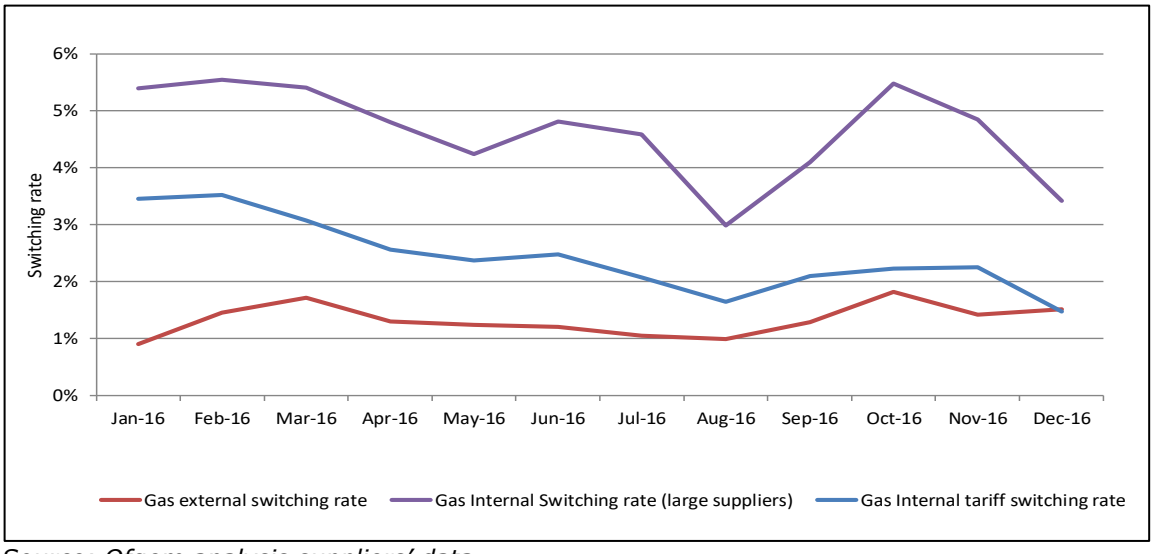
Source: Ofgem analysis of Consolidated Segmental Statements (CSS) published by the six large suppliers

Consumer engagement and experience

Domestic switching rates

In 2016, approximately 3.3m domestic consumers switched their gas supplier, equivalent to 275,000 per month. This is a switching rate of 15.9%, 2.8 percentage points higher than in 2015. We also saw an increase in switching away from the six largest suppliers. On average 47% of customers that switched during 2016 moved to smaller or medium suppliers.

Figure 19: External and internal gas switching rates in 2016



Source: Ofgem analysis suppliers' data

On the other hand, we noted a small decrease in customers switching internally to different tariffs, payment methods and type of account management with their existing supplier. The total internal switching rate (ie the purple line in Figure 19) has been approximately four times higher than the switching rate between suppliers

in 2016. Internal switching rates that only reflects an active tariff choice were approximately double the rate of external switching but converges towards the end of 2016.

The speed and reliability of switching is also important. In December 2016, the system average time to complete a switch was down to 17 days in gas (from 18 days in December 2015). Our consumer surveys are an additional source of information on the consumer switching experience.

Non-domestic switching rates
There has been a significant decrease of approximately 6 percentage points in the non-domestic gas switching rate.

3.2.2.2 Recommendations on supply prices, investigations and measures to promote effective competition

Ofgem's work in accordance with the above heading is cross-cutting, ie it applies to both the electricity and gas markets. As a result, it has been covered in the retail market overview in **Section 2.2.2.3**.

3.3 Security of Supply

Under Article 5 of the Gas Directive, Member States have to ensure the monitoring of security of supply issues.

In GB, no single body is responsible for ensuring security of supply; we rely on the market to do this. However, Government sets overall energy policy on energy security, Ofgem is responsible for regulating the market and National Grid as operator of GB gas system has responsibility for ensuring that supply meets demand each day.

In October 2016, we published our joint Statutory Security of Supply Report (SSSR)[139] alongside the government's Department for Business, Energy and Industrial Strategy (BEIS). This was part of an obligation[140] on government to report annually to Parliament on the availability of electricity and gas for meeting the reasonable demands of consumers in GB. The report concluded that GB's gas market has delivered security to date and is expected to continue to function well, with sufficient capacity to deliver to meet demand. The report noted that sufficient gas is available from a combination of domestic, regional and global gas markets and the GB gas system is robust to all but the most extreme and unlikely combinations of infrastructure and supply shocks.

[139] https://www.gov.uk/government/publications/statutory-security-of-supply-report-2015
[140] Under section 172 of the Energy Act 2004 as amended by section 80 of the Energy Act 2011.

4. Consumer protection and dispute settlement in electricity and gas

Chapter Summary

This chapter details our consumer protection and dispute settlement work in both the GB gas and electricity sectors during the reporting period. This includes developments in the domestic and non-domestic sectors and further information on smart metering and smarter markets, our consumer vulnerability strategy and protecting consumers.

4.1 Consumer protection

According to Articles 37(1)(n) of the Electricity Directive and 41(1)(o) of the Gas Directive, Ofgem must help to ensure that consumer protection measures are effective and enforced, especially as new technology enters the market. Here we report on the following aspects of current and future consumer protection during the reporting period: smart metering, access to consumption data how we protect vulnerable consumers.

Smart metering
Smart meters are able to record and export consumption data each half-hour, allowing consumers to be settled using this data. This could have a number of benefits for consumers:

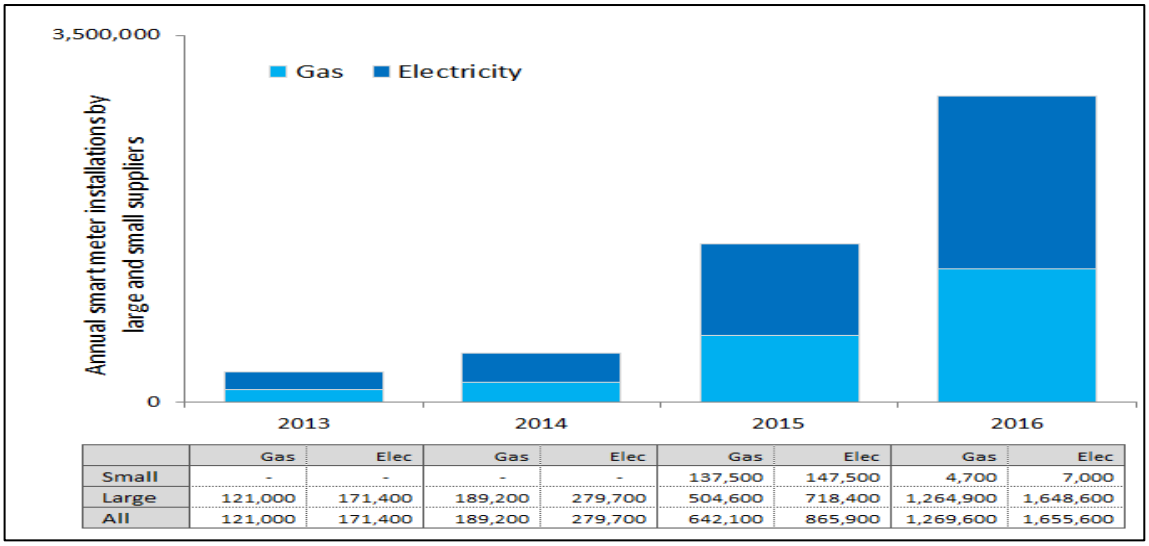
- make the settlement arrangements more efficient, reducing barriers to entry to the market, for example reducing credit/collateral requirements
- facilitate uptake of smart tariffs to incentivise consumers to shift load away from peak periods, reducing consumer bills
- promote innovation and competition in the energy market by facilitating demand-side response, flexibility and innovative business models
- shift demand away from system peak, helping to alleviate security of supply concerns and reducing the need for network reinforcement. This will deliver increasing benefits as the share of intermittent, inflexible and distributed generation grows
- allow suppliers to forecast demand more accurately, supporting competition and reducing costs.

The government has decided to implement the smart meter rollout through regulation and energy suppliers are leading the rollout. Licence conditions require

suppliers to take 'all reasonable steps' to ensure that smart metering systems are installed in homes and small businesses by the end of 2020.

From the start of the programme up until 31 December 2016, energy suppliers have reported installing an estimated total of circa 5.2 million smart meters across domestic properties in Great Britain – of which 2.2 million have been gas smart meters and 3 million have been electricity smart meters.

Figure 20: Annual domestic smart metering installation activity



	Gas	Elec	Gas	Elec	Gas	Elec	Gas	Elec
Small	-	-	-	-	137,500	147,500	4,700	7,000
Large	121,000	171,400	189,200	279,700	504,600	718,400	1,264,900	1,648,600
All	121,000	171,400	189,200	279,700	642,100	865,900	1,269,600	1,655,600

Source: Department for Business, Energy and Industrial Strategy (BEIS)

Ofgem continued throughout the reporting period to provide independent advice and expertise for the government's smart meter implementation programme. We now play a key role in monitoring and, where appropriate, enforcing compliance with the new regulatory obligations relating to smart meters to ensure that the interests of consumers remain protected during the transition to smart metering.

Regulating energy suppliers

1. **Advanced meter rollout**

   The deadline for rollout of advanced gas and electricity meters to larger non-domestic consumers was April 2014. By that time, only 75% of electricity meters and 86% of gas meters had been upgraded to 'advanced meters'. This outcome was disappointing and suppliers are continuing to install the advanced meters[141]. We are monitoring the progress of all suppliers in improving their April 2014 completion

[141] https://www.ofgem.gov.uk/ofgem-publications/89289/amropenlttrfinal.pdf

rate. Ofgem has closed the investigations against EON[142] and British Gas[143] regarding to their rollout performance.

2. Smart meter rollout

In October 2014, we published our decision that during the domestic smart meter rollout, suppliers must provide us with their plans for the rollout and set annual milestones, which are enforceable through the licence. We received larger suppliers' rollout plans with binding milestones in early 2016; and received progress reports in January 2017 together with amended forward plans from some suppliers.

Regulating the Data and Communications Company (DCC)
The Data and Communications Company (DCC) provides the centralised smart metering communications infrastructure across Great Britain to send and receive information from smart meters.

Ofgem monitored the DCC during 2016 to ensure it abided by its licence conditions. Our monitoring included annual ex post price control arrangements and the approval of DCC's charging statements. Our role is to ensure that DCC's costs are incurred economically and efficiently.

The majority of the DCC infrastructure went live on 8 November 2016. More functionality will be made available in Spring 2017. As DCC moves towards becoming operational, we are developing and implementing an Operational Performance Regime (OPR) and we published our proposals in November 2016[144].

The roll-out of smart metering has the potential to make retail energy markets work better for consumers. However, this will require reforms to the arrangements that govern how market participants interact with each other and consumers. We are continuing to progress work to deliver necessary reforms. Our work covers the change of supplier process, the electricity settlement process and consumer empowerment and protection.

Electricity settlement
The settlement process puts incentives on suppliers to match the electricity they buy in the wholesale market with their customers' demand in each half hour of the day. Currently the majority of consumers in GB are settled 'non-half-hourly' using estimates of when electricity is consumed based on a profile of the average consumer. This is because most sites do not have meters that can record consumption in each half-hour period.

[142] https://www.ofgem.gov.uk/publications-and-updates/investigation-e-s-compliance-its-obligations-under-electricity-supply-licence-standard-licence-condition-12
[143] https://www.ofgem.gov.uk/publications-and-updates/investigation-british-gas-compliance-its-obligations-under-electricity-supply-licence-standard-licence-condition-12
[144] https://www.ofgem.gov.uk/system/files/docs/2016/11/dcc_opr_final_proposals_0.pdf

To secure the benefits of the smart meter roll-out, half-hourly settlement is required.

In 2015, we agreed to take forward a project to reform the electricity settlement arrangements as smart meters are rolled out in GB. In 2017, the deadline to migrate medium and larger non-domestic consumers to half-hourly settlement passed on 1 April. We put in place changes to facilitate elective take-up of half-hourly settlement by suppliers including first-movers and innovative market participants. We also moved forward with our project on mandatory half hourly-settlement. This included consultation on our plans for proposed reforms. Our Forward Work Programme for 2017-18 outlined our commitment to take forward the policy and design phase of the project. The Electricity Settlement Reform Significant Code Review was launched in July 2017.[145]

Consumer empowerment and protection in a smart metering world (domestic and microbusiness consumers)
During the reporting period we implemented the decisions we made over winter 2015/2016[146] to ensure the regulatory arrangements empower and protect consumers in a market with widespread deployment of smart metering and the transition to it.

On back billing[147], our focus is protecting consumers by reducing their exposure and improving transparency over suppliers' smart back-billing policies. Currently, there is a voluntary industry code limiting back-billing duration where the supplier is at fault to 3 years for electricity and 4 years for gas customers. Most major microbusiness suppliers with a combined market share of over 90% have voluntarily introduced a one-year duration back-billing limit. However, Ofgem has been concerned with the consistency of back-billing policies across industry.

In March 2017 we published a letter launching a project to examine the regulatory framework governing back billing for consumers with both traditional and smart metering. Our minded-to position is to introduce new licence obligations to strengthen consumer protections in this area[148]. As part of this project we will consider whether, in any regulations we may introduce, a different back bill limit should apply to consumers with smart meters, or whether the limit should reduce over time for all types of meters to reflect the increasing proportion of smart meters. In the annex to this letter we published the back-billing time limits that suppliers are currently applying, thereby improving transparency.

On smart prepayment, we decided the best approach was to focus on monitoring. This is in line with our move to more principles-based regulation. We aim to get the

[145] https://www.ofgem.gov.uk/publications-and-updates/electricity-settlement-reform-significant-code-review-launch-statement-revised-timetable-and-request-applications-membership-target-operating-model-design-working-group
[146] https://www.ofgem.gov.uk/system/files/docs/2016/03/smart_prepayment_for_a_smarter_market_-_final_0.pdf
https://www.ofgem.gov.uk/system/files/docs/2016/03/smart_billing_for_a_smarter_market_-_final.pdf
[147] A back-bill is a request for payment issued to a customer for previously unbilled or incorrectly billed consumption. Back-bills can cause significant consumer detriment. They represent unexpected charges that they had not budgeted for and can cause cash flow problems
[148] https://www.ofgem.gov.uk/system/files/docs/2017/04/open_letter_backbilling_new_project.pdf

balance right between allowing innovation and ensuring the right protection. Monitoring supports this approach by sending the right signals to the industry and enabling us to stay up-to-date with market developments so we can act if and where appropriate. In August 2016 we added 18 new data points to Social Obligation Reporting that will give us the insight we require.[149] Suppliers started reporting against these data points in 2017 and we are actively monitoring the data returned to ensure suppliers are supporting smart prepayment customers.

Ensuring access to consumption data
Suppliers are required to provide gas and electricity consumption data to their customers, if requested by the customer. There are also rules that require this information to go on bills, annual statements etc. Following the introduction of the data access and privacy licence conditions, Ofgem has monitored these in 2016 and will continue to do so, enforcing breaches as required.

The Government also introduced licence obligations as part of the implementation of the Energy Efficiency Directive, which require suppliers to give domestic consumers easy access to certain consumption data on their smart meters. Ofgem monitor and, where appropriate, enforce any licence obligations on suppliers.

Moving to reliable next-day switching
Ofgem has proposed to lead the industry towards reliable next-day switching by 2019. We want to take a fresh look at whether objections should be part of a redesigned switching process or whether suppliers should develop other ways of managing risk. This work has started, with a recent call for evidence.

Guaranteed Standards of Performance
The reforms of the supplier Guaranteed Standards of Performance undertaken in 2015[150] took effect on suppliers in January 2016[151]. They set the levels of service for electricity and gas suppliers to achieve when making and keeping appointments, replacing domestic credit and prepayment meters (faulty or otherwise) and, where necessary, reconnecting supplies.

Most guaranteed standards apply only to domestic customers. Only the Guaranteed Standard on making and keeping appointments applies to both domestic and microbusiness customers. Every time a supplier fails to meet a guaranteed standard it must pay a compensation of £30 to the affected customer within 10 working days (or face an additional £30 payment to that customer).

Consumer insight and engagement
In 2016, we continued to commission and publish a range of research to inform policy decisions and put consumer perspectives at the heart of our regulatory processes. We listen to consumers through regular quantitative surveys and

[149] https://www.ofgem.gov.uk/system/files/docs/2016/08/decision_letter_amending_sor_smart_ppm_data_points_3.pdf
[150] https://www.ofgem.gov.uk/sites/default/files/docs/2015/11/gosp_reforms_-_consultation_response_10th_nov_final_0.pdf
[151] Electricity and Gas (Standards of Performance) (Suppliers) Regulations 2015 have been made by the Authority and received Ministerial consent. The new Regulations commenced from 1 January 2016 and have been published at: http://www.legislation.gov.uk/uksi/2015/1544/contents/made

qualitative focus groups, and deliberative forums such as the Ofgem Consumer First Panel. Some examples from 2016 include:

- Quantitative research with micro and small business consumers to track their engagement and satisfaction with the energy market;
- Quantitative research with domestic consumers to help with our understanding of how market engagement changes over time
- Quantitative research with domestic consumers to help us understand complaints handling
- Ofgem's Consumer First Panel (of domestic consumers) discussed a range of key policy issues, focusing on the CMA remedies.

We have also recently set up a dedicated Behavioural Insight team following on from the CMA's recommendation that Ofgem conducts more randomised controlled trials (RCTs) to aid policy development. The team have started running RCTs to test the behavioural impact of various consumer-facing interventions that aim to promote market engagement ahead of implementation.

Monitoring suppliers' social obligations (domestic consumers)
In 2016, we continued to collect social obligations reporting from domestic suppliers, which includes data on debt levels and debt repayments, prepayment meters, disconnection rates and help for customers in vulnerable situations. This data helps us to:

- check that suppliers are complying with our rules
- challenge poor performance
- encourage and share good practice
- inform future policy.

Our latest quarterly and annual reports can be found on our website[152].

Disconnections for debt
We require suppliers to provide us with information about debt and disconnections for debt for domestic consumers. Monitoring supplier performance in this area allows us to identify issues of concern with supplier performance and take action. Our latest data related to domestic energy debt and disconnection is on our website.[153]

Energy Best Deal (domestic consumers)
The eighth year of a successful partnership with Citizens Advice (a registered charity that provides free and independent advice to consumers) delivering the Energy Best

[152] https://www.ofgem.gov.uk/about-us/how-we-work/working-consumers/protecting-and-empowering-consumers-vulnerable-situations/consumer-vulnerability-strategy/consumer-vulnerability-strategy-social-obligations-reporting-sor
[153] https://www.ofgem.gov.uk/about-us/how-we-work/working-consumers/protecting-and-empowering-consumers-vulnerable-situations/consumer-vulnerability-strategy/consumer-vulnerability-strategy-social-obligations-reporting-sor

Deal continued in 2016. The campaign provides Citizens Advice advisers and other advice workers with the training needed to deliver face-to-face advice to lower income households on energy rights and how to get the best from their energy deal.

Appointment of Supplier of Last Resort
The 'Supplier of Last Resort' process ensures that customers of a failed energy supplier continue to be supplied in an orderly fashion through the appointment of another supplier ('the SoLR') to take on responsibility for supplying those customers. This process also ensures that the credit balances of the failed supplier's customers are protected.

In November 2016 we announced that we had appointed Co-operative Energy Limited as the new supplier for GB Energy Supply Limited's gas and electricity customers,[154] following an earlier announcement that GB Energy had ceased trading and our decision to revoke GB Energy's licences. [155]

Through this process, we were able to effectively protect the consumers affected by GB Energy Supply Limited's insolvency. The speed at which the situation was resolved (in the course of matter of days, over a weekend period) ensured that the costs to the rest of industry were kept to a minimum and broader confidence in the energy market was maintained.

4.2 Dispute settlement

Under Article 37(11) of the Electricity Directive any party that has a complaint against a transmission or distribution system operator in relation to that operator's obligation may refer the complaint to the regulatory authority. Each regulatory authority is required to issue a decision within two months of receiving the complaint. Member states are required to ensure that regulatory authorities have the powers to enable them to make such decisions.

Sections 44B-D of the Electricity Act set out our determination functions and procedures under Article 37 of the Electricity Directive. These sections were amended by the Electricity and Gas (Internal Markets) Regulations 2011. Under Article 37, any dispute that is referred to us for determination is determined by us or, if we think fit, by an arbitrator appointed by us. The decision is binding on the parties to the dispute. However, any party can seek a judicial review of our decision. No new Article 37 disputes were raised during the reporting period.

Sections 27B-D of the Gas Act 1986 set out our dispute resolution functions and procedures under Article 41(11) and Article 41(4)(e) of the Gas Directive. They were amended by the Electricity and Gas (Internal Markets) Regulations 2011. Under Article 41, any dispute that is referred to us for determination is determined by us or, if we think fit, by an arbitrator appointed by us. The decision is binding on the

[154] https://www.ofgem.gov.uk/publications-and-updates/direction-appoint-cooperative-energy-gas-supplier-last-resort
[155] https://www.ofgem.gov.uk/publications-and-updates/gb-energy-supply-ltd-notice-revocation-electricity-supply-licence and https://www.ofgem.gov.uk/system/files/docs/2017/01/2016-12-23_gb_energy_coop_solr_decision_letter.pdf

parties to the dispute. However, any party can seek a judicial review of our decision. No Article 41 disputes were raised during the reporting period.

Northern Ireland National Report 2016

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1 Foreword

Consumers expect that we will play our part, as the economic regulator, in making sure that they receive excellent, value for money services from successful utility companies. Our price control reviews for network electricity and gas companies support prudent investment in infrastructure, provide performance incentives and promote innovation at the lowest possible cost to consumers. We are particularly pleased to see growth in customer connections to the natural gas network and this bodes well for us reaching our corporate strategy target for connections.

Supporting successful utility companies is important because these of companies tend to provide better services to consumers. We have taken steps to improve the provision of performance information from these companies, on things like asset management, as this helps drive sustainable performance improvement. We want companies to improve and to compare favourably with the best.

We also believe in promoting competitive and efficient markets. Along with the Commission for Energy Regulation (CER) we have been working to deliver an enhanced wholesale electricity market, the I-SEM. Much progress has been made and, following a stocktake on I-SEM, the market will now go live in May 2018. It's not just about wholesale markets either. We published the outcome of the review of the retail energy market which sets a direction for the future development.

Of course we are challenged by the need to balance both the short-term and long-term. Our review of gas tariffs led to increases in bills due to rising international wholesale prices. This is balanced by issues such as electricity security of supply and our continuing call for a second north-south electricity interconnector.

We value the engagement and support of those who work with us. Our work contributes to energy policy in Northern Ireland and we are grateful for the support of the Department for the Economy. The board has met with and visited many industry, statutory and consumer stakeholders during the year and is grateful for this engagement. At a time of some uncertainty in the wider environment, such as on the impact of Brexit, we will continue to work closely with all stakeholders.

It is important, during another busy year, to recognise the commitment of board colleagues. My board colleagues and I are also indebted to everyone who works for the Utility Regulator for their dedication and hard work.

Bill Emery
Chairman

2 Main developments in the gas and electricity markets

Main conclusions of the report and a general evaluation of market development and regulation.

2.1 Electricity

Along with the Commission for Energy Regulation (CER) we developed and delivered the Single Electricity Market (SEM) in 2007. The Single Electricity Market (SEM) continues to delivers benefits to consumers. The SEM ensures there is greater transparency around the costs of generation ensuring appropriate costs for consumers. Further development of new generation on the island of Ireland has increased investment and competition in the wholesale market.

We have been progressing the development of an enhanced market, the I-SEM. The I-SEM will allow the redesign of the market to ensure power is efficiently used on the system and will help with security of supply, lead to greater market transparency and allow for improved interconnection.

During the last year we made progress across all the significant I-SEM workstreams: energy trading arrangements, capacity remuneration mechanism, governance and licensing, forwards and liquidity and market power.

The key areas of policy development related to the detailed design of the energy trading arrangements, the publication of decisions on measures to promote liquidity and market power mitigation measures.

A significant amount of ongoing engagement has taken place with industry. We continue to work, along with the system operators, SONI and EirGrid, to ensure the necessary systems and processes are in place to aid market readiness.

We also initiated a stocktake of progress on delivering I-SEM. Following consultation with key stakeholders the SEM Committee decided that, while the market would be ready at the end of 2017, the go-live date would be 23 May 2018.

While the UK government's decision to leave the EU could potentially impact on I-SEM we are continuing, having consulted both governments, to progress delivery by the go-live date.

We have made significant progress on RP6, the next price control for NIE Networks (NIEN) – the electricity networks company in Northern Ireland, which will run from October 2017 to 2024. An important part of RP6 has been the extensive engagement with NIEN and other stakeholders – including on our overall approach to the price control.

We were planning to publish our draft RP6 determination was published in March 2017, with the final determination due in June 2017.

We also published the licence modifications to implement the price control for the electricity system operator (SONI). The price control will facilitate the development of transmission pre-construction projects and the operation of the I-SEM and DS3 projects.

The Market Monitoring Unit (MMU), which is based at our offices, has continued to monitor the SEM over the past year. The MMU engaged with generators and operators to monitor compliance with the market rules.

Power NI is the regulated electricity supplier providing services to over 500,000 customers. In early 2016 we reviewed the tariffs of Power NI (the regulated electricity supplier). While this tariff was provisionally set for a 24-month period we monitored the situation on an ongoing basis. We have not needed to perform another tariff review since then. Domestic electricity prices remain on a par with Great Britain (GB) and lower than the Republic of Ireland (RoI).

Following a public consultation we identified a key change in our Power NI price control. Since Power NI are no longer dominant in the business electricity market and following comments from our public consultation we decided to remove price regulation from business electricity customers from 1 April 2017.

2.2 Gas

We continue to promote the economic development of the natural gas industry in NI and made significant progressing on extending the network in the past year.

During 2016-2017 construction of the Strabane element of the gas to the west project was completed with Leckpatrick/TMC Dairies being the first customer connection in January 2017.

We have also set interim capital expenditure allowances for the Strabane section of the network and have put processes in place to set the overall capital

expenditure allowances.

For the high pressure pipeline, planning approval was received and a number of contracts are in place. We expect construction of the high pressure pipeline to begin in June 2017 and be operational by the end of 2018. This will result in an additional 40,000 gas customer connections in the west of NI.

Work on constructing the gas network to County Down has also progressed. The town of Ballygowan has been connected with work progressing in Hillsborough during the year. This work has been facilitated by our GD17 price control decisions and provides for an additional £58m investment in the natural gas network. This will see an additional 27,000 consumers enjoy the benefits of access to natural gas.

Once the Gas to the West, Gas to East Down and gas network developments are completed, it will provide the potential for 67% of NI consumers to choose gas. By 2022 we expect 60% of NI consumers to be connected to gas. The network coverage will run from Derrylin in the West to Bangor in the East, from Coleraine in the north to Newry in the south.

Our incentives on gas distribution network operators to make new connections, continues to be successful**.** At the end of 2016 the number of consumers connected to the natural gas network had increased to 228,000. This is encouraging given our corporate strategy key performance indicator of 250,000 connections by 2019.

The final determination for the price control for the gas distribution companies – Phoenix Natural Gas (PNGL), firmus energy (fe) and SGN (Scotia Gas Networks) (called GD17) was published in September 2016. This builds on the progress delivered during the previous price control and covers costs which make up around 40% of the final customer gas bill.

Following the publication of the GD17 determination, both PNGL and SGN accepted our determination. Firmus Distribution Limited however appealed our determination to the CMA on several grounds. We expect the CMA to make a decision on the appeal by June 2017.

We have also progressed GT17, the price control for the four high pressure gas conveyance licence holders in NI for the period 1 October 2017 to 30 September 2022. The four licence holders are: GNI (UK) Limited (GNI (UK)), Premier Transmission Limited (PTL), Belfast Gas Transmission Limited (BGTL)

and West Transmission Limited (WTL). The approach for the price control was published in June 2016, followed by a consultation on our draft proposals. We expect to publish the final determination in July 2017.

A regulated tariff review was completed for SSE Airtricity Gas Supply NI in the Greater Belfast area. We approved an increase of 7.6% in March 2017.

In the Ten Towns gas distribution area we reviewed firmus energy's tariffs and approved an increase of 12.2% in March 2017.

We are continuing to progress arrangements for harmonising gas transmission systems as required by the EU Gas Regulation (EC) 715/2009 and the network codes. We also work closely with OFGEM and Commission for Energy Regulation (Ireland) on cross-jurisdictional issues.

3 The electricity market

3.1 Network regulation

3.1.1 Unbundling

Report on TSO certification, DSO provisions regarding branding and resources and new developments regarding certification revisions

- Articles 10,11 2009/72/EC and Article 3 Regulation (EC) 714/2009
- Article 26

NIE (the transmission owner) applied for certification under Directive 2009/72/EC on 30 January 2013 on the grounds of Article 9(9) of the Directive. By the date of application NIE ownership had been acquired by ESB which had extensive generation and supply interests in the SEM. The SEM Committee, which had determined that TSO certification was a SEM matter, issued its preliminary decision to the EC on 12 February 2013. This recommended certification subject to certain qualification measures including transfer of the transmission planning function from NIE to System Operator Northern Ireland (SONI). The EC made a decision to approve the certification of SONI subject to the qualification measures in the SEM Committee preliminary decision and to some additional measures. The decision on certification for SONI was taken in June 2014, and the relevant licence changes have now been implemented.

Moyle Interconnector Limited, which owns the electricity interconnector between Northern Ireland and Scotland, applied for certification on the grounds of ownership unbundling on 25 January 2013. The SEM Committee issued a preliminary decision to the EC on 7 May 2013 recommending certification subject to certain qualification measures. The European Commission did not raise any objections to certification of Moyle Interconnector Limited as a fully unbundled TSO. The decision on certification for SONI was taken in June 2014, and the relevant licence changes have now been implemented.

3.1.2 Technical functioning

- Balancing services (Article 37(6)(b), Article 37(8))
- Security and reliability standards, quality of service and supply (Article 37(1)(h),)

Report relevant security and reliability regulation and data

- Monitoring time taken to connect and repair (Article 37(1)(m))

Clarify here at least if there is in your country a definition for "time to connect" for consumers and for producers

- Monitoring safeguard measures (Article 37(1)(t))
- RES regulatory framework: Report on connection, access and dispatching regimes for RES-E, in particular on priority issues. Report also on the balancing responsibility for RES-E. (Article 11 Regulation (EC) 713/2009)

The wholesale electricity market in Ireland (SEM) is a gross mandatory pool, with energy prices set ex-post. Balancing services are paid for through imperfections charges, constraint payments and make whole payments. These are pass-through costs; generators recover their short-run marginal costs. SONI is obliged under its licence to take into account the quantity, nature and cost when purchasing System Support Services.

Monitoring of security and reliability standards, time taken to connect and repair and safeguard measures are currently conducted through licence compliance. Transmission licences are held by NIE, Moyle and SONI.

The loss of load expectations statistic is used by SONI as a security standard, which is concerned with the likely number of hours of shortage in a year. The security standard for NI is 4.9 hours per annum and if this standard is exceeded it indicates a higher than acceptable level of risk.

The System Operator, SONI, annually publishes the Generation Adequacy Statement which provides its forecast of generation capacity and forecast electricity demand for the upcoming ten-years. This allows for the assessment of capacity margins and identifies areas in which these could be increased, which highlights area of potential future investment. Above all the Generation Capacity Statement

provides an estimation of future security standards based on expected generation capacity margins.

3.1.3 Network tariffs for connection and access

- Article 37(1)(a), Article 37(6)(a), Article 37(8), Article 37(10), Article 37(12) , art 37(3)(c) and (d)

Report on relevant new tariff regulation provisions

- Prevention of cross-subsidies (Article 37(1)(f))

Specify the methodology used in tariff regulation (i.e. cost plus vs incentive regulation), the method of checking undertaking's cost data, methodology for allocation of costs to grid users and if benchmarking is used please describe methodology used by NRA

Electricity Suppliers in Northern Ireland pay a number of regulated charges which they pass on to their customers. Regulated charges for the use of the electricity distribution network in Northern Ireland and a levy known as the Public Service Obligation (PSO) are set by NIEN and SONI, and the maximum amount recoverable is approved by the Utility Regulator. The "Regulated Tariffs Values" for the tariff year beginning October 2016 was published by the Utility Regulator in September 2016[1], detailing the use of system tariffs for that year.

NIEN is the transmission network owner and also the distribution system owner and operator. The current five-year price control commenced in 2012. NIEN is allowed revenue and therefore annual Distribution Use of System tariffs (DUoS) are determined by the terms of this price control. It also receives a Use of System allowance (UoS) from the TSO. The allowed capital expenditure (CAPEX) is limited (e.g. replacement of assets.) with exceptional items individually approved by the regulator.

The next NIEN price control (RP6) will run from October 2017. We published our draft RP6 determination in March 2016 and our final determination in June 2017. .

We established, along with NIEN, the Consumer Council for Northern Ireland (CCNI) and the Department for the Economy (DfE), a Consumer Engagement

[1] www.uregni.gov.uk/news-centre/information-note-published-regulated-electricity-entitlement-values-20162017

Advisory Panel (CEAP). This provided consumers with an opportunity to give their views and have these reflected within NIEN's business plan submission.

We also worked closely with NIEN on the information required in the company's RP6 business plan submission. In particular, we have engaged with NIEN on regulatory information and guidance (RIGS) which allows comparison with GB electricity companies and provides transparent annual cost reporting.

NIEN is prohibited under licence obligations to provide or receive any cross-subsidy from any other business of the Licensee, this also includes any affiliate or related undertaking of the Licensee (whether or not a Separate Business).

We have a statutory duty to promote competition, where appropriate, in the generation, transmission, distribution and supply of electricity. Connections to the electricity grid by renewable developers and micro generators continue to be an area of extensive interest. After a disputes determination, in August 2015, there was a significant increase in requests for connection applications. We allowed NIEN and SONI time to develop new methodologies and consult further on the best operational processes. An alternative connection application and offer process decision paper was produced in May 2016.

In November 2016 we published a call for evidence to begin the process of our review of electricity distribution and transmission connections policy. In 2017 we consulted on how extensions should be treated and our proposal to clarify NIEN and SONI's ability to refuse to provide connection offers. We also identified next steps on other connections issues.

In 2016 the ability to work on contestable competition for connections of 5 MWs and over opened. We are continuing to engage on the implementation of contestability for all customers and are intending to consult further on licence modifications to enforce the implementation processes. It is expected that contestability will be fully implemented in 2018.

3.1.4 Cross-border issues

- Access to cross-border infrastructure, including the procedures for the allocation of capacity and congestion management (Article 37(6)(c), Article 37(8), Article 37(9), use of revenues for interconnectors (article 37(3)(f))

Report in particular on cases where specific cross-border cooperation

between NRAs happened besides the general activity of the NRA in the frame of ACER/FG

- Monitoring technical co-operation between Community and third-country TSOs (Article 37(1)(s))
- Monitor TSO investment plans in view of TYNDP art 37(1)(g)
- Cooperation (Article 37(1)(c))

Other relevant cooperation agreements/activities of the NRA besides the RI

The Moyle Interconnector between Scotland and Northern Ireland lies within a Member State and has not previously been regarded as an interconnector for the purposes of the Electricity Directive. Nonetheless, Moyle has aimed to comply with the requirements of the directive regarding congestion management.

The interconnector owners are required to prepare relevant access arrangements in respect of the Interconnector. The purpose of these rules is to set out the auction mechanism including how participants can make an offer to acquire capacity units, together with the requirements on the Interconnector owner in terms of accepting an offer for capacity units from a participant. The access rules also address other areas including the curtailment approach should capacity become unavailable due to an outage.

Moyle Interconnector access rules are approved annually by both us and Ofgem with input from the Regulator in Ireland regarding the East-West Interconnector.

Compliance

- Compliance of regulatory authorities with binding decisions of the Agency and the Commission (Article 37(1)(d)) and with the Guidelines (Article 39))

Which decisions/actions have been taken following binding decisions of the Agency or the Commission.

- Compliance of transmission and distribution companies, system owners and electricity undertakings with relevant Community legislation, including cross-border issues (Article 37(1)(b), Article

37(1)(q), Article 37(3)(a),(b),(e) and Article 37(5) all but (a) and (c) + imposing penalties (Article 37(4)(d))

Report in particular on monitoring systems for TSO certification compliance and in the next future NC compliance. Report on other compliance cases and existing active monitoring methods

Compliance of transmission and distribution companies, system owners is through their licences. There are no issues to report.

3.2 Promoting Competition

3.2.1 Wholesale markets

Please provide a brief illustration of the state of competition of wholesale market and the main changes in the recent year

The all-island Single Electricity Market is the combination of two separate jurisdictional electricity markets in Ireland and Northern Ireland and is governed by the SEMC. The SEMC comprises of representatives from: the Commission for Energy Regulation for Ireland, the Utility Regulator and an independent member.

The Single Electricity Market (SEM) has been in place since 2007 and ensures that the price of electricity charged to consumers reflects the costs of producing the electricity.

The SEM Committee meets monthly to take decisions on SEM matters. It comprises members of our board, the CER Commissioners and two independent members.

2016 was the ninth full year of operation of the Single Electricity Market. The SEM is a gross mandatory pool with gate closure at 10.00 hrs day ahead. The ex-post market schedule sets the half hourly system marginal price and allocates infra marginal rent to those included in the schedule. Capacity payments are made to all available generators based on an annually calculated capacity pot. Regulated directed contracts and also non directed contracts provide hedging for market participants. The market is operated by SEMO – the Single Electricity Market Operator which is a joint venture between the system operators in NI and Ireland.

Along with CER we have taken major steps to deliver the new electricity market, the I-SEM. The new I-SEM project is timely, allowing the two regulators to take

account of other changes in the electricity market since its opening, changes which include a substantive increase in renewables on the system and interconnection with GB with the east west interconnector. The redesign is focused on ensuring the most efficient deployment of all the power on the system and achieving an acceptable level of security of supply.

A number of industry liaison groups have been formed and we are working, along with the system operators (SONI and EirGrid), to ensure the necessary systems and processes are in place to aid market readiness.

We also took steps to promote sustainability. To address the impacts that increasingly high levels of wind placed on the electricity system, we have been progressing the delivery of a secure, sustainable electricity system (DS3) programme with CER. The objective of DS3 is to facilitate increased levels of renewables and effectively decrease the levels of curtailment.

The starting operational limit on fluctuating generation (such as wind) at any given time was 50%. Through the successful completion of the DS3 programme, this limit has been increased, first to 55%, and now the system is operating at 60%. One of the DS3 goals is to move the limit to 75%.

The past year has also seen the development of further products in system services with 11 products now being procured as standard. This is an increase from the original seven products and facilitates a more flexible system as well as providing an increased level of system service payments.

In addition this year has seen the start of a trial by the system operators to allow new providers of system services. Participants in the trial include wind generators and demand side units with the goal being that such units will be allowed to provide and be paid for system services in future.

The trials include three new system services. These additional system services will allow the electricity system to respond more flexibly to fluctuations in wind on the system. For example, there are rewards for service providers who can respond very quickly to system needs.

3.2.1.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

- Article 37(1)(i),(j) (k), (l) (u) and Article 40 (3)

Report separately the three issues: prices, transparency and effectiveness of competition. In particular regarding prices report on fundamentals, price developments and liquidity. Regarding transparency report on the access to prices and on how robust prices are and if at national level transparency obligations regarding pricing exist.

Price

The SEM market monitoring unit (MMU), based at our offices, continues to monitor the SEM and carried out a number of investigations into bidding practices in the market.

The MMU[2] publishes a public report on the Single Electricity Market (SEM) for each quarter, the latest publication covers Q4 2016[3]. These reports provide a particular focus on recent trends in the market in relation to pricing, demand, scheduling and forward contract prices.

The MMU continuously reviews generator participants' behaviour in the market, including investigations into the exercise of market power. It also monitors the compliance of market participants with the bidding code of practice and other market rules. The MMU is also the point of contact for participants who wish to register complaints relating to market behaviour.

MMU quarterly reports - key facts

- The system marginal price (SMP) in the SEM reduced from an average of €51/MWh in 2015 to €42/MWh in 2016.
- This average SMP was the lowest on record, with three of the four quarters seeing average SMP at €38/MWh.
- Gas has been the dominant fuel type since the SEM began, and represented 53% of total fuel consumed on average for 2016.
- Levels of demand were broadly similar to those seen in 2015.

[2] www.semcommittee.com/market-monitoring-unit

[3] www.semcommittee.com/sites/semcommittee.com/files/media-files/MMU%20Public%20Report%20Q4%202016.pdf

The Annual Capacity Payment Sum for 2017 was also calculated. This is the revenue earned by generators in the SEM in return for the provision of available capacity. This resulted in a slight increase in capacity, mainly due to the increase in forecasted demand levels. This increase however was offset by a reduction due to DS3 system services revenues.The MMU forms part of a Market Power Mitigation strategy developed by the Regulatory Authorities (RAs) during 2006. The MMU reviews the behaviour in the market on an ex-post basis. This includes investigating the exercise of market power and monitoring the compliance of market participants with their licence obligations in relation to participation in the market.

In the retail sector, Power NI is the regulated electricity supplier providing services to over 500,000 customers. In early 2016 we reviewed the tariffs of Power NI (the regulated electricity supplier). While this tariff was provisionally set for a 24-month period we monitored the situation on an ongoing basis. We have not needed to perform another tariff review since then. Domestic electricity prices remain on a par with Great Britain (GB) and lower than the Republic of Ireland (RoI).

Transparency

The Market Operator for the SEM (SEMO) publishes all commercial and technical data relating to bids for any trading day.[4] This information is published four days after the trading day, and also includes all relevant price information for each half hour period.

Market opening

Introducing incentives to help pool generation resources and reduce electricity usage is also an area where there have been developments.

During 2015-16 we moved forward the licensing arrangements for aggregated generator units (AGUs) and demand side units (DSUs). AGUs and DSUs have a role to play in the electricity market, providing some further flexibility on the system and a means to incentivise and access demand side management. We granted our first licence for a DSU in May 2015.

[4] http://www.sem-o.com

Effectiveness of competition

The SEM Committee publishes quarterly market monitoring reports which set out recent trends in the market in relation to pricing, demand, scheduling and forward contract prices

A report on generators' financial performance was published in December 2016[5].

3.2.2 Retail market

Please provide a brief illustration of the state of competition of retail market and the main changes in the recent year

Competition in the retail market was set up in Northern Ireland in a progressive way, starting with the non-domestic sector in 1999, and extending to the domestic market in 2007.

New suppliers entered the electricity market from June 2010 in the electricity market. Since then, more suppliers have been attracted to the Northern Ireland market. At the end of 2016, there were 8 active suppliers in the electricity sector, 6 of them operating in both, domestic and industrial sectors.

In December 2016, the electricity supply company Open Electric went into Administration and as a result, we revoked its electricity supply licence. There is an established system in place to transfer the customers of a failed supplier to Power NI, the nominated replacement electricity supplier. This is known as the Supplier of Last Resort (SoLR) arrangement. During the event, over 1,000 customers were seamlessly transferred to Power NI with no loss of supply experienced.

We initiated a review of retail market competition, in both electricity and gas, in 2014-2015. Phase Two of this review started in 2015-16. This examines the potential options for a future regulatory framework which could be implemented once the current form of price regulation on the former incumbents ends.

Our final review report was published in December 2016. Our report identified a series of options that may potentially be used in the future should the current form of price regulation on the former incumbents end.

[5] https://www.semcommittee.com/publication/sem-16-086-cepa-generator-financial-performance-report

To keep the development of the retail energy sector in Northern Ireland under closer review, we regularly gather and analyse market information. Our duty to keep the development of the retail energy market under review was further enhanced by the IME3 directive which requires us to monitor how the market is working. In order to fulfill our statutory duties we also wish to provide consumers with access to clear and easily understood information on suppliers, products and tariff/service choices.

As part of the existing market monitoring we carry out in the gas and electricity retail sectors we publish quarterly reports (QTRs) at the end of February, May, August and November[6]. These reports deliver transparency for stakeholders and consumers and examine in detail essential indicators which are also used by other National Regulatory Authorities (NRAs) in Europe when monitoring their retail markets.

We previously consulted on proposals for an enhanced monitoring framework, called the Retail Energy Market Monitoring (REMM) framework. REMM allows us to monitor the supply markets, inform policy and protect consumers. Following the testing phase of the REMM project, which ran for just over six months to ensure there was a full understanding of the REMM indicators, we received our first sets of formal quarterly data submissions in 2016. We have also written to all suppliers about areas for improvement and reminded them of the obligation to provide accurate and consistent information. Later in 2017 we will begin a process of publishing the new REMM indicators.

Power NI's share in the domestic credit market is 56% and their share of the prepayment market is 43%. In the gas sector too, increased competition and switching has begun to reduce the domestic market share of the incumbent suppliers.

We carried out a price control review of Power NI, which we published in November 2016. Following a public consultation we identified a key change in our price control. Since Power NI are no longer dominant in the business electricity market and following comments from our public consultation we decided to remove price regulation from business electricity customers from 1 April 2017. After our decision Power NI has written to all affected customers to make them

[6] See for instance QTR for period to end of 2016 - www.uregni.gov.uk/sites/uregni/files/media-files/2017-02-27%20Transparency%20Report%202016%20Q4%20UPDATED%201.pdf

aware of the change. While things will change for business electricity customers, price regulation will continue to apply to domestic electricity customers.

For business electricity customers the removal of price regulation will provide an opportunity to shop around to get the best deal from their electricity supplier. While we will no longer regulate prices for business electricity customers we will continue to monitor the market to make sure that all consumers are protected. All consumers will continue be covered by a series of existing regulatory protection measures. We also intend to take steps during 2017-18 to assess whether there is a need for enhanced non-price control protection measures for business electricity customers.

3.2.2.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

- Article 37(1)(i),(j),(k),(l),(u) and Article 40 (3)

Report separately the three issues: prices, transparency and effectiveness of competition. In particular regarding prices report on fundamentals, price developments and liquidity. Regarding transparency report on the access to prices and on how robust prices are and if at national level transparency obligations regarding pricing exist. Please report here separately dual fuel prices

In the monitoring of the energy retail market, the key indicators are: market shares, active suppliers in each market segment, market activity per market segment, rates of switching, domestic prices in Northern Ireland and a price comparison with other EU countries. Future work in terms of collecting and assessing further retail information will be included into this series of reports.

Northern Ireland electricity domestic price for medium customers (2,500 – 4,999 kWh consumption per annum) for semester 2 (July – December) 2016 significantly fell below the EU median and UK medium domestic tariff to 13.9p/kWh.

The customer complaints procedure in Northern Ireland is detailed on our website: www.uregni.gov.uk/customer_information. In the first instance customers are asked to resolve any difficulty with their supplier. All domestic suppliers are required by licence to have a Code of Practice on complaint handling. This details a procedure to facilitate the fair and prompt settlement of complaints and disputes as well as a system for reimbursing or compensating complainants. They are also

required under the licence to inform customers of the role and contact details of the Consumer Council Northern Ireland (CCNI)[7] both in contracts and on bills.

If customers are not satisfied with the supplier's handling of, or response to, a complaint, they may ask CCNI to intervene on their behalf. The CCNI has statutory responsibility to assist energy customers with complaints at the second stage (after the supplier process has been exhausted).

We also deal directly with complaints and disputes, with regard to the transmission and distribution operator. Details of our process are given on our website

www.uregni.gov.uk/publications/appeals_complaints_and_disputes_policy_updated_june_2013

With regard to complaints, IME3 has been implemented and all suppliers are fully compliant with the Code of Practice on Complaints Handling. We continue to work with suppliers on their Codes of Practice to ensure provision of an accessible, equitable and transparent, simple and inexpensive complaints procedure.

- Article 37(1)(k)

We hold competition powers concurrently with the Competition and Markets Authority (CMA). In June 2016 we consulted on guidance relating to the application of our competition powers. The final guidance was published in September 2016 on our website. We also availed of CMA expertise to assist with the development of draft competition guidelines published in June 2017.

We received one complaint during the year which the complainant subsequently decided to pursue via the Competition and Appeals Tribunal (CAT).

- Article 37(1)(l)

The EU's IME3 directives set out a series of measures to make sure consumers are adequately protected in the energy markets.

We produced minimum standards in relation to four energy supplier codes of practice covering:

- the payment of bills;

[7] Consumer Council for Northern Ireland http://www.consumercouncil.org.uk/

- the provision of services for persons who are of pensionable age or disabled or chronically sick;
- the complaints handling procedure; and
- services for prepayment meter customers.

We also have in place a mandatory Marketing Code of Practice.

We consulted on two new codes of practice. Firstly a new supplier Code of Practice on Bills and Statements which is necessary as a result of Energy Efficiency Directive implementation. This code will become mandatory for all electricity and gas suppliers. One purpose of this code is to bring together all the requirements relating to bills and statements. In addition, we are consulting on principles which will help to guide suppliers in the development of customer friendly bills and statements.

Secondly, we consulted on a new code on energy theft which will protect gas and electricity consumers from the safety issues and costs related to energy theft. This will also require electricity and gas distribution network operators and suppliers to work together to establish and implement detailed and best-practice industry procedures relating to energy theft.

We worked with the Consumer Council for Northern Ireland (CCNI) and other consumer bodies on developing a switching leaflet, to help consumers who do not have access to the internet. This leaflet has been published.

3.2.2.2 Recommendations on supply prices, investigations and measures to promote effective competition

- Article 37(1)(o)

Report on recommendations at national level on supply prices and competition

Describe system of regulated prices (if they exist)

- Article 37(4)(b)

Report on investigations carried out, main results and possible measures adopted

Report on tariff deficit if it exists

Electricity supply licensees require transparency of customers' terms and conditions, including price. There conditions apply to all licensees and are legally binding. Electricity customers are guaranteed the right to be supplier under fair and transparent terms. They cannot be discriminated in terms of price and the regulatory framework includes legally binding supplier of last resort provisions.

We have the powers necessary to investigate and enforce effective competition and the functioning of the retail market. We regularly request information to the network and supply companies, and monitor the received data.

3.3 Security of supply (if and insofar as NRA is competent authority)

Implementation of safeguard measures Art. 42

The Fuel Security Code is designed as a Northern Ireland response to a Fuel Security Event. The Fuel Security Code currently in force in Northern Ireland under the Electricity (Northern Ireland) Order 1992 as amended (the 1992 Order) was drafted in 1992.

The objectives of the Fuel Security Code are to assist with the effective management of an event where primary fuel supplies for electricity generation are disrupted: a Fuel Security Event.

The Code enables Government to direct the electricity industry to provide information on power supplies and to take specific action to manage such disruption in a way to ensure as far as is reasonably practical.

3.3.1 Monitoring balance of supply and demand

- Article 4

SONI prepare an annual Generation Capacity Statement which covers both demand predictions and the generation margins. The latest statement published in April 2016 shows:

- Current level of electricity peak demand is 1795 MW[8]. This has been forecasted to reach 1810 MW[9] by 2026. This forecasted peak is a decrease on previous estimates[10];
- The large reduction in demand forecasts in NI and Ireland has led to an increase in generation adequacy. However, due to environmental constraints a number of generation plant are expected to be decommissioned;
- During the period 2017 to 2020 there is sufficient generation capacity to achieve compliance with the generation security standard. The reduction in capacity at Ballylumford at the end of 2018 is likely to result in the surplus dropping to levels of under 300 MW, however there is an option to extend the life of this plant out to 2020;
- By 2021, more severe restrictions are placed on the Kilroot coal plant, and this could have the result of pushing Northern Ireland into deficit. This is based on the assumption that forecasts of demand, generation capacity and availability are achieved. It also relies on imports from GB and a reliance on generation in RoI. There remains however a risk of operational scenarios that could result in load shedding due to a generation capacity shortfall as generators unit sizes are large and there is a dependency on imports;
- With the addition of a second North-South interconnector generation there is sufficient generation to meet demand in all median and low demand scenarios out to 2026;
- There is currently 2692 MW of installed capacity, this figure excludes available capacity via imports on interconnector and tie lines. There is also 1111 MW of Partially dispatchable or non dispatchable generation capacity (including 945 MW of Wind) installed on the NI system;
- Imports of 450 MW from GB and 100 MW from Ireland are expected to be available to support security of supply.

The most significant transmission project in NI is the second north-south interconnector. To view SONI's most recent Generation Adequacy Report (2017) see:

http://www.soni.ltd.uk/media/documents/Operations/CapacityStatements/Generation%20Capacity%20Statement%202017-2026.pdf

[8] Observed generation, excludes house load.
[9] Total Energy Requirement (median scenario)
[10] Further information available at: http://www.soni.ltd.uk/media/documents/Operations/CapacityStatements/Generation%20Capacity%20Statement%202017-2026.pdf

Monitoring investment in generation capacities in relation to SoS

- Article 37(1)(r)

Operational network security

- Article 7 2005/89/EC

Investment in interconnection capacity for the next 5 yrs or more

- Article 7 2005/89/EC

Expected future demand and envisaged capacity for the next 5 years and 5-15 years

Article 7 2005/89/EC

In addition to the Generation Capacity Statement SONI are required by licence to publish an annual "Transmission System Capacity Statement" this details the statutory operational requirements, the existing network, its configuration and its planned development over the ten year period to 2024[11].

3.3.2 Measures to cover peak demand or shortfalls of suppliers

- Article 4

The Transmission System Capacity Statement analyses the potential for the system to meet peak demand.

[11] www.eirgridgroup.com/site-files/library/EirGrid/2015-TYTFS-Complete_Approved.pdf

4 The gas market

4.1 Network regulation

4.1.1 Unbundling

- Articles 10,11 2009/73/EC Article 3 Regulation (EC) 715/2009
- Article 26

Report on TSO certification, DSO provisions regarding branding and resources and new developments regarding certification revisions. Report also on storage and LNG

NI has three Distribution System Operators (DSOs). Phoenix Natural Gas Limited is solely a Network Operator, with no supply business and firmus energy (Distribution) Limited continues to have an integrated supply business (firmus energy (Supply) Limited). firmus energy (Distribution) Limited however does not have at present , more than 100,000 connected customers, therefore it remains an integrated Distribution and Supply business. SGN is developing the distribution network to the west of NI with the first customer connected by the end of 2016.

The arrangements for unbundling at the transmission level are being examined as necessary as part of the certification process required under the third energy package.

In relation to GNI(UK)'s application for certification as a fully ownership unbundled, the UR notified its Preliminary Decision to the European Commission in relation to GNI(UK) on 4th December 2015.

We also continued to monitor the compliance of PTL and BGTL with their certification as fully ownership unbundled and no issues arose.

4.1.2 Technical functioning

- Balancing services (Article 41(6)(b), Article 41(8))
- Security and reliability standards, quality of service and supply (Article 41(1)(h))

Report relevant security and reliability regulation and data

- Monitoring time taken to connect and repair (Article 41(1)(m))

Clarify here at least if there is in your country a definition for "time to connect" for consumers and for producers

- Monitoring access to storage, linepack and other ancillary services (Article 41(1)(n))
- Monitoring correct application of criteria that determine model of access to storage (Article 41(1)(s))
- Monitoring safeguard measures (Article 41(1)(t))

NI currently has no gas storage facilities; however Islandmagee Storage Limited is progressing plans to develop an underground natural gas storage facility in the Larne Lough area of Northern Ireland.

The project has been granted planning permission, a gas storage licence from us, and a Mineral Licence from DETI. During 2015 the developers continue to seek the further consents that are needed before the project can proceed to full construction and operation.

4.1.3 Network and LNG tariffs for connection and access

- Article 41(1)(a), Article 41(6)(a), Article 41(8), Article 41(10) and Article 41(12)

Report on relevant new tariff regulation provisions

- Prevention of cross-subsidies (Article 41(1)(f))

Specify the methodology used in tariff regulation (i.e. cost plus vs incentive regulation), the method of checking undertaking's cost data and if benchmarking is used please describe methodology used by NRA

- Regulated and negotiated access to storage 41(1)(s)

Report on the decisions adopted by MS

Distribution

Information is collected in relation to volumes, revenues and costs, split across

relevant customer categories, which are then used to calculate appropriate tariffs. A combination of incentive-based regulation, along with performance-based outputs is implemented for distribution companies. A price control is applied, alongside a performance-based system, which is adjusted, via the “Uncertainty Mechanism” based on actual performance, with incentives included to encourage efficiency and network growth.

The next price control, referred to as GD17, will be for a 6 year duration, for the period, 1 January 2017 – 31 December 2022. The final determination for the price control for the gas distribution companies – Phoenix Natural Gas (PNGL), firmus energy (fe) and SGN (Scotia Gas Networks) (called GD17) was published in September 2016. This builds on the progress delivered during the previous price control and covers costs which make up around 40% of the final customer gas bill.

The determination results in a reduction in current distribution charges (before inflation) for all customers worth up to £16 per annum. .

Our final determination provides for:

- investment of £226 million in the gas network;
- sets targets for approximately 89,000 new gas connections;
- allows 1,377 km of additional gas pipelines to be built; and
- approximately a further 134,000 more customers will have gas outside their property meaning that 60% of NI properties will have access to the benefits of natural gas by 2022.

In terms of the regulatory period, the distribution system operators have licences extending 20 to 40 years. In terms of investment incentives, a higher RoR for the Distribution system operators (DSOs) is fixed until the end of 2016 to encourage investment. DSOs provide information on tariffs and connection charges to market participants and other interested parties; this information is available on the website of the individual DSOs.

We have also progressed GT17, the price control for the four high pressure gas conveyance licence holders in NI for the period 1 October 2017 to 30 September 2022. The four licence holders are: GNI (UK) Limited (GNI (UK)), Premier Transmission Limited (PTL), Belfast Gas Transmission Limited (BGTL) and West Transmission Limited (WTL).

Key areas for the price control are controllable and uncontrollable operating expenditure, expenditure to replace or upgrade existing equipment where

necessary as well as, for GNI (UK) and WTL, the rate of return. The price control also sets out the allowances for the single system operator targeted for implementation in Northern Ireland for 1 October 2017.

The approach for the price control was published in June 2016, followed by a consultation on our draft proposals. We expect to publish the final determination in July 2017.

Transmission

At the transmission level, the tariff is set using an entry exit methodology by us and tariff setting is overseen on an annual basis. The transmission tariffs are calculated by collecting forecast volumes, capacity bookings and revenue requirements from the power and distribution sectors at the beginning of the gas year. The individual submissions are then totalled and capacity and commodity tariffs are calculated for all sectors. A reconciliation process is applied at the end of the year when actual volumes, capacity and revenues are known.

The non-annual products required by the network code on CAM and a methodology for calculating their tariffs were both implemented for the 15/16 gas year. In moving to a CAM compliant tariff regime we took account of the draft EU Network code on harmonised tariff structures for gas where sensible to do so. We continued to keep the development of the tariff code under review.

The TSOs are also price controlled in NI. The regulatory approach to the price control depends upon the financing model under which the TSO operates.

To improve the rate at which certain pipelines are financed, we have employed a mutualised financing model where the normal regulatory control over any allowed operational expenditure accrued by the TSO has been removed. The resulting transfer of risk onto consumers, through potential inefficient operating costs, can be limited through corporate governance licence conditions contained within the conveyance licence held by the TSO. One of which is a condition that, in the form of a shadow price control, allows us to review the level of operating expenditure forecast to be incurred by the TSO.

Where a more standard regulatory model is used, a ‘pain-gain’ mechanism is applied at the transmission level where TSOs can share in any CAPEX efficiencies gained.

LNG

We have no LNG in NI.

4.1.4 Cross-border issues

- Access to cross-border infrastructure including allocation and congestion management (Article 41(6)(c), Article 41(8), Article 41(9), Article 41(10) and Article 41(12))

Report in particular on cases where specific cross-border cooperation between NRAs happened besides the general activity of the NRA in the frame of ACER/FG. Provide case study/data on standard contracts t.b.d by ACER (i.e. average cost/conditions of importing/exporting 1 MW). Only provide text explanations in the National Report as data are included in the data base.

- Cooperation (Article 41(1)(c))

Other relevant cooperation agreements/activities of the NRA besides the RI

- Monitoring investment plans and assessment of consistency with Community-wide network development plan Article 41(1)(g)

Along with the Commission for Energy Regulation (CER) and Ofgem we worked together to coordinate the joint implementation of the EU network codes on Capacity Allocation Mechanism (CAM), Interoperability, and Balancing at the Moffat entry point. All three NRAs continue to monitor the development of the EU network codes and to assess the potential impact to their networks.

4.1.5 Compliance

- Compliance of regulatory authorities with binding decisions of the Agency and the Commission (Article 41(1)(d)) and with the Guidelines (Article 43))

Which decisions/actions have been taken following binding decisions of the Agency or the Commission

- Compliance of transmission and distribution companies, system owners and natural gas undertakings with relevant Community legislation, including cross-border issues (Article 41(1)(b), Article 41(1)(r), Article 41 (3) and Article 41(5)) + imposing penalties (Article 41(4)(d))

Report in particular on monitoring systems for TSO certification compliance and in the next future NC compliance. Report on other compliance cases and existing active monitoring methods

Compliance of transmission and distribution companies, system owners is through their licences. There are no issues to report.

4.2 Promoting Competition

4.2.1 Wholesale markets

Please provide a brief illustration of the state of competition of wholesale market and the main changes in the recent year

All gas for NI is purchased at the UK NBP.

4.2.1.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

- Article 41(1)(i) , (j), (k) (l) (u) and Article 44(3)

Report separately the three issues: prices, transparency and effectiveness of competition. In particular regarding prices report on fundamentals, price developments and liquidity. Regarding transparency report on the access to prices and on how robust prices are and if at national level transparency obligations regarding pricing exist.

As above all gas for NI is purchased at the UK NBP.

4.2.2 Retail market

Please provide a brief illustration of the state of competition of retail market and the main changes in the recent year

The gas market in the Greater Belfast area has been open to competition to domestic customers since 2007. However, there were no competing suppliers in the domestic market until 2010. In this distribution licensed area there has been six active gas suppliers in the non-domestic sector during 2016: SSE Airtricity Gas Supply (SSE Airtricity), firmus energy, Electric Ireland, VAYU, Go Power and Flogas Natural Gas. In the Greater Belfast licensed area there has been two active gas suppliers in the domestic sector in 2016. SSE Airtricity is subject to a price control over the domestic and small I&C (industrial and commercial) customers who consume less than 25,000 therms per annum in the Greater Belfast area. A maximum average tariff is employed in these sectors for customers of SSE Airtricity. Other suppliers are free to compete against this maximum average tariff. In the Greater Belfast area, during 2016 the total market share of the incumbent supplier (SSE Airtricity) remained at around 73% throughout the year (based on connection

numbers). The SSE Airtricity share of the I&C market was 64% at the end of the year.

The Ten Towns gas area opened to competition for large I&C (industrial and commercial) customers in October 2012. SSE Airtricity entered this market to compete against the incumbent firmus energy from 1 January 2013. The remainder of the market (small I&C customers and domestic customers) opened to competition from April 2015. Since April 2015 two other suppliers, Go Power and Flogas Natural Gas, have entered the Ten Towns market to compete in the I&C market. There are no competing suppliers in the domestic market in the Ten Towns area. firmus energy is the incumbent supplier in the Ten Towns area. During 2016 firmus energy's share of the total I&C market continued to reduce across all customer segments. For instance, firmus's share of the medium and large I&C customer segment reduced from 86% to 46% between the end of 2015 and 2016. Domestic customers continued to be supplied exclusively by the incumbent supplier, firmus energy, during 2016.

4.2.2.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

- Article 41(1)(i),(j) (k), (l) (u) and Article 44 (3)

Report separately the three issues: prices, transparency and effectiveness of competition. In particular regarding prices report on fundamentals, price developments and liquidity. Regarding transparency report on the access to prices and on how robust prices are and if at national level transparency obligations regarding pricing exist. Make reference to dual fuel if necessary.

SSE Airtricity Gas Supply (Northern Ireland) Limited (SSE Airtricity) has a regulated tariff for domestic and small industrial and commercial customers (using less than 25,000 therms per annum) in the Greater Belfast distribution network area. In April 2015, we also introduced a regulated tariff for firmus energy's domestic and small industrial and commercial customers (using less than 25,000 therms per annum) in the Ten Towns distribution network area.

We enter into a formal tariff review process with SSE Airtricity and firmus energy twice per year with a view to tariff changes being effective from 1st April and 1st October each year. We also monitor gas prices on an ongoing basis and an ad-

hoc tariff review for SSE Airtricity and firmus energy may be initiated at any stage if the Utility Regulator considers that gas prices have increased or decreased enough to warrant a tariff review. We monitor the SSE Airtricity and firmus energy regulated tariff against the standard tariffs of other supply companies in NI, the UK and ROI. Transparency reports are published by us every quarter which provides comparisons of the gas tariffs in NI, GB and ROI:

During 2016 the SSE Airtricity and firmus energy regulated tariffs for domestic customers were consistently lower than the standard domestic tariff of the incumbent supplier, Bord Gais, in ROI and lower than the average of the big six suppliers in GB (based on their standard domestic tariffs). Supply companies in NI have a licence obligation to inform customers at least 21 days in advance of any change (increase or decrease) in the tariff. Suppliers are also required to provide advanced notification of when customer is coming to the end of a fixed term or discounted tariff period (no less than 28 days but no more than 42 days before).

We review the SSE Airtricity and firmus energy gas purchasing strategies each year and also receives regular gas purchasing reports from SSE Airtricity and firmus energy showing the volumes and cost of gas purchased for the short and long term future.

We also monitor the effectiveness of competition in the retail gas markets in NI. There are two retail markets in NI: the Greater Belfast market and the Ten Towns market. Competition in these markets is monitored by us on a quarterly basis and an analysis of the competition is published in our transparency reports: see www.uregni.gov.uk/news-centre/latest-quarterly-transparency-report-nis-retail-energy-market-published-6.

- Article 41(1)(p)

Report on recommendations at national level on supply prices and competition

- Article 41(4)(b)

Report on main investigations, results and possible measures adopted

Report on tariff deficit if it exists

In the Greater Belfast distribution network area SSE Airtricity Gas Supply (Northern Ireland) Limited (SSE Airtricity) is price regulated for customers using less than 25,000 therms per annum. In the Ten Towns distribution network area firmus energy is price regulated for customers using less than 25,000 therms per annum. We determined, and published, price controls for SSE Airtricity and firmus energy which set out procedures which SSE Airtricity and firmus energy must comply with in setting tariffs. The price controls also set out a level of operating expenditure for each company for each year of the control which is then used when compiling the supply opex costs for the tariff. At each tariff change we publish a paper which provides detail on the various elements of the tariff, details of any over/under recovery which has been built up or lost in previous tariff periods and therefore incorporated into the new tariff and comparisons with tariffs in GB and ROI.

4.3 Security of supply (Article 5) (if and insofar as NRA is competent authority)

The Department of Energy and Climate Change (DECC) is the designated Competent Authority with respect to the security of supply for the UK Member State (as notified to the Commission under Regulation 994). As such a number of the requirements of Article 5 of Directive 2009/73/EC are carried out by DECC. However we do contribute to some of the elements identified below.

4.3.1 Monitoring balance of supply and demand

100% of Northern Ireland gas supplies are currently provided from Great Britain via the National Transmission System Exit Point at Moffat. As such the wider monitoring of UK demand and supply is largely carried out by DECC and National Grid. However the Transmission System Operators in Northern Ireland and the Republic of Ireland regularly engage with National Grid on demand and supply issues downstream of Moffat.

There are also a number of government and TSO groups that have been established between the UK and Ireland to facilitate communication on emergencies and security of supply. These groups also co-ordinate the work required under Regulation 994.

4.3.2 Expected future demand and available supplies as well as envisaged additional capacity

Forecast Total Volumes (mscm)									
2015/2016	**2016/2017**	**2017/2018**	**2018/2019**	**2019/2020**	**2020/2021**	**2021/2022**	**2022/2023**	**2023/2024**	**2024/2025**
1,310	1,178	1,218	1,245	1,276	1,300	1,308	1,274	1,315	1.309

All of NI gas supplies are currently provided from Great Britain via the NTS Exit Point at Moffat. As noted previously there is significant industry interest in

developing gas storage facilities in the Larne area of NI which could strengthen security of supply within the region.

Along with the NI TSOs we annually produce a gas capacity statement which examines the ability of the gas network to meet future supply and demand scenarios over a ten year period. This assessment included the proposed Islandmagee storage project and network extension to the West and North West as discussed above.

This approach ensures that any areas requiring investment are identified and addressed so that future demands on the system can be met. The capacity statement is published on our website.

4.3.3 Measures to cover peak demand or shortfalls of suppliers

- Art 41(1)(t): implementation of safeguard measures

The transmission companies in Northern Ireland have emergency arrangements in place to deal with either a physical disruption to the network or a restriction in gas supplies. The arrangements are a legal requirement and are contained within each TSO's Safety Case. The safety case outlines the emergency stages and the actions that are to be undertaken at each stage.

Additionally power stations are required to hold reserves of alternative fuels to enable fuel switching in the event of a restriction to gas supplies. The emergency measures are tested annually alongside the Republic of Ireland and Great Britain exercises.

Gas Supply licenses in NI also require that suppliers have access to gas supplies to meet peak demand during severe winter conditions.

5 Consumer protection and dispute settlement in electricity and gas

5.1 Consumer protection

- Compliance with Annex 1 (Article 37(1)(n)) and (Article 41(1)(o))
- Ensuring access to consumption data (Article 37(1)(p)) and (Article 41(1)(q))

Article 11A of the Electricity Order and Article 10A of the Gas Order provides the Authority with powers to impose conditions on licensees to give effect to this obligation. Part VI of the Energy Order provides the Authority with such enforcement powers as are necessary to compel compliance. The conditions which ensure that these consumer protection measures are adhered to are set out in part II of the electricity supply licences, Customer Related Conditions and Part 2 of the Gas Supply licences, Conditions Applicable to the Supply of Gas by the License Holder. The implementation of the third package has seen these conditions further enhanced.

We ensure customer access to consumption data via conditions in the gas and electricity supply licences. Licence Condition 38 and 44 in electricity supply licences and 2.19 and 2.28 in gas supply licences ensures that customers have access to, and are informed of their consumption and that information is provided in such detail and format as is approved by the Utility Regulator and the consumer representative body. Licence conditions were updated as a result of the third package to ensure that consumers are entitled to further detailed information on their electricity and gas consumption.

We have consulted on and implemented licence modifications under the EU Third Internal Energy Package. The licence modifications implemented under the EU Third Internal Energy Package also required Gas and Electricity suppliers to develop and publish Codes of Practice to enhance the consumer protection measures. During 2015, we further extended the consumer protection under the Codes of Practice by developing minimum standards for the Codes of Practice. This strengthened the consumer protection covered by all supplier Codes of Practice. The licence conditions ensure that customers are provided with access to their consumption data and transparent information in relation to tariffs, terms and conditions and complaints handling procedures. It also requires suppliers to

offer customers a range of payment methods, to facilitate supplier transfers within 15 working days, and to provide a code of practice on provision of services for vulnerable customers. Licence conditions also set out timeframes for suppliers providing terms and conditions to new customers and for suppliers to give notice to customers at least 21 days prior to any changes to the terms (including price) being made. Suppliers must also inform customers of their right to withdraw prior to when the terms of their contract are changing. Suppliers also have a licence condition requiring final bills to be issued to customers within six weeks from the date the change of supplier takes place.

We have been implementing year one of our Consumer Protection Strategy (CPS). The CPS is a five-year (2016-2021) strategy and action plan aimed at enhancing the level of consumer protection for vulnerable domestic consumers.

5.2 Dispute settlement

- Article 37(11), 37(5)(c), Article 37(4)(e)
- Article 41(11) and Article 41(4)(e)

Report on cases, in particular on major issues concerning network users (access tariffs, connection disputes/refusals...), including producers and consumers

As a direct result of Directive 2009/72/EC we were given the legal authority to act as a dispute resolution authority for certain matters in relation to electricity.

Prior to the implementation of the Directive into national law, we had been, and still are, able to determine certain complaints or disputes, such as disputes arising between an electricity distributor and any person requiring a connection to that distributor's distribution system.

On the implementation of the Directives, our dispute resolution remit was extended further, as now individuals and companies are able to refer certain disputes or complaints regarding the transmission and distribution of electricity in Northern Ireland to us for resolution.

In June 2011 we published its "Policy on the Resolution of Complaints, Disputes and Appeals". This sets out procedures which the Utility Regulator will generally follow when dealing with a complaint or dispute which it has been requested to determine. This policy was amended in June 2013[12].

Under the Gas (NI) Order 1996 billing disputes must in the first instance be referred to the Consumer Council for Northern Ireland. The Consumer Council has 3 months in which to resolve the matter to the customers' satisfaction or the matter is referred to us. We have had no referrals during this period.

The Gas Market Opening Group (GMOG) was established by us to address any operational barriers to entry into the Greater Belfast gas market. The group was extended several years ago to cover the Greater Belfast gas market and the Ten Towns gas market. During 2015 the group was extended again to cover any retail related issues in relation to the gas market that is being developed for the West area. The group includes active representation from supply and distribution license holders, the DETI in NI, the Consumer Council in NI and the Utility Regulator. The

[12] http://www.uregni.gov.uk/publications/appeals_complaints_and_disputes_policy_updated_june_2013

GMOG identifies barriers to entry into the gas market in NI; these issues are then discussed with the group with a view to making a decision on the best way to address each issue.

We also initiated the set-up of a Gas Supplier Forum group. This group identifies any requirements for supplier to supplier agreements in relation to customer switching and overcoming supplier barriers to competition. Agreements are then drawn up to be included in the Supply Meter Point Agreement. This group includes active representation from gas supply licence holders, the Consumer Council NI and us; however the Distribution licence holders also attend to ensure all decisions made for supplier agreements will work in accordance with the distribution market rules.

In 2016, we did not receive any formal disputes relating to billing issues. Three disputes in relation to network connections were raised for electricity. We were able to resolve the issues on one of these disputes without the need to proceed with the formal dispute process. The other two disputes are still being processed. Following an investigation in March 2016 into Gas Networks Ireland (UK) Limited, we confirmed our decision to impose a penalty of £500,000 for its failure to comply with its gas conveyance licence.

We also carried out a number of informal investigations and as a result of regulatory action we:

- accepted undertakings from a number of licensees during the year with remedial action to secure licence compliance; and
- directed suppliers to pay approximately £60,000 to a number of charities as a result of compliance and enforcement work.