Additional information

The business in detail

Key milestones

Some of the key dates and actions in the corporate history of National Grid are listed below. Our full history goes back much further.

1986

British Gas (BG) privatisation

1990

Electricity transmission network in England and Wales transfers to National Grid on electricity privatisation

1995

National Grid listed on the London Stock Exchange

1997

Centrica demerges from BG

Energis demerges from National Grid

2000

Lattice Group demerges from BG and is listed separately

New England Electric System and Eastern Utilities Associates acquired

2002

Niagara Mohawk Power Corporation merges with National Grid in US

National Grid and Lattice Group merges to form National Grid Transco

2004

UK wireless infrastructure network acquired from Crown Castle International Corp

2005

Four UK regional gas distribution networks sold and we adopt National Grid as our name

2006

Rhode Island gas distribution network acquired

2007

UK and US wireless infrastructure operations and the Basslink electricity interconnector in Australia sold

KeySpan Corporation acquired

2008

Ravenswood generation station sold

2010

Rights issue raises £3.2 billion

2012

New Hampshire electricity and gas distribution businesses sold

2016

National Grid separates the UK Gas Distribution business

2017

National Grid sells a 61% equity interest in our UK Gas Distribution business

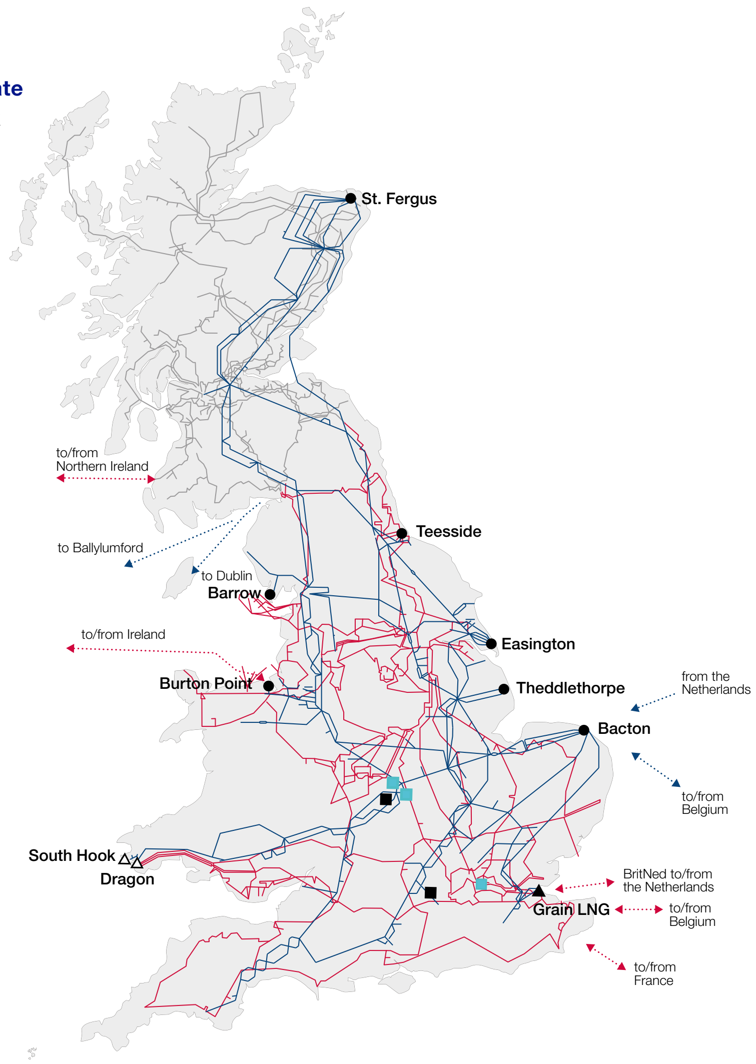
2019

National Grid separates the UK Electricity System Operator business

The business in detail continued

Where we operate

Our UK network



UK Transmission[1]

- Scottish electricity transmission system
- English and Welsh electricity transmission system

Approximately 7,212 kilometres (4,481 miles) of overhead line, 2,280 kilometres (1,417 miles) of underground cable and 347 substations.

- Gas transmission system

Approximately 7,660 kilometres (4,760 miles) of high-pressure pipe and 24 compressor stations connecting to 8 distribution networks and also other third-party independent systems.

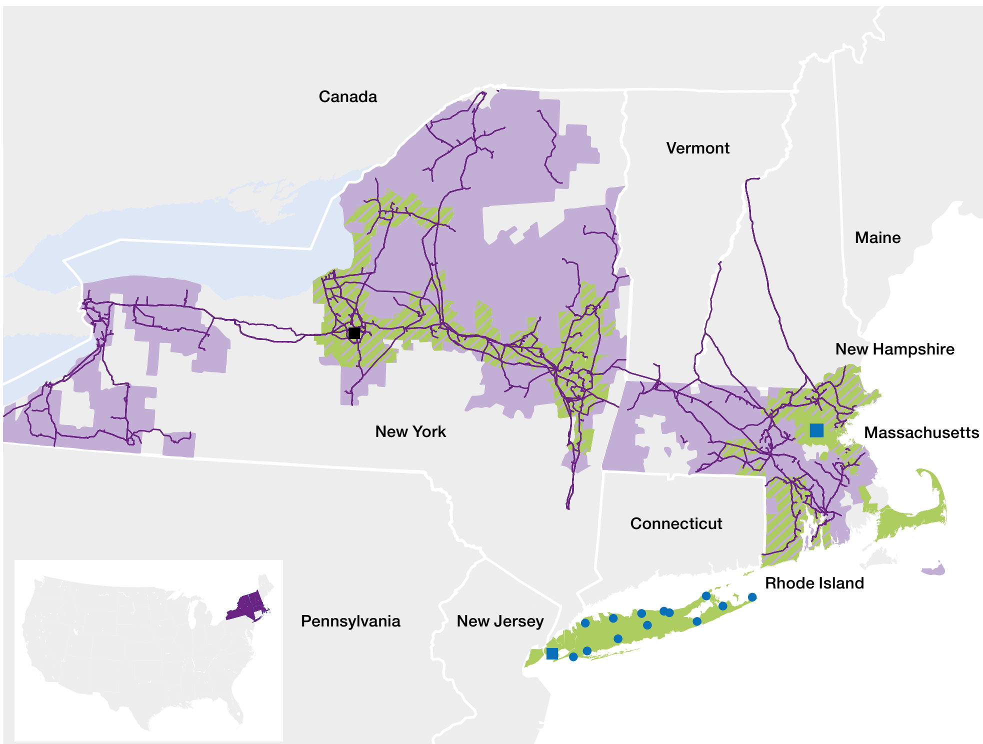
- Terminal
- LNG terminal owned by National Grid
- LNG terminal
- Electricity interconnector
- Gas interconnector

Principal offices

- Owned office space: Warwick and Wokingham
- Leased office space: Solihull, London and Warwick (Telent)

Leased office space totalling 12,515 square metres (134,704 square feet) with remaining terms of 4 to 7 years.

Our US network



US Regulated[1]

- Electricity transmission network
- Gas distribution operating area
- Electricity distribution area
- Gas and electricity distribution area overlap

An electricity transmission network of approximately 14,293 kilometres (8,881 miles) of overhead line, 169 kilometres (105 miles) of underground cable and 377 transmission substations.

An electricity distribution network of approximately 117,230 circuit kilometres (72,844 miles) and 763 distribution substations in New England and upstate New York.

A network of approximately 57,228 kilometres (35,560 miles) of gas pipeline serving an area of approximately 25,659 square kilometres (9,907 square miles). Our network also consists of approximately 787 kilometres (490 miles) of gas transmission pipe, as defined by the US Department of Transportation.

- Generation

Principal offices

- Owned office space: Syracuse, New York
- Leased office space: Brooklyn, New York and Waltham, Massachusetts

Leased office space totalling approximately 58,993 square metres (635,000 square feet) with remaining terms of 6 to 10 years.

At present, environmental issues are not preventing our UK and US businesses from utilising any material operating assets in the course of their operations.

[1] Access to electricity and gas transmission assets on property owned by others is controlled through various agreements.

UK regulation

Our licences to participate in transmission and interconnection activities are established under the Gas Act 1986 and Electricity Act 1989, as amended (the Acts). These require us to develop, maintain and operate economic and efficient networks and to facilitate competition in the supply of gas and electricity in Great Britain (GB). They also give us statutory powers, including the right to bury our pipes or cables under public highways and the ability to use compulsory powers to purchase land so we can conduct our business.

Our licensed activities are regulated by Ofgem, which has a statutory duty under the Acts to protect the interests of consumers. To protect consumers from the ability of companies to set unduly high prices, Ofgem has established price controls that limit the amount of revenue such regulated businesses can earn. In setting price controls, Ofgem must have regard to the need to secure that licence holders are able to finance their obligations under the Acts. Licensees and other affected parties can appeal licence modifications which have errors, including in respect of financeability. This should give us a level of revenue for the duration of the price control that is sufficient to meet our statutory duties and licence obligations with a reasonable return on our investments.

The price controls include a number of mechanisms designed to help achieve its objectives. These include financial incentives that encourage us to:

- efficiently deliver by investment and maintenance the network outputs that customers and stakeholders require, including reliable supplies, new connections and infrastructure capacity;
- innovate so we can continuously improve the services we give our customers, stakeholders and communities; and
- efficiently balancing the transmission networks to support the wholesale markets.

The main price controls for electricity and gas transmission networks came into effect on 1 April 2013 for the eight-year period until 31 March 2021. They follow the RIIO (revenue = incentives + innovation + outputs) framework established by Ofgem.

Following the sale of a majority interest in the National Grid UK Gas Distribution business (now known as Cadent) on 31 March 2017, Cadent now has responsibility for operating within the price controls relating to its four gas distribution networks. In November 2018, we announced our decision to exercise our Options for the sale of our remaining 39% share in the Cadent Gas distribution business that should complete in June 2019.

Our UK Electricity Transmission (UK ET) and UK Gas Transmission (UK GT) businesses operate under four separate price controls. These comprise two for our UK ET operations, one covering our role as Transmission Owner (TO) and the other for our role as System Operator (SO), and two for our UK GT operations, again one as TO and one as SO. In addition to the four regulated network price controls, there is also a tariff cap price control applied to certain elements of domestic sized metering activities carried out by National Grid Metering and also regulation of our electricity interconnector interests.

In January 2017, National Grid issued a joint statement with Ofgem and the UK Government about the enhanced role of the Electricity System Operator function and the intention to establish a greater separation between this and the rest of National Grid. Since then, we have created a legally separate electricity transmission system operator company (ESO) within the National Grid Group. We have also sought and received permission to transfer parts of the NGET transmission licence to the ESO with effect from April 2019. The ESO function has consulted on its longer-term goals and its plan for 2018/19, proposing how it will take an enhanced role in facilitating the transition to a low-carbon energy system.

While the existing eight-year RIIO price controls apply to our gas and electricity SO operations, these activities are also subject to additional regulatory incentives schemes and are reviewed more frequently. Ofgem has consulted on how the ESO incentive schemes will develop in the remaining part of the RIIO-T1 period. This aims to encourage the ESO to operate the system efficiently and to proactively identify how it can maximise consumer benefits across the full range of its activities.

Interconnectors derive their revenues from sales of capacity to users who wish to move power between market areas with different prices. Under European legislation, these capacity sales are classified as ‘congestion revenues’. This is because the market price differences result from congestion on the established interconnector capacity limits full price convergence. European legislation governs how congestion revenues may be used and how interconnection capacity is allocated. It requires all interconnection capacity to be allocated to the market through auctions. Under UK legislation, interconnection businesses must be separate from transmission businesses.

There is a range of different regulatory models available for interconnector projects. These involve various levels of regulatory intervention, ranging from fully merchant (the project is fully reliant on sales of interconnector capacity) to cap and floor (where sales revenues above the cap are returned to transmission system users, and revenues below the floor are topped up by transmission system users, thus reducing the overall project risk).

The cap and floor regime is now the regulated route for interconnector investment in GB and may be sought by project developers who do not qualify or do not wish to apply for exemptions from European legislation which would facilitate a merchant development.

RIIO price controls

The building blocks of the RIIO price control are broadly similar to the price controls historically used in the UK. There are, however, some significant differences in the mechanics of the calculations.

How is revenue calculated?

Under RIIO, the outputs we deliver are explicitly articulated and our allowed revenues are linked to their delivery. These outputs were determined through an extensive consultation process, which gave stakeholders a greater opportunity to influence the decisions.

There are five output categories for transmission under the current RIIO price controls:

Safety: ensuring the provision of a safe energy network.

Reliability (and availability): promoting networks capable of delivering long-term reliability, minimising the number and duration of interruptions experienced during the price control period and ensuring adaptation to climate change.

Environmental impact: encouraging companies to play their role in achieving broader environmental objectives – specifically, facilitating the reduction of carbon emissions – as well as minimising their own carbon footprint.

Customer and stakeholder satisfaction: maintaining high levels of customer satisfaction and stakeholder engagement, and improving service levels.

Customer connections: encouraging networks to connect customers quickly and efficiently.

The business in detail continued

Within each of these output categories are a number of primary and secondary deliverables that reflect what our stakeholders want us to deliver over the remaining price control period and in preparation for future periods. The nature and number of these deliverables varies according to the output category. Some are linked directly to our allowed revenue and some to legislation, while others have only a reputational impact.

Using information we have submitted, along with independent assessments, Ofgem determines the efficient level of expected costs necessary for these deliverables to be achieved. Under RIIO this is known as 'totex', which is a component of total allowable expenditure and is broadly the sum of what was defined in previous price controls as operating expenditure (opex) and capital expenditure (capex).

A number of assumptions are necessary in setting allowances for these outputs, including the volumes of work that will be needed and the price of the various external inputs required to achieve them. Consequently, there are a number of uncertainty mechanisms within the RIIO framework that can result in adjustments to totex allowances if actual input prices or work volumes differ from the assumptions. These mechanisms protect us and our customers from windfall gains and losses.

Where we under- or over-spend the allowed totex for reasons that are not covered by uncertainty mechanisms, there is a 'sharing' factor. This means we share the under- or over-spend with customers through an adjustment to allowed revenues in future years. This sharing factor provides an incentive for us to provide the outputs efficiently, as we are able to keep a portion of savings we make, with the remainder benefiting our customers.

The extended eight-year length of the first round of RIIO price controls is one of the ways that RIIO has given innovation more prominence. Innovation refers to all the new ways of working that deliver outputs more efficiently. This broad challenge has an impact on everyone in our business.

Allowed revenue to fund totex costs is split between RIIO 'fast' and 'slow' money categories using specified ratios that are fixed for the duration of the price control. Fast money represents the amount of totex we are able to recover in the year of expenditure. Slow money is added to our Regulatory Asset Value (RAV) – effectively the regulatory IOU. (For more details on the sharing factors under RIIO, please see the table below).

In addition to fast money, each year we are allowed to recover a portion of the regulatory depreciation and a return on the outstanding RAV balance. RAV in electricity and gas transmission permits recovery of RAV consistent with each addition, bringing benefit to consumers for a period of up to 45 years. We are also allowed to collect additional revenues related to non-controllable costs and incentives. In addition to totex sharing, RIIO incentive mechanisms can increase or decrease our allowed revenue to reflect our performance against various other measures related to our outputs. For example, performance against our customer and stakeholder satisfaction targets can have a positive or negative effect of up to 1% of allowed annual revenues. Many of our incentives affect our revenues two years after the year of performance.

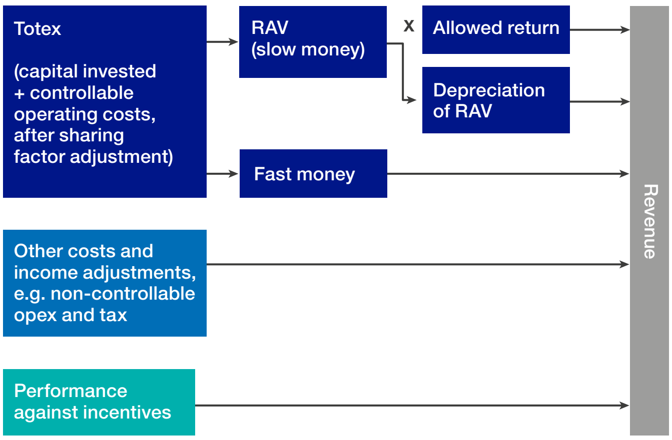
During the eight-year period of the price control, our regulator included a provision for a mid-period review. This was completed during 2017 and led to some changes in allowances relating to certain specific costs. Further to the mid-period review, National Grid volunteered that £480 million (in 2009/10 prices) of allowances for electricity transmission investments should be deferred. In August 2017, Ofgem determined how the RIIO allowances would be correspondingly adjusted.

In addition, the RIIO-T1 price controls for transmission included a 're-opener mechanism'. This covered specific cost categories where there was uncertainty about expenditure requirements at the time of setting allowances. The mechanism specifies two windows during which networks could propose adjustments to allowances; May 2015 and May 2018. Both UK ET and UK GT requested additional funding under this mechanism in May 2018, leading to some changes to the allowed revenues.

Competition in onshore transmission

Ofgem stated in its final decision on the RIIO-T1 control for electricity transmission that it would consider holding a competition to appoint the constructor and owner of suitably large new transmission projects, rather than including these new outputs and allowances in existing transmission licensee price controls. In the absence of the legislation needed to support a competition, at the end of July 2018, and after consultation, Ofgem decided to fund the delivery of the Hinkley-Seabank electricity transmission project by National Grid the 'Competition Proxy Model'. This regulatory model seeks to replicate the outcome of an efficient competitive process for the financing, construction and operation of the project and to provide National Grid Electricity Transmission with a project-specific revenue allowance over the period of its construction and 25 years of operation, but with reduced allowances reflecting prices that Ofgem has observed in other competitions. In addition, in September 2018 Ofgem consulted on the commercial and regulatory framework for the Special Purpose Vehicle (SPV) model of competition in onshore electricity transmission. This is an alternative model that could in the future be used for projects meeting the competition criteria (new, high value and separable). Under this model, the incumbent transmission owner would run a competition for the construction, financing and operation of a new, separable and high-value project through a project-specific SPV.

Simplified illustration of RIIO regulatory building blocks



Allowed returns

The cost of capital allowed under our current RIIO price controls is as follows:

	Transmission	
	Gas	Electricity
Cost of equity (post-tax real)	6.8%	7.0%
Cost of debt (pre-tax real)	iBoxx 10-year simple trailing average index (1.91% for 2018/19)	
Notional gearing	62.5%	60.0%
Vanilla WACC[1]	3.74%	3.95%

1. Vanilla WACC = cost of debt x gearing + cost of equity x (1-gearing).

Sharing factors are used to share over- and under-spends of allowed totex between the businesses and customers. The sharing figures displayed in the table below are the sharing factors that apply to UK ET and UK GT, for both TO and SO.

Sharing factors and fast:slow money ratios under our current RIIO price controls are as follows:

	Gas Transmission		Electricity Transmission	
	Transmission Operator	System Operator	Transmission Operator	System Operator
Fast[1]	Baseline[3] 35.6% Uncertainty 10%	62.60%	15.00%	72.10%
Slow[2]	Baseline[3] 64.4% Uncertainty 90%	37.40%	85.00%	27.90%
Sharing		44.36%		46.89%

1. Fast money allows network companies to recover a percentage of totex within a one-year period.
2. Slow money is where costs are added to RAV and, therefore, revenues are recovered slowly (e.g. over 45 years) from both current and future consumers.
3. The baseline is the expenditure that is funded through ex-ante allowances, whereas the uncertainty adjusts the allowed expenditure where the level of outputs delivered differ from the baseline level, or if triggered by an event.

RIIO-T2

Ofgem has started work on the next round of RIIO price controls, (RIIO-T2) for the energy network sectors it regulates, including both gas and electricity transmission. It has consulted on a wide range of topics, including incentives, outputs, the cost of capital and other financial parameters. Decisions that have already been taken include reducing the price control duration back to five years from eight years, extending the role of competition where appropriate from electricity transmission to other sectors and moving away from RPI to CPIH for inflation measurement when calculating RAV and allowed returns. In addition, Ofgem has proposed a methodology the baseline allowed cost of equity which it said, based on evidence available in December 2018, points to a value that is lower than under the current RIIO price controls. The RIIO-T2 price controls will also apply, in part, to the ESO, however, due to the nature of its activities some elements are less applicable to the ESO, and Ofgem has proposed that the duration of its price control will be two years rather than five.

We and other stakeholders will continue to work with Ofgem to develop the framework and parameters for RIIO-T2. We will submit business plans in December 2019 and Ofgem is expected to publish a final view on the price control allowances for transmission companies by the end of 2020.

US regulation

Regulators

In the US, public utilities' retail transactions are regulated by state utility commissions. The commissions serve as economic regulators, approving cost recovery and authorised rates of return. The state commissions establish the retail rates to recover the cost of transmission and distribution services, and focus on services and costs within their jurisdictions. They also serve the public interest by making sure utilities provide safe and reliable services at just and reasonable prices. The commissions establish service standards and approve public utility mergers and acquisitions.

Utilities are regulated at the federal level by the Federal Energy Regulatory Commission (FERC) for wholesale transactions, such as interstate transmission and wholesale electricity sales, including rates for these services. FERC also regulates public utility holding companies and centralised service companies, including those of our US businesses.

Regulatory process

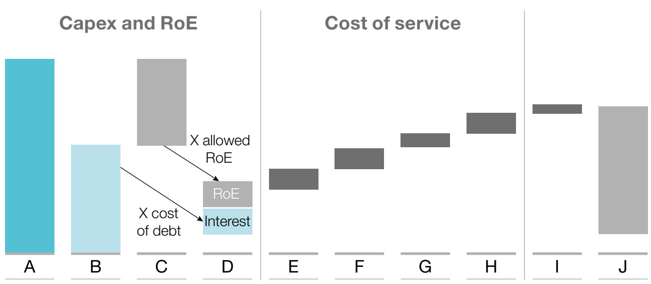
The US regulatory regime is premised on allowing the utility the opportunity to recover its cost of service and earn a reasonable return on its investments as determined by the commission. Utilities submit formal rate filings (rate cases) to the relevant state regulator when additional revenues are necessary to provide safe, reliable service to customers. Utilities can be compelled to file a rate case, either due to complaints filed with the commission or at the commission's own discretion.

The rate case is typically litigated with parties representing customers and other interests. In the states where we operate, it can take nine to 13 months for the commission to render a final decision. The utility is required to prove that the requested rate change is prudent and reasonable, and the requested rate plan can span multiple years. Unlike the state processes, the federal regulator has no specified timeline for adjudicating a rate case; typically it makes a final decision retroactive when the case is completed.

Gas and electricity rates are established from a revenue requirement, or cost of service, equal to the utility's total cost of providing distribution or delivery service to its customers, as approved by the commission in the rate case. This revenue requirement includes operating expenses, depreciation, taxes and a fair and reasonable return on shareholder capital invested in certain components of the utility's regulated asset base. This is typically referred to as its rate base.

The final revenue requirement and rates for service are approved in the rate case decision. The revenue requirement is derived from a comprehensive study of the utility's total costs during a recent 12-month period of operations, referred to as a test year. Each commission has its own rules and standards for adjustments to the test year. These may include forecast capital investments and operating costs.

US regulatory revenue requirement



A Rate base
B Debt
C Equity
D Return
E Controllable costs
F Non-controllable costs
G Depreciation
H Taxes
I Lagged recoveries
J Allowed revenue

Our rate plans

Each operating company has a set of rates for service. We have three electric distribution operations (upstate New York, Massachusetts and Rhode Island) and six gas distribution networks (upstate New York, New York City, Long Island, Massachusetts (two) and Rhode Island).

Our operating companies have revenue decoupling mechanisms that de-link their revenues from the quantity of energy delivered and billed to customers. These mechanisms remove the natural disincentive utility companies have for promoting and encouraging customer participation in energy-efficiency programmes that lower energy end use and distribution volumes.

The business in detail continued

Our rate plans are designed to a specific allowed Return on Equity (RoE), by reference to an allowed operating expense level and rate base. Some rate plans include earnings-sharing mechanisms that allow us to retain a proportion of the earnings above our allowed RoE, achieved through improving efficiency, with the balance benefiting customers.

In addition, our performance under certain rate plans is subject to service performance targets. We may be subject to monetary penalties in cases where we do not meet those targets.

One measure used to monitor the performance of our regulated businesses is a comparison of achieved RoE to allowed RoE. However, this measure cannot be used in isolation, as several factors may prevent us from achieving the allowed RoE. These include financial market conditions, regulatory lag and decisions by the regulator preventing cost recovery in rates from customers.

We work to increase achieved RoE through:

- productivity improvements;
- positive performance against incentives or earned savings mechanisms, such as available energy-efficiency programmes; and
- filing a new rate case when achieved returns are lower than those the Company could reasonably expect to attain through a new rate case.

Features of our rate plans

We bill our customers for their use of electricity and gas services. Customer bills typically comprise a commodity charge, covering the cost of the electricity or gas delivered, and charges covering our delivery service. With the exception of residential gas customers in Rhode Island, our customers are allowed to select an unregulated competitive supplier for the commodity component of electricity and gas utility services.

A substantial proportion of our costs, in particular electricity and gas commodity purchases, are 'pass-through' costs. This means they are fully recoverable from our customers. We recover 'pass-through' costs through making separate charges to customers, designed to recover those costs with no profit. We adjust rates from time to time to make sure that any over- or under-recovery of these costs is returned to, or recovered from, our customers.

Our FERC-regulated transmission companies use formula rates (instead of rate cases) to set rates annually that recover their cost of service. Through the use of annual true-ups, formula rates recover our actual costs incurred and the allowed RoE based on the actual transmission rate base each year. We must make annual formula rate filings documenting the revenue requirement that customers can review and challenge.

Revenue for our wholesale transmission businesses in New England and New York is collected from wholesale transmission customers. These are typically other utilities and include our own New England electricity distribution businesses. With the exception of in upstate New York, which continues to combine retail transmission and distribution rates to end-use customers, these wholesale transmission costs are incurred by distribution utilities on behalf of their customers. They are fully recovered as a pass-through from end-use customers, as approved by each state commission.

Our Long Island generation plants sell capacity to the Long Island Power Authority (LIPA) under 15-year and 25-year power supply agreements and within wholesale tariffs approved by FERC. Through the use of cost-based formula rates, these long-term contracts provide a similar economic effect to cost of service rate regulation.

US regulatory filings

The objectives of our rate case filings are to make sure we have the right cost of service, and are able to earn a fair and reasonable rate of return, while providing safe, reliable and economical service. To achieve these objectives and reduce regulatory lag, we have been requesting structural changes, such as:

- revenue decoupling mechanisms;
- capital trackers;
- commodity-related bad debt true-ups; and
- pension and other post-employment benefit true-ups, separately from base rates.

We explain these terms below the table on page 209.

Below, we summarise significant developments in rate filings and the regulatory environment during the year. Following the final stabilisation upgrade to our new financial systems and the availability of 12 months of historical test year data from those financial systems, we concluded a first round of full rate case filings in fiscal year 2017, with a final rate case decision for Massachusetts Electric in September 2016, and followed by approval of three-year rate plans for KEDNY and KEDLI in December 2016. In fiscal year 2017/18, we made a second round of full rate case filings with Niagara Mohawk (electric and gas) in April 2017, Boston Gas and Colonial Gas in November 2017, and The Narragansett Electric Company also in November 2017. A Joint Proposal, setting forth a three-year rate plan for Niagara Mohawk was approved by the New York State Public Service Commission (NYPSC) in March 2018. An Amended Settlement Agreement setting forth a three-year rate plan for The Narragansett Electric Company was approved by the Rhode Island Public Utilities Commission in August 2018. In fiscal year 2018/19, we made a full rate case filing again for Massachusetts Electric in November 2018, and, most recently, in fiscal year 2019/20, we made another full rate case filing for KEDNY and KEDLI in April 2019. These filings are expected to capture the benefit of recent increased investments in asset replacement and network reliability, and reflect long-term growth in costs, including property tax and healthcare costs. Along with a clear focus on productivity, the filings are key to improving achieved returns in the Company's US electric and gas distribution activities.

Impact of US tax reform

Tax is a pass-through for utilities in the US. The reduction in the corporation tax rate from 35% to 21%, resulting from the enactment of the federal Tax Cuts & Jobs Act of 2017 (the Act), is significantly beneficial to customers. The lower tax rate will be reflected in the collection of a lower tax allowance from customers.

Our upstate New York, Massachusetts Gas and Rhode Island utilities were all undergoing rate negotiations at the time the legislation was enacted. We have now updated our revenue requests for the prospective portion of the tax collection in each of these businesses. These companies represent 48% of the rate base, with a total revenue impact of approximately $130 million. Our FERC businesses operate under formula rates. As a result, the majority of the full annual revenue impact (approximately $50 million) of tax reform in these businesses was included in rates for the year ended 2018/19.

New York and Massachusetts regulators have conducted open generic proceedings to address the treatment of any tax savings. In New York, the regulator adopted proposals by KEDNY, KEDLI and Niagara Mohawk regarding the means and timing of how the tax benefits would be passed to customers. In Massachusetts the lower tax rate began to reduce revenue on 1 July 2018 for the electric business and 1 October 2018 for the gas business. In Rhode Island, the revenue effect of the lower federal rate began on 1 September 2018. The lower collections in revenue offset the lower tax charge, so there is no material impact to earnings under IFRS or under US GAAP. Our cash flows will reduce as we are currently in a net operating loss position for the purposes of calculating taxable profits in our US Group. This means there is no offsetting reduction in cash tax payments.

Massachusetts

Boston and Colonial rate cases

The Company filed a rate case for Boston Gas and Colonial Gas with the Massachusetts Department of Public Utilities (MADPU or Department) on 15 November 2017. The new rates were to be effective on 1 October 2018 for usage on and after 1 November 2018. The Massachusetts gas rate case, the first rate case for Boston Gas and Colonial Gas since 2010, more closely aligns revenues with the cost of service. This case brings earned RoEs closer to the allowed RoE. New rates were approved with an allowed RoE of 9.5% on an equity ratio of 53%. Compared to our revenue request of $87 million, the Department allowed an increase of $56 million. As expected, this outcome has been adjusted by $44 million, primarily reflecting the lower US tax rate resulting from the passage of the Tax Cuts and Jobs Act of 2017 (Tax Reform). The lower US corporate income tax rate from 35% to 21% resulted in a net revenue increase of $12 million.

Gas System Enhancement Programmes (GSEP)

On the gas side, on 30 April 2018, MADPU approved our recovery of approximately $67 million. This related to $241 million of anticipated investments in 2018 under an accelerated pipe replacement programme, through rates effective from May 2018 to April 2019. Due to the application of the GSEP revenue cap, we were required to defer recovery of an additional $2.2 million of the 2018 revenue requirement. This delay was until the Boston Gas and Colonial Gas rate case with new rates effective from 1 October 2018.

Grid modernisation and smart energy solutions

In response to a 2014 regulatory requirement, we filed a Massachusetts electricity grid modernisation plan on 19 August 2015. This proposed multiple investment options aiming to further MADPU's goals to reduce the effect of outages, optimise demand, integrate distributed resources and improve workforce and asset management.

We presented a range of investment options for MADPU to consider, with investment levels over five years ranging from $238.6 million to $792.9 million. MADPU established criteria that, if met, would allow the capital costs from the plan to be recovered through a separate capital recovery mechanism. MADPU initiated its review of our plan in April 2016 and hearings were held in May 2017.

We received an order from MADPU approving the proposed grid-facing investments on 10 May 2018, but MADPU did not approve the proposed customer-facing investments at that time. The MADPU preauthorised a budget of up to $82 million for the years 2018 to 2020 for the grid-facing investments and approved the separate recovery mechanism for both capital, operations and maintenance expenditures. We are in the process of implementing our grid modernisation plan and will be making annual cost recovery and annual update filings in conjunction with the plan, respectively in March and April of each year. MADPU stated it would open an additional investigation to examine whether there were cost-effective ways to make the customer-facing investments but are yet to open the investigation. From 1 January 2015 to 31 December 2018, we also operated a Smart Energy Solutions pilot with approximately 15,000 customers in Worcester, Massachusetts. This pilot has allowed us to deploy, test and learn from technologies similar to those proposed in the grid modernisation plan, including smart meters, demand response, an integrated communication system and advanced distribution automation.

Massachusetts Electric and Nantucket Electric rate cases

We filed a rate case for Massachusetts Electric and Nantucket Electric with MADPU on 15 November 2018 with new rates to be effective on 1 October 2019. The Massachusetts Electric rate case is the first for Massachusetts Electric and Nantucket Electric since 2015. It updates the electric companies' rates to more closely align revenues with the cost of service and bring their earned RoEs closer to the allowed RoE. Our proposed net revenue increase is $56.1 million, including a five-year performance-based rate-making proposal, supported by performance incentive metrics and scorecard metrics. Additionally, in the light of Massachusetts' aggressive climate change policies, we have proposed the second phase of our Electric Vehicle (EV) programme. In this, we will increase the availability of EV charging throughout Massachusetts and expand an energy storage programme that is designed to install approximately 14 MW of storage to support our distribution system. MADPU held evidentiary hearings from 29 April to 24 May 2019. An order is expected by 30 September 2019.

Statewide assessment of gas pipeline safety

In December 2017, MADPU hired an independent auditor to perform an assessment of gas pipeline safety in the Commonwealth of Massachusetts. The independent auditor had requested information from, and held meetings with, us and the other local distribution companies in Massachusetts. We have provided all the information requested. A preliminary oral report from the auditor is expected, which is to include recommendations for the next phase of the audit.

Tax Cuts and Jobs Act – the impact on Massachusetts jurisdiction

In February 2018, MADPU initiated docket D.P.U. 18-15 to investigate the impact of the Federal Tax Act on the rates of the investor-owned electric, gas and water utilities in Massachusetts.

The Department ordered each company, as of 1 January 2018, to account for revenues associated with the difference between the previous and current corporate income tax rates. It also required them to establish a regulatory liability for recovery in rates where excess accumulated deferred income taxes resulted from the lower federal corporate income tax rate. The utilities were directed to file plans for refunding these amounts by 1 May 2018, with an expectation that a prospective rate reduction would go into effect by 1 July 2018.

Based on our initial filing on 1 May 2018, by Order dated 29 June 2018 (Order D.P.U. 18-15-A), the Department directed our electric companies (Massachusetts Electric and Nantucket Electric) to:

- prospectively reduce rates effective 1 July 2018; and
- reduce the annual target revenue in the electric revenue decoupling mechanism (RDM) by $28 million, subsequently corrected to approximately $26 million.

MADPU allowed our gas companies (Boston Gas and Colonial Gas) to defer the effect of the tax reduction until new rates resulting from its then pending rate case became effective on 1 October 2018. At this time, we were directed to refund the three-month tax savings deferral (from 1 July to 1 October) to customers over one year. We, together with several other Massachusetts utilities, opposed the Department's directive to calculate and issue refunds for the period from 1 January 2018 to 30 June 2018 on the grounds that the refunds would violate the prohibition against retroactive rate-making. The Department, therefore, deferred ruling on the issue of retroactive refunds until a later date.

The business in detail continued

On 21 December 2018, MADPU issued an order requiring all utilities to begin crediting in rates the amortisation of excess deferred federal income taxes. This requirement was to the extent that such amortisation was not already included in base distribution rates, due to factors associated with certain reconciling mechanisms and a separate factor for the amortisation of the remaining amounts. The Department's order on its legal authority to order retroactive refunds was issued on 15 February 2019, and the Department determined refunds for the period from 1 January to 30 June 2018 would not be appropriate. The Attorney General has moved for clarification and reconsideration of the Department's order, and for an extension of the period in which to appeal the decision to the Massachusetts Supreme Judicial Court.

Electric Vehicle Market Development Programme

On 13 February 2017, Massachusetts Electric Company and Nantucket Electric Company filed a supplemental petition with MADPU. This petition was for approval of the Electric Vehicle Market Development Programme (EV Programme) and a tariff to recover the EV Programme's costs and performance incentive (EV Programme Provision). Specifically, the companies proposed to increase the development of charging stations in their service territory over a three-year period by assisting site hosts with design, construction and funding of infrastructure to support charging stations. On 10 September 2018, MADPU approved our EV Programme, with certain modifications. The Department also allowed us to earn a performance incentive based on the number of charging stations in use as a result of the EV Programme. The Department approved our ability to seek recovery of the programme's incremental costs and performance incentive through an annual reconciling charge. Our tariff is pending approval from the Department. The total allowed cost, including a performance incentive, is approximately $20 million.

MA large-scale renewable contracts/clean energy contracts

In 2018, pursuant to state legislation enacted in 2016, our Massachusetts electric distribution companies, Massachusetts Electric and Nantucket, filed with MADPU a request for approval of one long-term contract for hydroelectric generation from Canada (including associated transmission of approximately 1,200 MW) and for approval of one long-term contract for offshore wind energy generation (approximately 800 MW) from a project to be located on the outer continental shelf.

Both contracts were jointly and competitively solicited in 2017 by all of the Massachusetts electric distribution companies in consultation with the Department of Energy Resources (DOER) and an independent evaluator. Hearings on the contract for hydroelectric generation concluded in early 2018, and briefs were submitted in late March and early April. While MADPU has no specific deadline to approve the hydroelectric generation contract, it will not become effective without regulatory approval. In April 2019, MADPU approved the contract for offshore wind energy generation. Also, to satisfy the requirements of the 2016 legislation seeking to procure a total of 1,600 MW of offshore wind energy generation, another competitive solicitation for generating offshore wind energy is expected before the end of 2019.

Solar Massachusetts Renewable Target programme

On 26 September 2018, the Department approved a petition jointly filed by the Massachusetts electric distribution companies, including Massachusetts Electric Company and Nantucket Electric Company, to offer their customers a new solar programme. Following state legislation enacted in 2016, the Solar Massachusetts Renewable Target (SMART) programme is required by state regulations issued by DOER. The programme's objective is to develop a further 1,600 MW of customer-based solar power. It aims to do this by providing on-bill credits and incentive payments, directly from the Company to the customer, at a lower cost than previous programmes. In consultation with DOER, our SMART programme team has been finalising the implementation details and the first enrolments of projects under SMART are expected any day.

New York

Downstate New York 2019 rate cases

KEDNY and KEDLI filed a rate case with the NYPSC on 30 April 2019 seeking to increase delivery revenues by $236.8 million and $49.4 million, respectively, for the 12 months ending 31 March 2021. The companies filed three additional years of data to facilitate the possibility of a multi-year settlement. New rates are expected to come into effect on 1 April 2020, subject to NYPSC approval. We aim to update our allowed revenues to more closely reflect our cost of service. Our current rate plan will be applicable until we file this rate case and it is approved.

New York regulatory audits

Under the New York Public Service Law, the NYPSC is required to conduct periodic audits of various aspects of public utility activities. In 2018 the NYPSC initiated a comprehensive management and operations audit of our three New York regulated businesses. New York law requires periodic management audits of all utilities at least once every five years.

National Grid's New York regulated business last underwent a New York management audit in 2014 and 2015, when the NYPSC audited our New York gas business.

The audit will be process-oriented and forward-looking; it will present opportunities to obtain feedback on how to improve customer service and meet regulatory expectations. Areas of focus are likely to include the traditional audit areas of corporate governance, budgeting and finance, customer, work management and long-term planning. Organisation design, information systems and gas safety are also likely to feature. A final audit report is expected in September 2019.

Tax Cuts and Jobs Act of 2017

In response to the Tax Act, the NYPSC initiated a generic open proceeding to solicit comments on the Tax Act's implications. It also places New York utilities on notice of the NYPSC's intent to protect ratepayers' interests and ensure that any cost reductions from the changes in federal income taxes are preserved for customer benefit. On 9 August 2018, the NYPSC approved the proposals of our New York utilities regarding treatment of Tax Act benefits.

Specifically, the NYPSC agreed that the treatment of tax benefits by Niagara Mohawk, as described in the joint proposal approved by the NYPSC in March 2018, should continue. The NYPSC also agreed with the proposal that KEDNY and KEDLI should implement a sur-credit, effective 1 January 2019, to:

- return prospective tax savings to customers;
- moderate the impacts of scheduled rate increases; and
- use the 2018 deferred tax benefits and the amortisation of excess accumulated deferred federal income tax balances as a rate moderator when base rates are next revised.

The return of a deferred tax balance liability in the amount of $587 million will be made over an average period of up to 50 years. It is expected to benefit our operating profit and cash flow in the long term. These items are expected to flow through the income statement in the medium term, having a negative impact on operating profit that we expect to be more than offset by the full-year impact of the lower tax charge.

NY street light sales

In response to customer interest and legislative action, Niagara Mohawk agreed to a process for selling its street lighting assets to interested municipalities during the three-year term of the rate plan. This transaction was part of the joint proposal approved by order of the NYPSC in March 2018. We currently own more than 200,000 such street lights that could be subject to the asset sales mechanism. To complete a sale, we and the customer must first execute a purchase and sales agreement, which is then subject to NYPSC review and approval. The Commission has approved one such transfer to date, with five additional sales pending approval.

One pending petition: the sale of street lights to the City of Albany represents more than 10,000 lights.

NY advanced metering infrastructure

As set out in the joint proposal, Niagara Mohawk launched an advanced metering infrastructure (AMI) collaborative process with stakeholders in April 2018. The Company held eight formal collaborative meetings over the following four months, in which 17 stakeholder groups participated, with the goal of refining and updating the Company's AMI proposal. On 15 November 2018, Niagara Mohawk filed its AMI implementation plan report with the NYPSC, incorporating the work completed through the collaboration.

The proposal represents a once-in-a-generation opportunity to address asset condition improvements in a manner that can deliver increased benefits for customers, the environment and shareholders alike. As well as anticipated reductions in greenhouse gas emissions, the benefits include:

- greater customer choice and control over energy use;
- improved modelling, load forecasting and capital investment planning; and
- increased system efficiency; operational efficiencies for outage response and remote connect/disconnect capabilities.

Under the proposal, Niagara Mohawk would begin the six-year implementation of AMI with two years of process development and back-office system installation. This project would be followed by a four-year phased replacement of approximately 1,690,000 electric AMI meters and approximately 640,000 gas modules. In total, the Company anticipates the project to cost $106.45 million (20-year nominal value), representing a significant capital investment that will modernise customer- and grid-facing components of the distribution system. A 60-day public comment period commenced on 2 January 2019, and the proposal currently remains under Commission review.

Reforming the Energy Vision

In April 2014, the NYPSC instituted the Reforming the Energy Vision (REV) proceeding, which envisions a new role for utilities as distributed system platform (DSP) providers that create markets for distributed energy resources (DER) and integrate DER more fully in distribution system operations and planning. The REV proceeding's objectives include:

- enhanced customer energy choices and control;
- improved electricity system efficiency, reliability and resilience; and
- cleaner, more diverse electricity generation.

The NYPSC issued an order on 19 May 2016 addressing rate-making and utility revenue model policy framework issues under REV, including:

- rate-making reform;
- earnings opportunities (platform service revenues and earning adjustment mechanisms (EAMs));
- competitive market-based earnings;
- customer data access;
- non-wires alternative solutions to displace or defer traditional capital investment;
- standby service tariff enhancements;
- opt-in rate design (time-of-use rates, smart home rate pilots);
- enhancements to large customer demand charges;
- scorecard metrics; and
- mass market rate design.

We filed our initial Distributed System Implementation Plan (DSIP) with the NYPSC on 30 June 2016. This identified incremental investments in utility infrastructure necessary for developing within the first five years:

- DSP capabilities;
- market enablement and operations;
- advanced metering functionality;
- grid modernisation; and
- cyber security and privacy measures.

The business in detail continued

The DSIP needs to be updated and filed with the NYPSC every two years. The NYPSC subsequently extended the 2018 filing date to 31 July 2018, and we filed our 2018 DSIP update with the NYPSC on that date. The update provides detailed information about our planned DSP implementation over the five-year period ending 31 July 2023. It includes:

- a report on DSP actions and progress since the initial DSIP filing in 2016;
- a description of the Company's plans to develop necessary tools, policies, processes, resources and standards;
- identification of available tools and information for REV developers and other third parties to aid understanding of the Company's system needs and potential business opportunities; and
- a description of how the Company's planning and implementation efforts are organised and managed to support DER integration.

Two recent initiatives adopted by the NYPSC are designed to increase dramatically New York's energy efficiency and energy storage targets to combat climate change. The new energy-efficiency target for investor-owned utilities will more than double utility energy-efficiency progress by 2025, which is equivalent to the energy consumed by 1.8 million New York homes. The energy storage initiative sets New York on a trajectory to achieve 1,500 MW of storage by 2025, enough electricity to power 1.2 million homes and up to 3,000 MW of storage by 2030.

The NYPSC approved the electric and gas rate plan joint proposal in March 2018, including investments related to grid modernisation, cyber security and new electricity and gas products and services. It also sets out a process to progress AMI in Upstate New York. The joint proposal also includes outcome-based EAMs to target energy and system efficiency, carbon reductions and customer engagement.

Clean Energy Standard (CES)

The NYPSC issued an order on 1 August 2016 to adopt a CES, consistent with the State Energy Plan, that 50% of New York's electricity is to be generated by renewable sources by 2030. This instruction is part of a strategy to reduce greenhouse gas emissions by 40% by 2030 and by 80% by 2050.

In particular, the CES established:

- obligations on load serving entities (LSEs) to financially support new renewable generation resources that serve their retail customers through Renewable Energy Credits (RECs); and
- obligations to financially support existing at-risk nuclear generators through the purchase of zero-emissions credits (ZECs).

The first REC and ZEC compliance years under the CES began respectively on 1 January 2017 and 1 April 2017. On 16 March 2018, the NYPSC approved the New York State Energy Research and Development Authority's (NYSERDA) 2018 compliance period programme budgets. It also authorised the reallocation of previously approved but unspent funds from the 2017 compliance period. In addition, it authorised the further reallocation of funds from uncommitted System Benefits Charge (SBC), Energy Efficiency Portfolio Standard (EEPS) and/or Renewable Portfolio Standard (RPS) funds to pay for 2018 CES administrative costs. All unspent compliance funds are to be reallocated rather than returned to LSEs during the annual reconciliation process, as proposed by NYSERDA. As a result of this reallocation, there was no need to collect additional funds for the 2018 compliance period. On 16 November 2018, the NYPSC issued an order approving NYSERDA's proposed 2019 compliance period programme budgets. It also authorised the reallocation of $562,149 in remaining funds from the authorised budgets in the 2017 compliance period. This was to cover a portion of the administrative costs for both the Renewable Energy Standard (RES) and ZEC programmes for the 2019 CES compliance period. Additionally, the NYPSC directed the reallocation of additional uncommitted SBC, EEPS and/or RPS funds, totalling $8,040,048, to cover the remaining 2019 RES and ZEC administrative costs.

In pursuit of the offshore wind energy development goal of 2,400 MW by 2030, NYSERDA launched the first step by calling for the competitive procurement of 800 MW of offshore wind renewable energy certificates. The NYPSC authorised this tender in its 12 July 2018 Order Establishing Offshore Wind Standard and Framework for Phase 1 Procurement. NYSERDA's solicitation was issued in April 2019 with initial submissions due in June 2019.

NY gas pipeline safety

Recent industry events have focused attention on various aspects of gas safety in New York and other jurisdictions. Following the Columbia Gas event in Massachusetts, New York regulators considered the likely contributing factors to that incident and opportunities to mitigate potential risks. We are participating in statewide proceedings to implement safety improvements and working with New York regulators to resolve enforcement actions.

Rhode Island

Electric and gas infrastructure, safety and reliability (ISR) plans

State law provides our Rhode Island electric and gas operating divisions with rate mechanisms that allow us to recover capital investment, including a return. It also enables the recovery of certain expenses outside base rate proceedings through the submission of annual electric and gas ISR plans designed to improve the safety and reliability of the electric and gas distribution systems.

The Rhode Island Public Utilities Commission (RIPUC) approved the fiscal year 2020 gas and electric ISR plans on 19 March 2019. The electric ISR plan encompasses a $101.8 million spending programme for capital investment as well as $11.5 million for operating and maintenance expenses for vegetation management and inspection and maintenance. The gas ISR plan encompasses $162.5 million for capital investment.

Rhode Island combined gas and electric rate case

On 27 November 2017, we filed a one-year rate plan (but submitted two additional years of data to facilitate a multi-year settlement) for our Rhode Island electric distribution and gas businesses.

On 16 August 2018, we filed an amended settlement agreement setting out a comprehensive three-year rate plan for our electric and gas businesses, to take effect from 1 September 2018. The rate plan includes:

- a 9.275% RoE and 51% equity ratio;
- cumulative combined electric and gas revenue increases of $19.9 million (rate year 2019), $18.0 million (2020) and $8.4 million (2021);
- funding for IT investment, staffing level increases to meet our electric and gas work plans over the next three years, projects and programmes to support the Rhode Island Power Sector Transformation Initiative – this includes investments in advanced metering functionality, grid modernisation, electric vehicle infrastructure and two storage demonstration projects; and
- funding for a performance incentive mechanism for system efficiency.

The revenue increases reflect an estimate of the impact of changes to the federal corporate tax rate. It also takes into account bonus depreciation that is subject to true-up at the end of calendar year 2018. The RIPUC approved the terms of the amended settlement agreement on 24 August 2018.

Power Sector Transformation (PST) Initiative

In December 2016, the National Governors Association selected Rhode Island as one of four states to participate in a 16-month collaborative effort with state agencies and key stakeholders, including the Company. This team effort, known as the Power Sector Transformation Initiative, aims to develop a state action plan for modernising the electric power sector and integrating clean energy. It resulted in a Phase One Report being delivered to Governor Raimondo in November 2017. We filed our combined electric and gas distribution rate case at around the same time. As part of the amended settlement agreement in the rate case, we received funding for certain investments to support the PST Initiative. The amended settlement agreement also established the PST Advisory Group, a stakeholder group that we chair. It reviews progress of, and provides input into, all PST components of the rate plan, including grid modernisation, advanced meter functionality (AMF), electric transportation, storage and performance incentive mechanisms. It also provides guidance and prioritisation to support the successful delivery of the components as a holistic suite. The PST Advisory Group and sub-committee meetings have commenced and are ongoing.

On 20 February 2019, we released a request for proposal (RFP) for an up to 250kW-2hr Behind the Meter energy storage system. We are also in the process of developing the RFP for a second storage demonstration project, consisting of an approximate 500kW-3hr Front of the Meter energy storage system.

We plan to file an updated business case for AMF to request approval for full deployment of meters, together with a Grid Modernisation Plan, with the RIPUC in fiscal year 2020.

Rhode Island Aquidneck Island gas service interruption

On 21 January 2019, we suffered a significant loss of gas supply to the distribution system that serves our customers on Aquidneck Island in Rhode Island. As a result we made the decision to interrupt the gas service to the Aquidneck Island system to protect the safety of our customers and the public. Overall, approximately 7,500 customers lost their gas service. The event is currently under summary investigation by the Rhode Island Division of Public Utilities and Carriers (Division) to determine if it believes there are grounds to open a formal investigation. On 28 February 2019, the RIPUC opened a docket to investigate and determine the causes of the January loss of gas utility service on Aquidneck Island. In addition, the Rhode Island Office of Attorney General has sent us a letter to preserve evidence, which is an indication of intent to investigate. We have also received enquiries from the Federal Energy Regulatory Commission and Pipeline and Hazardous Materials Safety Administration that may initiate investigations. National Grid and our natural gas supplier – Algonquin Gas Transmission, LLC, which is owned by Enbridge, Inc. – have also been named in two class action lawsuits related to this event. We have also received thousands of claims related to the incident and anticipate that more claims will be filed.

Tax Cuts and Jobs Act 2017 – Rhode Island jurisdiction impact

An open proceeding in Rhode Island is currently underway to address the treatment of any tax savings for our Narragansett Electric customers prior to the effective date for the new base rates that were reset through the November 2017 rate case filing. In January 2019, we filed a settlement agreement with the RIPUC to prospectively refund the tax savings in full, starting this autumn. We are awaiting a decision by the RIPUC.

Rhode Island large-scale renewable contracts

On 7 February 2019, the Company's Rhode Island electric distribution company, The Narragansett Electric Company, filed with RIPUC for approval of a long-term contract to generate offshore wind energy generation from an approximately 400 MW project that will be located on the outer continental shelf. This contract is a voluntary obligation consistent with Governor Raimondo's 1,000 MW clean energy goal for Rhode Island. The bid was submitted in response to the Massachusetts solicitation for offshore wind energy generation, which is shared with Rhode Island. RIPUC has 120 days to review the petition, and hearings have been scheduled for late April and early May 2019.

The business in detail continued

Federal Energy Regulatory Commission

Complaints on New England transmission allowed RoE

In September 2011, December 2012, July 2014 and April 2016, a series of four complaints was filed with Federal Energy Regulatory Commission (FERC) against certain transmission owners, including our New England electricity transmission business. These complaints aimed to lower the base RoE, which FERC had authorised at 11.14% prior to the first complaint. FERC issued orders resolving only the first complaint, with the last order in March 2015, lowering the base RoE to 10.57%. A number of parties, including the Company, appealed FERC's order on the first complaint to US federal court. On 14 April 2017, the court vacated FERC's order and remanded the first complaint back to FERC. This required FERC to reconsider the methodology it adopted in its order. On 5 June 2017, the New England Transmission Owners (NETOS), including the Company, submitted a filing to FERC to document the reinstatement of their transmission rates that had been in effect at 15 October 2014. FERC denied this filing and stated that, until further notice, the base RoE in New England must remain at the filed rate of 10.57%. On 16 October 2018, FERC issued a Preliminary Order Directing Brief on our four New England RoE complaints. In this, FERC proposes a new methodology for determining whether an existing RoE remains just and reasonable and also for determining a new RoE where an existing RoE is found to be unjust and unreasonable. FERC also proposes to set the base RoE in New England at 10.41% with a 13.08% cap on incentives. Briefs were due in January 2019 and responses to the briefs were filed on 8 March 2019. FERC is under no deadline to act on the briefs and it is too early to determine when or how FERC will come to a decision.

Formula Rate 206 proceeding

On 28 December 2015, FERC initiated a proceeding under Section 206 of the Federal Power Act. It found that ISO-New England Transmission, Markets, and Services Tariff is unjust, unreasonable and unduly discriminatory or preferential. FERC found that ISO-NE's tariff lacks adequate transparency and challenge procedures regarding the formula rates for ISO-NE Participating Transmission Owners (ISO-NE PTOs). In addition, the Commission found that the ISO-NE PTOs' current Regional Network Service and Local Network Service formula rates appear to be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful. FERC explained that the formula rates appear to lack sufficient detail to determine how certain costs are derived and recovered in the formula rates. Accordingly, FERC established hearing and settlement judge procedures. Several parties are active in the proceeding, including FERC staff, various interested consumer parties, New England States Committee on Electricity (NESCOE), and several municipal light departments. In August 2018, the parties to the proceeding agreed to the terms of a settlement and subsequently filed the proposed settlement with the settlement judge in the proceeding. It was opposed by certain municipal parties, making it a contested settlement. On 5 November 2018, the settlement judge reported the contested settlement to FERC, which will have to approve the settlement but is under no time obligation to act.

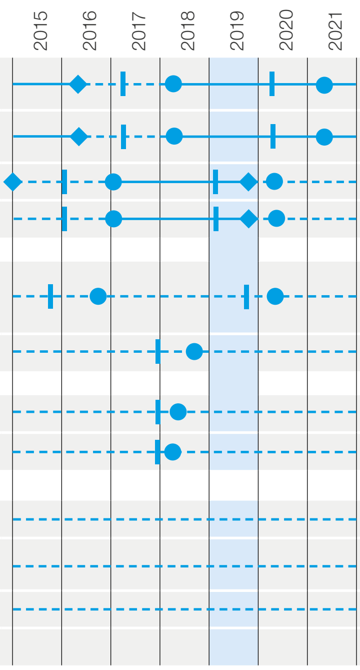
Tax Cuts and Jobs Act – FERC jurisdiction impacts

On 15 March 2018, FERC initiated multiple proceedings intended to adjust FERC-jurisdictional rates to reflect the corporate tax changes resulting from the reduction in the corporate tax rate. Relevant initiated proceedings are a Notice of Inquiry (NOI) seeking comments on the effects of the Tax Act on all FERC-jurisdiction rates and a Notice of Proposed Rulemaking (NOPR) issued as a result of the NOI. In response to the FERC NOI, we had made recommendations designed to mitigate the cash flow impacts of the expected refunds. These included providing flexibility regarding:

- the methods used to refund Accumulated Deferred Income Tax to customers; and
- the time period of the flow back.

In the NOPR, FERC proposes to give the flexibility we proposed. Comments on the NOPR were due on 22 January 2019 and FERC will issue a final rule on an undetermined date.

Summary of US price controls and rate plans



Commission	Company	Rate base (31 Mar 2019)	Equity-to-debt ratio	Allowed Return on Equity	Achieved Return on Equity (31 Mar 2019)	Revenue decoupling†	Capital tracker‡	Commodity-related bad debt true-up§	Pension/OPEB true-up◊
New York Public Service Commission	Niagara Mohawk[1] (upstate, electricity)	**$5,358m**	**48:52**	**9.0%**	**9.4%**	✓	**P**	**P**	✓
	Niagara Mohawk (upstate, gas)	**$1,266m**	**48:52**	**9.0%**	**9.8%**	✓	**P**	**P**	✓
	KEDNY (downstate)[2]	**$3,711m**	**48:52**	**9.0%**	**6.2%**	**P**	**P**	**P**	✓
	KEDLI (downstate)[3]	**$2,630m**	**48:52**	**9.0%**	**9.4%**	**P**	**P**	**P**	✓
Massachusetts Department of Public Utilities	Massachusetts Electric/Nantucket Electric[4]	**$2,564m**	**51:49**	**9.9%**	**7.8%**	✓	**P**	✓	✓
	Massachusetts Gas	**$2,761m**	**50:50**	**9.5%**	**7.4%**	✓	**P**	✓	✓
Rhode Island Public Utilities Commission	Narragansett Electric	**$779m**	**51:49**	**9.28%**	**10.7%**	✓	✓	**P**	✓
	Narragansett Gas	**$887m**	**51:49**	**9.28%**	**4.7%**	✓	✓	**P**	✓
Federal Energy Regulatory Commission	Narragansett	**$744m**	**50:50**	**10.57%**	**11.3%**	**n/a**	✓	**n/a**	✓
	Canadian Interconnector	**$79m**	**100:0**	**13.0%**	**13.0%**	**n/a**	✓	**n/a**	✓
	New England Power	**$1,630m**	**66:34**	**10.57%**	**11.0%**	**n/a**	✓	**n/a**	✓
	Long Island Generation	**$454m**	**47:53**	**9.9%**	**14.2%**	**n/a**	✓	**n/a**	✓

1. Both transmission and distribution, excluding stranded costs.
2. KeySpan Energy Delivery New York (The Brooklyn Union Gas Company).
3. KeySpan Energy Delivery Long Island (KeySpan Gas East Corporation).
4. The chart shows the anticipated date rates are to be in effect.

Rate filing made
New rates effective
Rate plan ends
Rates continue indefinitely
Multi-year rate plan

✓ Feature in place
P Feature partially in place

†Revenue decoupling

A mechanism that removes the link between a utility's revenue and sales volume so that the utility is indifferent to changes in usage. Revenues are reconciled to a revenue target, with differences billed or credited to customers. Allows the utility to support energy efficiency.

‡Capital tracker

A mechanism that allows the recovery of the revenue requirement of incremental capital investment above that embedded in base rates, including depreciation, property taxes and a return on the incremental investment.

§Commodity-related bad debt true-up

A mechanism that allows a utility to reconcile commodity-related bad debt to either actual commodity-related bad debt or to a specified commodity-related bad debt write-off percentage. For electricity utilities, this mechanism also includes working capital.

◊Pension/OPEB true-up

A mechanism that reconciles the actual non-capitalised costs of pension and OPEB and the actual amount recovered in base rates. The difference may be amortised and recovered over a period or deferred for a future rate case.

Task Force on Climate-related Financial Disclosures (TCFD)

National Grid has committed to implementing the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures in full, and below we include our second set of disclosures following on from our initial disclosure in 2017/18.

In February 2019, the Executive Committee considered the current status of compliance with TCFD and three key areas where further work is planned in the next 12 months:

a) ensuring senior leadership has an appropriate understanding of the risks and opportunities associated with climate change;
b) the use of climate-related scenarios to inform our strategy (and disclosure of the possible outcomes under those scenarios); and
c) the development of metrics and targets to assess performance, and influence decision-making and remuneration.

The Audit Committee also considered our progress to date in March 2019. We continue to engage with investors, peers and other stakeholders and welcome feedback on these disclosures.

How do we approach the governance of climate-related risks and opportunities?

The Board of Directors is responsible for the oversight of climate-related risks and opportunities impacting the Group. Our Group risk register contains a strategic risk around disruptive forces, which includes climate change.

Examples of relevant Board discussions in the last 12 months include:

i) understanding impact on electricity networks of decarbonisation of transport and National Grid's role in advancing the build-out of electric vehicle charging infrastructure;
ii) strategic intent to enter large-scale renewables, directing capital towards build-out of low carbon energy systems, and we have recently announced our first acquisition (Geronimo Energy) due to close later this year;
iii) continual challenge and review of investment into UK interconnectors and US competitive transmission, which help provide the flexibility critical to managing a high-renewables electricity system; and
iv) discussions on future of heat and National Grid's role in advancing heat decarbonisation pathways, with a focus on the consumer.

How does the Board delegate responsibility for day-to-day operational activity?

Responsibility for asset investment and maintenance planning is delegated to the Executive Committee and onto the core regulated businesses, each of which operate robust investment appraisal and review processes.

In the case of National Grid Ventures, responsibility for new investments up to £250 million has been delegated to the Group Investment Committee, chaired by the Group CEO. This Committee also oversees investments made by National Grid Partners, which over the last 12 months have included a number of early stage innovative businesses working at the forefront of climate change impacts as they concern utilities.

What is the oversight process for climate change related risks and opportunities?

The Safety, Environment and Health Committee (SEH Committee) is responsible for assessing how the Company adapts its business in light of climate change.

The SEH Committee does not have a remit to consider the financial implications of climate change. The Audit Committee remains responsible for reviewing and approving the content of our TCFD disclosures and will take an increasingly active role in overseeing disclosures around metrics and targets. A paper summarising our progress in our journey towards full compliance with the recommendations was considered at the March 2019 Audit Committee meeting.

Future intent

In view of the centrality of decarbonisation of electricity and heat to our day-to-day operations, we believe we have a good base level of experience and knowledge within senior management (including at Board and Executive levels). However, we are not complacent and the Executive Committee will review and consider our position and any plans for enhancement, later in 2019.

What are the risks and opportunities from climate change?

We consider risks and opportunities in terms of physical and transition risks. Reports concerning our UK operations under the 2008 Climate Change Act were released in 2010 and updated in 2016.

Physical risks

In the short term, physical risks are most relevant, and we are principally focused on the risks from weather-related events in the US, and flooding events (in both the UK and US).

- **Weather-related events in the northeastern US:** Storm planning and preparation is core to what we do, given they are an increasingly regular feature of autumn, winter and spring seasons and the impact on our customers and other operating activities is significant. These activities are principally focused on our electric businesses (with above-ground wiring). However, we have also experienced impact within our gas distribution business since extreme temperatures can impact gas supplies throughout the continental pipeline network. As noted in the financial review, this year we incurred over $100 million of local and major storm costs, the majority of which are recoverable under our rate plans. Significant storm hardening activities for gas assets continue on Long Island and in New York City as a key element of our response following hurricane Sandy.
- **Flood defence (UK and US):** In the UK, at 31 March 2019, we had invested £88 million in flood defences and expect to invest additional amounts in RIIO-T2. The National Flood Resilience Review (NFRR) carried out in 2016 and agreed by government has resulted in flood resilience investment works being developed to cover over 100 sites in line with a sector-wide response to flooding. This is supported by assessment of further sites with increasing exposure of assets to geo-hazards resulting from climate change, sea level rise, changes to rainfall patterns and secondary impacts from increased flooding and surface water issues. In the US, Flood Contingency Plans (FCPs) are being developed for our most at-risk US substations and extreme weather is considered the 'new normal'. Our coastal substations are being built and maintained to elevated levels in response to an increased risk of flooding.
- **Other potential physical risks:** We are investigating other potential risks such as the impact of rising temperatures and widening temperature ranges on the performance and operation of the equipment on our networks. Disruption to our global supply chain (continuity of supply) is recognised as a key risk within our global procurement division's risk register.

Transition risks and opportunities

- **Decarbonisation:** Facilitating the transition to a low carbon economy is central to our purpose as a business and the Strategic Report on page 41 sets out certain key actions in relation to decarbonisation and decentralisation.
- **Electricity grid reliability and peak capacity:** Our principal focus is around ensuring that our electricity network is able to actively support and contribute to a future where demand for and supply of electricity are ever changing. With growth in renewables increasing intermittency on the network, and electrification of transport and heat likely, we are working with our stakeholders to ensure that grid reliability is understood, managed and planned at appropriate levels. Even with increased decentralisation of electricity, our long-term analysis demonstrates a key role for Electricity Transmission in the UK in a range of scenarios that meet the UK's 2050 climate change goals.

- **Electric vehicles:** As we enter the key phase of discussion and negotiation around the RIIO-T2 Framework for our UK transmission businesses, the role of electric vehicles and the associated electric charging infrastructure in the UK is an area where we will continue to develop and evolve our strategy. For example, we are working with the UK Government on a build-out of fast-charging stations across UK highways to meet this demand, and ensure EVs can always find somewhere to charge, quickly.

  In the US, we are building an EV charging infrastructure, and to date, we have installed and manage 150 publicly accessible charging stations. We have filed a proposal with the MADPU to build nearly 18,000 charging ports by 2025 to reduce emissions in the transportation sector.
- **Energy-efficiency programmes:** Across Massachusetts, Rhode Island and New York our various energy-efficiency programmes (which range from installing wifi-controlled thermostats for residential customers to complex heating and lighting retrofits for commercial buildings) contributed to an estimated reduction in electricity consumption of 1.2 million megawatt hours and a 36 million therm reduction in gas consumption, lowering CO_2 emissions by more than 800,000 tonnes.
- **Facilitating zero carbon operation of the GB electricity system:** In April 2019, NGESO announced its ambition to transform the operation of the electricity system by 2025. Our goal is to be able to operate the system safely and securely at zero carbon whenever there is sufficient renewable generation online and available to meet the total national load.
- **Future of heat:** The transition to a low carbon economy is and will continue to change the sources of energy used (e.g. heat pumps and hybrid solutions), and the way energy is supplied and consumed (e.g. building retrofits to improve energy efficiency). Gas remains core to our strategy in both the UK and US, and we believe it will remain central to the energy mix in both countries for decades to come. In the US, we are working with regulators to understand how the pathway to cleaner energy sources will evolve, while in the UK we are specifically considering how our transmission network can best support a long-term future where potentially hydrogen becomes a mainstay of the energy mix.

What is the process for identifying and managing climate related risks?

Our approach to identifying and managing the risks in our business is set out on page 20, with our principal risks set out on page 21.

Our risk registers typically include risks that are thought possible or likely to manifest within the short to medium, rather than longer term. Accordingly, weather-related event risks feature, as do transition risks associated with the decarbonisation of heat and electricity.

Risk registers form a key element of our governance framework and drive the agenda, focus and discussions of the various oversight bodies. There is an increasing focus and debate on climate-related matters throughout the Group. For example, at a recent risk workshop, NGV management discussed the risks and opportunities from climate change at different levels of their organisation.

Future intent

Over the last 12 to 18 months the Enterprise Risk Management function has facilitated workshops with each of the core business areas to ensure completeness of risk capture. Over the next 12 months we expect to consider whether the individual or combined risks arising from, for example, increased variability in temperature, and/or greater wear and tear on assets under more extreme conditions, should feature more prominently. The Executive Committee will review the results as part of the regular semi-annual review of Group risks later in 2019 and as part of that discussion will specifically consider whether climate change is appropriately reflected.

How do we use scenarios?

Our long-term investment plans in the UK draw on forecasts from the System Operators' Future Energy Scenarios publications (available on our website), which provide credible pathways for the future of energy supply in Great Britain out to 2050.

The scenarios are the starting point for our regulated long-term investment, as well as a reference point for other reports, such as the Gas Ten Year Statement, Electricity Ten Year Statement and the System Operability Framework. Our UK transmission businesses use this information to inform their long-term scenarios which are used to refine capital investment plans. The key inputs concern demand assumptions (contemplating EVs), generation assumptions (with particular views around offshore wind, interconnectors, gas, nuclear and transmission connected energy storage).

In the US, our long-term investment decisions are informed by internal and stakeholder views on the impact of changing environmental conditions and customer needs, and we also consider the range of possible regulatory and policy responses. Our regulators in New York are encouraging new incentive opportunities as part of their Reforming the Energy Vision (REV) proceedings and in 2016, we prepared an Electric and Gas Grid Resiliency Plan as well as a Distributed System Implementation Plan (DSIP) for the electric system.

Future intent

We are currently developing our detailed scenario analysis and in future TCFD disclosures we will provide more information on the outcomes and sensitivities for our key businesses under various scenarios, including at least one 2-degree scenario.

What metrics are used to assess these risks and opportunities?

We recognise that the metrics used to assess the risks and opportunities arising from climate change need to consider not just the performance of National Grid, but also of the energy systems we influence.

At present the principal target we have is our commitment to reduce our own Greenhouse Gas emissions by 80% of our 1990 baseline by 2050, with interim targets of a 45% reduction by 2020 and a 70% reduction by 2030. As set out in the Strategic Report (page 41), we are making good progress towards achieving this. We recognise that many of our peers have now set more demanding targets for greenhouse gas reduction, aligned with a zero-carbon future. The Executive Committee is due to consider the case for a revised emissions reduction target in summer 2019.

In our UK electricity business, carbon pricing now forms part of the information used to assess options and sanction our capex, and we will continue to roll out this approach across our business in 2019/20.

Our sustainable construction programme continues to drive the carbon out of our construction projects and we are on track to reduce the carbon intensity of our construction projects in the UK by 50% by 2020 (from a 2015 baseline).

Future intent

We plan to set a science-based target for carbon emissions and are currently reviewing our 2050 greenhouse gas target.

The Group has begun work on a programme to assess its total societal impact. Our analysis extends to consider our human capital contribution, and the role that innovation and reliability play in our wider contribution to society.

We plan to identify a number of metrics that measure our wider contribution in a meaningful way, and, as a result, will be used to drive decision making to ensure we can sensibly assess trade-offs between different stakeholders and take actions that benefit society as a whole. We expect to report further progress in next year's TCFD disclosure.

Internal control and risk factors

Disclosure controls

Working with management, including the Chief Executive and Chief Financial Officer, we have evaluated the effectiveness of the design and operation of our disclosure controls and procedures as at 31 March 2019. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives; however, their effectiveness has limitations, including the possibility of human error and the circumvention or overriding of the controls and procedures.

Even effective disclosure controls and procedures provide only reasonable assurance of achieving their objectives. Based on the evaluation, the Chief Executive and Chief Financial Officer concluded that the disclosure controls and procedures are effective to provide reasonable assurance that information required for disclosure in the reports that we file and submit under the Exchange Act is recorded, processed, summarised and reported as and when required and that such information is accumulated and communicated to our management, including the Chief Executive and Chief Financial Officer, as appropriate, to allow timely decisions regarding disclosure.

Internal control over financial reporting

Our management, including the Chief Executive and Chief Financial Officer, has carried out an evaluation of our internal control over financial reporting pursuant to the Disclosure Guidance and Transparency Rules sourcebook and Section 404 of the Sarbanes-Oxley Act 2002. As required by Section 404, management is responsible for establishing and maintaining an adequate system of internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act).

Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes, in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management's evaluation of the effectiveness of the Company's internal control over financial reporting was based on the revised Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Using this evaluation, management concluded that our internal control over financial reporting was effective as at 31 March 2019.

Deloitte LLP, which has audited our consolidated financial statements for the year ended 31 March 2019, has also audited the effectiveness of our internal control over financial reporting.

During the year, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, it.

Risk factors

Management of our risks is an important part of our internal control environment, as we describe on pages 20 – 22. In addition to the principal risks listed, we face a number of inherent risks that could have a material adverse effect on our business, financial condition, results of operations and reputation, as well as the value and liquidity of our securities.

Any investment decision regarding our securities and any forward-looking statements made by us should be considered in the light of these risk factors and the cautionary statement set out on the inside back cover. An overview of the key inherent risks we face is provided below.

Risk factors

Potentially harmful activities

Aspects of the work we do could potentially harm employees, contractors, members of the public or the environment.

Potentially hazardous activities that arise in connection with our business include: the generation, transmission and distribution of electricity; and the storage, transmission and distribution of gas. Electricity and gas utilities also typically use and generate hazardous and potentially hazardous products and by-products. In addition, there may be other aspects of our operations that are not currently regarded or proved to have adverse effects but could become so, such as the effects of electric and magnetic fields.

A significant safety or environmental incident, or the failure of our safety processes or of our occupational health plans, as well as the breach of our regulatory or contractual obligations or our climate change targets, could materially adversely affect our results of operations and our reputation.

Safety is a fundamental priority for us and we commit significant resources and expenditure to process safety and to monitoring personal safety, occupational health and environmental performance, and to meeting our obligations under negotiated settlements.

We are subject to laws and regulations in the UK and US governing health and safety matters to protect the public and our employees and contractors, who could potentially be harmed by these activities, as well as laws and regulations relating to pollution, the protection of the environment, and the use and disposal of hazardous substances and waste materials.

These expose us to costs and liabilities relating to our operations and properties, including those inherited from predecessor bodies, whether currently or formerly owned by us, and sites used for the disposal of our waste.

The cost of future environmental remediation obligations is often inherently difficult to estimate and uncertainties can include the extent of contamination, the appropriate corrective actions and our share of the liability. We are increasingly subject to regulation in relation to climate change and are affected by requirements to reduce our own carbon emissions as well as to enable reduction in energy use by our customers. If more onerous requirements are imposed or our ability to recover these costs under regulatory frameworks changes, this could have a material adverse impact on our business, reputation, results of operations and financial position.

Infrastructure and IT systems

We may suffer a major network failure or interruption, or may not be able to carry out critical operations due to the failure of infrastructure, data or technology or a lack of supply.

Operational performance could be materially adversely affected by: a failure to maintain the health of our assets or networks; inadequate forecasting of demand; inadequate record keeping or control of data or failure of information systems and supporting technology. This, in turn, could cause us to fail to meet agreed standards of service, incentive and reliability targets, or be in breach of a licence, approval, regulatory requirement or contractual obligation. Even incidents that do not amount to a breach could result in adverse regulatory and financial consequences, as well as harming our reputation.

Where demand for electricity or gas exceeds supply including where we do not adequately forecast and respond to disruptions in energy supplies, and our balancing mechanisms are not able to mitigate this fully, a lack of supply to consumers may damage our reputation.

In addition to these risks, we may be affected by other potential events that are largely outside our control, such as the impact of weather (including as a result of climate change and major storms), unlawful or unintentional acts of third parties, insufficient or unreliable supply or force majeure.

Weather conditions can affect financial performance and severe weather that causes outages or damages infrastructure, together with our actual or perceived response, could materially adversely affect operational and potentially business performance and our reputation.

Malicious attack, sabotage or other intentional acts, including breaches of our cyber security, may also damage our assets (which include critical national infrastructure) or otherwise significantly affect corporate activities and, as a consequence, have a material adverse impact on our reputation, business, results of operations and financial condition.

Unauthorised access to, or deliberate breaches of, our IT systems may also lead to manipulation of our proprietary business data or customer information.

Unauthorised access to private customer information may make us liable for a violation of data privacy regulations. Even where we establish business continuity controls and security against threats to our systems, these may not be sufficient.

Law, regulation and political and economic uncertainty

Changes in law or regulation, or decisions by governmental bodies or regulators and increased political and economic uncertainty, could materially adversely affect us.

Most of our businesses are utilities or networks subject to regulation by governments and other authorities. Changes in law or regulation or regulatory policy and precedent, (including any changes arising as a result of the UK's exit from the European Union), including decisions of governmental bodies or regulators, in the countries or states in which we operate could materially adversely affect us. We may fail to deliver any one of our customer, investor and wider stakeholder propositions due to increased political and economic uncertainty.

If we fail to engage in the energy policy debate, we may be unable to influence future energy policy and deliver our strategy.

Decisions or rulings concerning, for example:

- the RIIO-T2 price controls; whether licences, approvals or agreements to operate or supply are granted, amended or renewed; whether consents for construction projects are granted in a timely manner; or whether there has been any breach of the terms of a licence, approval or regulatory requirement; and
- timely recovery of incurred expenditure or obligations; the ability to pass through commodity costs; a decoupling of energy usage and revenue, and other decisions relating to the impact of general economic conditions on us, our markets and customers; the impact of US tax reform; implications of climate change and of advancing energy technologies; whether aspects of our activities are contestable; the level of permitted revenues and dividend distributions for our businesses and in relation to proposed business development activities,

could have a material adverse impact on our results of operations, cash flows, the financial condition of our businesses and the ability to develop those businesses in the future.

For further information, see pages 199 – 209, which explain our regulatory environment in detail.

Business performance

Current and future business performance may not meet our expectations or those of our regulators and shareholders.

Earnings maintenance and growth from our regulated gas and electricity businesses will be affected by our ability to meet or exceed efficiency targets and service quality standards set by, or agreed with, our regulators.

If we do not meet these targets and standards, or if we are not able to deliver the US rate plans strategy successfully, we may not achieve the expected benefits, our business may be materially adversely affected and our performance, results of operations and reputation may be materially harmed and we may be in breach of regulatory or contractual obligations.

Internal control and risk factors continued

Growth and business development activity

Failure to respond to external market developments and execute our growth strategy may negatively affect our performance. Conversely, new businesses or activities that we undertake alone or with partners may not deliver target outcomes and may expose us to additional operational and financial risk.

Failure to grow our core business sufficiently and have viable options for new future business over the longer term or failure to respond to the threats and opportunities presented by emerging technology or innovation (including for the purposes of adapting our networks to meet the challenges of increasing distributed energy resources) could negatively affect the Group's credibility and reputation and jeopardise the achievement of intended financial returns.

Our business development activities and the delivery of our growth ambition include acquisitions, disposals, joint ventures, partnering and organic investment opportunities, such as development activities relating to changes to the energy mix and the integration of distributed energy resources and other advanced technologies. These are subject to a wide range of both external uncertainties (including the availability of potential investment targets and attractive financing and the impact of competition for onshore transmission in both the UK and US) and internal uncertainties (including actual performance of our existing operating companies and our business planning model assumptions and ability to integrate acquired businesses effectively). As a result, we may suffer unanticipated costs and liabilities and other unanticipated effects.

We may also be liable for the past acts, omissions or liabilities of companies or businesses we have acquired, which may be unforeseen or greater than anticipated. In the case of joint ventures, we may have limited control over operations and our joint venture partners may have interests that diverge from our own.

The occurrence of any of these events could have a material adverse impact on our results of operations or financial condition, and could also impact our ability to enter into other transactions.

Exchange rates, interest rates and commodity price indices

Changes in foreign currency rates, interest rates or commodity prices could materially impact earnings or our financial condition.

We have significant operations in the US and are therefore subject to the exchange rate risks normally associated with non-UK operations including the need to translate US assets, liabilities, income and expenses into sterling (our reporting currency).

In addition, our results of operations and net debt position may be affected because a significant proportion of our borrowings, derivative financial instruments and commodity contracts are affected by changes in interest rates, commodity price indices and exchange rates, in particular the dollar-to-sterling exchange rate.

Furthermore, our cash flow may be materially affected as a result of settling hedging arrangements entered into to manage our exchange rate, interest rate and commodity price exposure, or by cash collateral movements relating to derivative market values, which also depend on the sterling exchange rate into euro and other currencies.

Post-retirement benefits

We may be required to make significant contributions to fund pension and other post-retirement benefits.

We participate in a number of pension schemes that together cover substantially all our employees. In both the UK and US, the principal schemes are DB schemes where the scheme assets are held independently of our own financial resources.

In the US, we also have other post-retirement benefit schemes. Estimates of the amount and timing of future funding for the UK and US schemes are based on actuarial assumptions and other factors, including: the actual and projected market performance of the scheme assets; future long-term bond yields; average life expectancies; and relevant legal requirements.

Actual performance of scheme assets may be affected by volatility in debt and equity markets.

Changes in these assumptions or other factors may require us to make additional contributions to these pension schemes which, to the extent they are not recoverable under our price controls or state rate plans, could materially adversely affect the results of our operations and financial condition.

Financing and liquidity

An inability to access capital markets at commercially acceptable interest rates could affect how we maintain and grow our businesses.

Our businesses are financed through cash generated from our ongoing operations, bank lending facilities and the capital markets, particularly the long-term debt capital markets.

Some of the debt we issue is rated by credit rating agencies, and changes to these ratings may affect both our borrowing capacity and borrowing costs. In addition, restrictions imposed by regulators may also limit how we service the financial requirements of our current businesses or the financing of newly acquired or developing businesses.

Financial markets can be subject to periods of volatility and shortages of liquidity – for example, as a result of unexpected political or economic events. If we were unable to access the capital markets or other sources of finance at commercially acceptable rates for a prolonged period, our cost of financing may increase, the discretionary and uncommitted elements of our proposed capital investment programme may need to be reconsidered, and the manner in which we implement our strategy may need to be reassessed.

Such events could have a material adverse impact on our business, results of operations and prospects.

Some of our regulatory agreements impose lower limits for the long-term unsecured debt credit ratings that certain companies within the Group must hold or the amount of equity within their capital structures, including a limit requiring National Grid plc to hold an investment-grade long-term senior unsecured debt credit rating.

In addition, some of our regulatory arrangements impose restrictions on the way we can operate. These include regulatory requirements for us to maintain adequate financial resources within certain parts of our operating businesses and may restrict the ability of National Grid plc and some of our subsidiaries to engage in certain transactions, including paying dividends, lending cash and levying charges.

The inability to meet such requirements, or the occurrence of any such restrictions, may have a material adverse impact on our business and financial condition.

Our debt agreements and banking facilities contain covenants, including those relating to the periodic and timely provision of financial information by the issuing entity, and financial covenants, such as restrictions on the level of subsidiary indebtedness.

Failure to comply with these covenants, or to obtain waivers of those requirements, could in some cases trigger a right, at the lender's discretion, to require repayment of some of our debt and may restrict our ability to draw upon our facilities or access the capital markets.

Customers and counterparties

Customers and counterparties may not perform their obligations.

Our operations are exposed to the risk that customers, suppliers, banks and other financial institutions, and others with whom we do business will not satisfy their obligations, which could materially adversely affect our financial position.

This risk is significant where our subsidiaries have concentrations of receivables from gas and electricity utilities and their affiliates, as well as industrial customers and other purchasers, and may also arise where customers are unable to pay us as a result of increasing commodity prices or adverse economic conditions.

To the extent that counterparties are contracted with for physical commodities (gas and electricity) and they experience events that impact their own ability to deliver, we may suffer supply interruption as described in Infrastructure and IT systems on page 213.

There is also a risk to us where we invest excess cash or enter into derivatives and other financial contracts with banks or other financial institutions. Banks who provide us with credit facilities may also fail to perform under those contracts.

Employees and others

We may fail to attract, develop and retain employees with the competencies, including leadership and business capabilities, values and behaviours required to deliver our strategy and vision and ensure they are engaged to act in our best interests.

Our ability to implement our strategy depends on the capabilities and performance of our employees and leadership at all levels of the business. Our ability to implement our strategy and vision may be negatively affected by the loss of key personnel or an inability to attract, integrate, engage and retain appropriately qualified personnel, or if significant disputes arise with our employees.

As a result, there may be a material adverse effect on our business, financial condition, results of operations and prospects.

There is a risk that an employee or someone acting on our behalf may breach our internal controls or internal governance framework, or may contravene applicable laws and regulations. This could have an impact on the results of our operations, our reputation and our relationship with our regulators and other stakeholders.

Shareholder information

Articles of Association

The following description is a summary of the material terms of our Articles and applicable English law. It is a summary only and is qualified in its entirety by reference to the Articles.

Summary

The Articles set out the Company's internal regulations. Copies are available on our website and upon request. Amendments to the Articles have to be approved by at least 75% of those voting at a general meeting of the Company. Subject to company law and the Articles, the Directors may exercise all the powers of the Company. They may delegate authorities to committees and day-to-day management and decision-making to individual Executive Directors. We set out the committee structure on page 50.

General

The Company is incorporated under the name National Grid plc and is registered in England and Wales with registered number 4031152. Under the Companies Act 2006, the Company's objects are unrestricted.

Directors

Under the Articles, a Director must disclose any personal interest in a matter and may not vote in respect of that matter, subject to certain limited exceptions. As permitted under the Companies Act 2006, the Articles allow non-conflicted Directors to authorise a conflict or potential conflict for a particular matter. In doing so, the non-conflicted Directors must act in a way they consider, in good faith, will be most likely to promote the success of the Company for the benefit of the shareholders as a whole.

The Directors (other than a Director acting in an executive capacity) are paid fees for their services. In total, these fees must not exceed £2,000,000 per year or any higher sum decided by an ordinary resolution at a general meeting of shareholders. In addition, special pay may be awarded to a Director who acts in an executive capacity, serves on a committee, performs services which the Directors consider to extend beyond the ordinary duties of a director, devotes special attention to the business of National Grid, or goes or lives abroad on the Company's behalf. Directors may also receive reimbursement for expenses properly incurred, and may be awarded pensions and other benefits. The compensation awarded to the Executive Directors is determined by the Remuneration Committee. Further details of Directors' remuneration are set out in the Directors' Remuneration Report (see pages 69 – 90).

The Directors may exercise all the powers of National Grid to borrow money. However, the aggregate principal amount of all the Group's borrowings outstanding at any time must not exceed £35 billion or any other amount approved by shareholders by an ordinary resolution at a general meeting.

Directors can be appointed or removed by the Board or shareholders at a general meeting. Directors must stand for election at the first AGM following their appointment to the Board. Each Director must retire at least every three years, although they will be eligible for re-election. In accordance with best practice introduced by the UK Corporate Governance Code, all Directors wishing to continue in office currently offer themselves for re-election annually. No person is disqualified from being a Director or is required to vacate that office by reason of attaining a maximum age.

A Director is not required to hold shares in National Grid in order to qualify as a Director.

Rights, preferences and restrictions

(i) Dividend rights

National Grid may not pay any dividend otherwise than out of profits available for distribution under the Companies Act 2006 and other applicable provisions of English law. In addition, as a public company, National Grid may only make a distribution if, at the time of the distribution, the amount of its net assets is not less than the aggregate of its called-up share capital and undistributable reserves (as defined in the Companies Act 2006) and to the extent that the distribution does not reduce the amount of those assets to less than that aggregate. Ordinary shareholders and American Depositary Share (ADS) holders receive dividends.

Subject to these points, shareholders may, by ordinary resolution, declare dividends in accordance with the respective rights of the shareholders, but not exceeding the amount recommended by the Board. The Board may pay interim dividends if it considers that National Grid's financial position justifies the payment. Any dividend or interest unclaimed for 12 years from the date when it was declared or became due for payment will be forfeited and revert to National Grid.

(ii) Voting rights

Subject to any rights or restrictions attached to any shares and to any other provisions of the Articles, at any general meeting on a show of hands, every shareholder who is present in person will have one vote and, on a poll, every shareholder will have one vote for every share they hold. On a show of hands or poll, shareholders may cast votes either personally or by proxy. A proxy need not be a shareholder. Under the Articles, all substantive resolutions at a general meeting must be decided on a poll. Ordinary shareholders and ADS holders can vote at general meetings.

(iii) Liquidation rights

In a winding up, a liquidator may (in each case with the sanction of a special resolution passed by the shareholders and any other sanction required under English law): (a) divide among the shareholders the whole or any part of National Grid's assets (whether the assets are of the same kind or not); the liquidator may, for this purpose, value any assets and determine how the division should be carried out as between shareholders or different classes of shareholders, or (b) transfer any part of the assets to trustees on trust for the benefit of the shareholders as the liquidator determines. In neither case will a shareholder be compelled to accept assets upon which there is a liability.

(iv) Restrictions

There are no restrictions on the transfer or sale of ordinary shares. Some of the Company's employee share plans, details of which are contained in the Directors' Remuneration Report, include restrictions on the transfer of shares while the shares are subject to the plan. Where, under an employee share plan operated by the Company, participants are the beneficial owners of the shares but not the registered owner, the voting rights may be exercised by the registered owner at the direction of the participant. Treasury shares do not attract a vote or dividends.

Variation of rights

Subject to applicable provisions of English law, the rights attached to any class of shares of National Grid may be varied or cancelled. This must be with the written consent of the holders of three quarters in nominal value of the issued shares of that class, or with the sanction of a special resolution passed at a separate meeting of the holders of the shares of that class.

General meetings

AGMs must be convened each year within six months of the Company's accounting reference date upon 21 clear days' advance written notice. Under the Articles, any other general meeting may be convened provided at least 14 clear days' written notice is given, subject to annual approval of shareholders. In certain limited circumstances, the Company can convene a general meeting by shorter notice. The notice must specify, among other things, the nature of the business to be transacted, the place, the date and the time of the meeting.

Rights of non-residents

There are no restrictions under the Articles that would limit the rights of persons not resident in the UK to vote in relation to ordinary shares.

Disclosure of interests

Under the Companies Act 2006, National Grid may, by written notice, require a person whom it has reasonable cause to believe to be or to have been, in the last three years, interested in its shares to provide additional information relating to that interest. Under the Articles, failure to provide such information may result in a shareholder losing their rights to attend, vote or exercise any other right in relation to shareholders' meetings.

Under the UK Disclosure Guidance and Transparency Rules (DTR) sourcebook, there is also an obligation on a person who acquires or ceases to have a notifiable interest in shares in National Grid to notify the Company of that fact. The disclosure threshold is 3% and disclosure is required each time the person's direct and indirect holdings reach, exceed or fall below each 1% threshold thereafter.

The UK City Code on Takeovers and Mergers imposes strict disclosure requirements regarding dealings in the securities of an offeror or offeree company, and also on their respective associates, during the course of an offer period. Other regulators in the UK, US and elsewhere may have, or assert, notification or approval rights over acquisitions or transfers of shares.

Depositary payments to the Company

The Depositary reimburses the Company for certain expenses it incurs in relation to the ADS programme. The Depositary also pays the standard out-of-pocket maintenance costs for the ADSs, which consist of the expenses for the mailing of annual and interim financial reports, printing and distributing dividend cheques, the electronic filing of US federal tax information, mailing required tax forms, stationery, postage, facsimile and telephone calls. It also reimburses the Company for certain investor relationship programmes or special investor relations promotional activities. There are limits on the amount of expenses for which the Depositary will reimburse the Company, but the amount of reimbursement is not necessarily tied to the amount of fees the Depositary collects from investors.

For the period 17 May 2018 to 15 May 2019, the Company received a total of $1,993,813.16 in reimbursements from the Depositary consisting of $1,330,665.54 and $663,147.62 received in October 2018 and February 2019 respectively. Fees that are charged on cash dividends will be apportioned between the Depositary and the Company.

Any questions from ADS holders should be directed to The Bank of New York Mellon at the contact details on page 243.

Description of securities other than equity securities: Depositary fees and charges

The Bank of New York Mellon, as the Depositary, collects fees by deducting them from the amounts distributed or by selling a portion of distributable property, for:

- delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them; and
- making distributions to investors (including, it is expected, cash dividends).

The Depositary may generally refuse to provide fee-attracting services until its fees for those services are paid.

Persons depositing or withdrawing shares must pay:	For
$5.00 per 100 ADSs (or portion of 100 ADSs)	Issuance of ADSs, including issuances resulting from a distribution of shares or rights or other property; cancellation of ADSs for the purpose of withdrawal, including if the Deposit Agreement terminates; and distribution of securities distributed to holders of deposited securities that are distributed by the Depositary to ADS holders.
Registration or transfer fees	Transfer and registration of shares on our share register to or from the name of the Depositary or its agent when they deposit or withdraw shares.
Expenses of the Depositary	Cable, telex and facsimile transmissions (when expressly provided in the Deposit Agreement); and converting foreign currency to dollars.
Taxes and other governmental charges the Depositary or the Custodian has to pay on any ADS or share underlying an ADS, for example, stock transfer taxes, stamp duty or withholding taxes	As necessary.

The Company's Deposit Agreement under which the ADSs are issued allows a fee of up to $0.05 per ADS to be charged for any cash distribution made to ADS holders, including cash dividends. ADS holders who receive cash in relation to the 2018/19 final dividend will be charged a fee of $0.02 per ADS by the Depositary prior to distribution of the cash dividend.

Documents on display

National Grid is subject to the filing requirements of the Exchange Act, as amended. In accordance with these requirements, we file reports and other information with the SEC. These materials, including this document, may be inspected during normal business hours at our registered office: 1–3 Strand, London, WC2N 5EH. Some of our filings are also available on the SEC's website at www.sec.gov.

Shareholder information
continued

Events after the reporting period

Other than as described in note 38 to the financial statements, there were no events after the reporting period.

Exchange controls

There are currently no UK laws, decrees or regulations that restrict the export or import of capital, including, but not limited to, foreign exchange control restrictions, or that affect the remittance of dividends, interest or other payments to non-UK resident holders of ordinary shares except as otherwise set out in Taxation on pages 219 – 220 and except in respect of the governments of and/or certain citizens, residents or bodies of certain countries (described in applicable Bank of England Notices or European Union Council Regulations in force as at the date of this document).

Material interests in shares

As at 31 March 2019, National Grid had been notified of the following holdings in voting rights of 3% or more in the issued share capital of the Company:

	Number of ordinary shares	% of voting rights[1]
BlackRock, Inc.	244,216,445	7.29
Competrol International Investments Limited	125,733,926	3.69
The Capital Group Companies, Inc.	145,094,617	3.88

1. This number is calculated in relation to the issued share capital at the time the holding was disclosed.

As at 15 May 2019, no further notifications have been received.

The rights attached to ordinary shares are detailed on page 216. All ordinary shares and all major shareholders have the same voting rights. The Company is not, to the best of its knowledge, directly or indirectly controlled.

Share capital

As at 15 May 2019, the share capital of the Company consists of ordinary shares of $12^{204/473}$ pence nominal value each and ADSs, which represent five ordinary shares each.

Authority to purchase shares

Shareholder approval was given at the 2018 AGM to purchase up to 10% of the Company's share capital (being 335,635,105 ordinary shares). The Directors intend to seek shareholder approval to renew this authority at the 2019 AGM.

In some circumstances, the Company may find it advantageous to have the authority to purchase its own shares in the market, where the Directors believe this would be in the interests of shareholders generally. The Directors believe that it is an important part of the financial management of the Company to have the flexibility to repurchase issued shares to manage its capital base, including actively managing share issuances from the operation of the scrip dividend scheme. It is expected that repurchases to manage share issuances under the scrip dividend scheme will not exceed 2.5% of the issued share capital (excluding treasury shares) per annum.

When purchasing shares, the Company has taken, and will continue to take, into account market conditions prevailing at the time, other investment and financing opportunities, and the overall financial position of the Company.

At the 2018 AGM, the Company sought authority to purchase ordinary shares in the capital of the Company as part of the management of the dilutive effect of share issuances under the scrip dividend scheme. During the year, the Company did not purchase any of its own shares.

	Number of shares	Total nominal value	% of called up share capital
Shares held in Treasury purchased in prior years[1]	282,960,111	£35,175,590.97[2]	7.78[1]
Shares purchased and held in Treasury during the year	–	–	–
Shares transferred from Treasury during the year (to employees under employee share plans)	5,696,887	£708,196.54[2]	0.15[3]
Maximum number of shares held in Treasury during the year	282,960,111	£35,175,590.97[2]	7.67[3]

1. Called-up share capital: 3,637,747,827 as at 31 March 2018.
2. Nominal value: $12^{204/473}$p.
3. Called-up share capital of 3,687,483,073 ordinary shares as at the date of this report.

As at the date of this report, the Company held 275,597,944 ordinary shares as treasury shares, this represented 7.47% of the Company's called-up share capital.

Authority to allot shares

Shareholder approval was given at the 2018 AGM to allot shares of up to one third of the Company's share capital. The Directors are seeking this same level of authority this year. The Directors consider that the Company will have sufficient flexibility with this level of authority to respond to market developments and that this authority is in line with investor guidelines.

The Directors currently have no intention of issuing new shares or of granting rights to subscribe for or convert any security into shares. This is except in relation to, or in connection with, the operation and management of the Company's scrip dividend scheme and the exercise of options under the Company's share plans. No issue of shares will be made that would effectively alter control of the Company without the sanction of shareholders in a general meeting.

The Company expects to actively manage the dilutive effect of share issuance arising from the operation of the scrip dividend scheme. In some circumstances, additional shares may be allotted to the market for this purpose under the authority provided by this resolution. Under these circumstances, it is expected that the associated allotment of new shares (or rights to subscribe for or convert any security into shares) will not exceed 1% of the issued share capital (excluding treasury shares) per annum.

Dividend waivers

The trustees of the National Grid Employees Share Trust, which are independent of the Company, waived the right to dividends paid during the year. They have also agreed to waive the right to future dividends, in relation to the ordinary shares and ADSs held by the trust.

Under the Company's ADS programme, the right to dividends in relation to the ordinary shares underlying the ADSs was waived during the year by the Depositary, under an arrangement whereby the Company pays the monies to satisfy any dividends separately to the Depositary for distribution to ADS holders entitled to the dividend. This arrangement is expected to continue for future dividends.

Share information

National Grid ordinary shares are listed on the London Stock Exchange under the symbol NG. The ADSs are listed on the New York Stock Exchange under the symbol NGG.

Shareholder analysis

The following table includes a brief analysis of shareholder numbers and shareholdings as at 31 March 2019.

	Number of shareholders	% of shareholders	Number of shares	% of shares
1-50	177,679	21.26	5,421,073	0.15
51-100	214,748	25.69	15,107,795	0.41
101-500	348,114	41.65	72,404,255	1.96
501-1,000	47,549	5.69	33,105,293	0.90
1,001-10,000	44,884	5.37	110,331,077	2.99
10,001-50,000	1,771	0.21	31,801,893	0.86
50,001-100,000	233	0.03	16,808,775	0.46
100,001-500,000	445	0.05	105,375,558	2.86
500,001-1,000,000	124	0.01	88,564,399	2.40
1,000,001+	300	0.04	3,208,562,955	87.01
Total	835,847	100	3,687,483,073	100

Taxation

The discussion in this section provides information about certain US federal income tax and UK tax consequences for US Holders (defined below) of owning ADSs and ordinary shares. A US Holder is the beneficial owner of ADSs or ordinary shares who:

- is for US federal income tax purposes (i) an individual citizen or resident of the United States; (ii) a corporation created or organised under the laws of the United States, any state thereof or the District of Columbia; (iii) an estate, the income of which is subject to US federal income tax without regard to its source; or (iv) a trust, if a court within the United States is able to exercise primary supervision over the administration of the trust and one or more US persons have the authority to control all substantial decisions of the trust, or the trust has elected to be treated as a domestic trust for US federal income tax purposes;
- is not resident or ordinarily resident in the UK for UK tax purposes; and
- does not hold ADSs or ordinary shares in connection with the conduct of a business or the performance of services in the UK or otherwise in connection with a branch, agency or permanent establishment in the UK.

This discussion is not a comprehensive description of all the US federal income tax and UK tax considerations that may be relevant to any particular investor (including consequences under the US alternative minimum tax or net investment income tax). Neither does it address state, local or other tax laws. National Grid has assumed that shareholders, including US Holders, are familiar with the tax rules applicable to investments in securities generally and with any special rules to which they may be subject. This discussion deals only with US Holders who hold ADSs or ordinary shares as capital assets. It does not address the tax treatment of investors who are subject to special rules. Such investors may include:

- financial institutions;
- insurance companies;
- dealers in securities or currencies;
- investors who elect mark-to-market treatment;
- entities treated as partnerships or other pass-through entities and their partners;
- individual retirement accounts and other tax-deferred accounts;
- tax-exempt organisations;
- investors who own (directly or indirectly) 10% or more of our shares (by vote or value);
- investors who hold ADSs or ordinary shares as a position in a straddle, hedging transaction or conversion transaction;
- individual investors who have ceased to be resident in the UK for a period of five years or less;
- persons that have ceased to be US citizens or lawful permanent residents of the US; and
- US Holders whose functional currency is not the US dollar.

The statements regarding US and UK tax laws and administrative practices set forth below are based on laws, treaties, judicial decisions and regulatory interpretations that were in effect on the date of this document. These laws and practices are subject to change without notice, potentially with retroactive effect. In addition, the statements set forth below are based on the representations of the Depositary and assume that each party to the Deposit agreement will perform its obligations thereunder in accordance with its terms.

US Holders of ADSs generally will be treated as the owners of the ordinary shares represented by those ADSs for US federal income tax purposes. For the purposes of the Tax Convention, the Estate Tax Convention and UK tax considerations, this discussion assumes that a US Holder of ADSs will be treated as the owner of the ordinary shares represented by those ADSs. HMRC has stated that it will continue to apply its long-standing practice of treating a holder of ADSs as holding the beneficial interest in the ordinary shares represented by the ADSs; however, we note that this is an area of some uncertainty and may be subject to change.

US Holders should consult their own advisors regarding the tax consequences of buying, owning and disposing of ADSs or ordinary shares depending on their particular circumstances, including the effect of any state, local or other tax laws.

Shareholder information continued

Taxation of dividends

The UK does not currently impose a withholding tax on dividends paid to US Holders.

US Holders should assume that any cash distribution paid by us with respect to ADSs or ordinary shares will be reported as dividend income for US federal income tax purposes. While dividend income received from non-US corporations is generally taxable to a non-corporate US Holder as ordinary income for US federal income tax purposes, dividend income received by a non-corporate US Holder from us generally will be taxable at the same favourable rates applicable to long-term capital gains provided (i) either: (a) we are eligible for the benefits of the Tax Convention or (b) ADSs or ordinary shares are treated as 'readily tradable' on an established securities market in the United States; and (ii) we are not, for our taxable year during which the dividend is paid or the prior year, a passive foreign investment company for US federal income tax purposes (a PFIC), and certain other requirements are met. We (1) expect that our shares will be treated as 'readily tradable' on an established securities market in the United States as a result of the trading of ADSs on the New York Stock Exchange. We also (2) believe we are eligible for the benefits of the Tax Convention.

Based on our audited financial statements and the nature of our business activities, we believe that we were not treated as a PFIC for US federal income tax purposes with respect to our taxable year ending 31 March 2019. In addition, based on our current expectations regarding the value and nature of our assets, the sources and nature of our income, and the nature of our business activities, we do not anticipate becoming a PFIC in the foreseeable future.

Dividends received by corporate US Holders with respect to ADSs or ordinary shares will not be eligible for the dividends-received deduction that is generally allowed to corporations.

Taxation of capital gains

US Holders will not be subject to UK taxation on any capital gain realised on the sale or other disposition of ADSs or ordinary shares.

Provided that we are not a PFIC for any taxable year during which a US Holder holds their ADSs or ordinary shares, upon a sale or other disposition of ADSs or ordinary shares, a US Holder generally will recognise capital gain or loss for US federal income tax purposes that is equal to the difference between the US dollar value of the amount realised on the sale or other disposition and the US Holder's adjusted tax basis in the ADSs or ordinary shares. Such capital gain or loss generally will be long-term capital gain or loss if the ADSs or ordinary shares were held for more than one year. For non-corporate US Holders, long-term capital gain is generally taxed at a lower rate than ordinary income. A US Holder's ability to deduct capital losses is subject to significant limitations.

UK stamp duty and stamp duty reserve tax (SDRT)

Transfers of ordinary shares – SDRT at the rate of 0.5% of the amount or value of the consideration will generally be payable on any agreement to transfer ordinary shares that is not completed using a duly stamped instrument of transfer (such as a stock transfer form).

The SDRT liability will be cancelled where an instrument of transfer is executed and duly stamped before the expiry of the six-year period beginning with the date on which the agreement is made. If a claim is made within the specified period, any SDRT which has been paid will be refunded. SDRT is due whether or not the agreement or transfer is made or carried out in the UK and whether or not any party to that agreement or transfer is a UK resident.

Purchases of ordinary shares completed using a stock transfer form will generally result in a UK stamp duty liability at the rate of 0.5% (rounded up to the nearest £5) of the amount or value of the consideration. Paperless transfers under the CREST paperless settlement system will generally be liable to SDRT at the rate of 0.5%, and not stamp duty. SDRT is generally the liability of the purchaser, and UK stamp duty is usually paid by the purchaser or transferee.

Transfers of ADSs – no UK stamp duty will be payable on the acquisition or transfer of existing ADSs or beneficial ownership of ADSs, provided that any instrument of transfer or written agreement to transfer is executed outside the UK and remains at all times outside the UK.

An agreement for the transfer of ADSs in the form of American Depositary Receipts will not result in a SDRT liability. A charge to stamp duty or SDRT may arise on the transfer of ordinary shares to the Depositary or The Bank of New York Mellon as agent of the Depositary (the Custodian).

The rate of stamp duty or SDRT will generally be 1.5% of the value of the consideration or, in some circumstances, the value of the ordinary shares concerned. However, there is no 1.5% SDRT charge on the issue of ordinary shares (or, where it is integral to the raising of new capital, the transfer of ordinary shares) to the Depositary or the Custodian.

The Depositary will generally be liable for the stamp duty or SDRT. Under the terms of the Deposit Agreement, the Depositary will charge any tax payable by the Depositary or the Custodian (or their nominees) on the deposit of ordinary shares to the party to whom the ADSs are delivered against such deposits. If the stamp duty is not a multiple of £5, the duty will be rounded up to the nearest multiple of £5.

US information reporting and backup withholding tax

Dividend payments made to US Holders and proceeds paid from the sale, exchange, redemption or disposal of ADSs or ordinary shares to US Holders may be subject to information reporting to the US Internal Revenue Service (IRS). Such payments may be subject to backup withholding taxes if the US Holder fails to provide an accurate taxpayer identification number or certification of exempt status or fails to comply with applicable certification requirements.

US Holders should consult their tax advisors about these rules and any other reporting obligations that may apply to the ownership or disposition of ADSs or ordinary shares. Such obligations include reporting requirements related to the holding of certain foreign financial assets.

UK inheritance tax

An individual who is domiciled in the US for the purposes of the Estate Tax Convention and who is not a UK national for the purposes of the Estate Tax Convention will generally not be subject to UK inheritance tax in respect of (i) the ADSs or ordinary shares on the individual's death or (ii) a gift of the ADSs or ordinary shares during the individual's lifetime. This is not the case where the ADSs or ordinary shares are part of the business property of the individual's permanent establishment in the UK or relate to a fixed base in the UK of an individual who performs independent personal services.

Special rules apply to ADSs or ordinary shares held in trust. In the exceptional case where the ADSs or shares are subject both to UK inheritance tax and to US federal gift or estate tax, the Estate Tax Convention generally provides for the tax paid in the UK to be credited against tax paid in the US.

Capital gains tax (CGT) for UK resident shareholders

You can find CGT information relating to National Grid shares for UK resident shareholders on the investor section of our website. Share prices on specific dates are also available on our website.

Other disclosures

All-employee share plans

The Company has a number of all-employee share plans as described below, which operated during the year. These allow UK- or US-based employees to participate in either HMRC (UK) or IRS (US) approved plans and to become shareholders in National Grid.

Sharesave

Employees resident in the UK are eligible to participate in the Sharesave plan. Under this plan, participants may contribute between £5 and £500 in total each month, for a fixed period of three years, five years or both. Contributions are taken from net salary.

Share Incentive Plan (SIP)

Employees resident in the UK are eligible to participate in the SIP. Contributions up to £150 per month are deducted from participants' gross salary and used to purchase ordinary shares in National Grid each month. The shares are placed in trust.

US Incentive Thrift Plans

Employees of National Grid's US companies are eligible to participate in the Thrift Plans, which are tax-advantaged savings plans (commonly referred to as 401k plans). These are defined contribution (DC) pension plans that give participants the opportunity to invest up to applicable federal salary limits. The federal limits for calendar year 2018 were: for pre-tax contributions, a maximum of 50% of salary limited to $18,500 for those under the age of 50 and $24,500 for those aged 50 and above; for post-tax contributions, up to 15% of salary. The total amount of employee contributions (pre-tax and post-tax) could not exceed 50% of compensation, and was further subject to the combined federal annual contribution limit of $55,000. For the calendar year 2019, participants may invest up to the applicable federal salary limits: for pre-tax contributions, this is a maximum of 50% of salary limited to $19,000 for those under the age of 50 and $25,000 for those aged 50 and above; for post-tax contributions, this is up to 15% of salary. The total amount of employee contributions (pre-tax and post-tax) may not exceed 50% of compensation, and is further subject to the combined federal annual contribution limit of $56,000.

Employee Stock Purchase Plan (ESPP)

Employees of National Grid's US companies are eligible to participate in the ESPP (commonly referred to as a 423b plan). Eligible employees have the opportunity to purchase ADSs on a monthly basis at a 15% discounted price. Under the plan, employees may contribute up to 20% of base pay each year, up to a maximum annual contribution of $18,888, to purchase ADSs in National Grid.

Change of control provisions

No compensation would be paid for loss of office of Directors on a change of control of the Company. As at 31 March 2019, the Company had borrowing facilities of £4.2 billion available to it with a number of banks, which, on a change of control of the Company following a takeover bid, may alter or terminate; however, the Company is currently not drawing on any of such borrowing facilities. All the Company's share plans contain provisions relating to a change of control. Outstanding awards and options would normally vest and become exercisable on a change of control, subject to the satisfaction of any performance conditions at that time. In the event of a change of control of the Company, a number of governmental and regulatory consents or approvals are likely to be required, arising from laws or regulations of the UK, the US or the EU. Such consents or approvals may also be required for acquisitions of equity securities that do not amount to a change of control.

No other agreements that take effect, alter or terminate upon a change of control of the Company following a takeover bid are considered to be significant in terms of their potential impact on the business as a whole.

Code of Ethics

In accordance with US legal requirements, the Board has adopted a Code of Ethics for senior financial professionals. This code is available on our website: www.nationalgrid.com (where any amendments or waivers will also be posted). There were no amendments to, or waivers of, our Code of Ethics during the year.

Conflicts of interest

In accordance with the Companies Act 2006, the Board has a policy and procedure in place for the disclosure and authorisation (if appropriate) of actual and potential conflicts of interest. The Board continues to monitor and note possible conflicts of interest that each Director may have. The Directors are regularly reminded of their continuing obligations in relation to conflicts, and are required to review and confirm their external interests annually. During the year ended 31 March 2019, no actual or potential conflicts of interest were identified that required approval by the Board. The Board has considered and noted a number of situations in relation to which no actual conflict of interest was identified.

Corporate governance practices: differences from New York Stock Exchange (NYSE) listing standards

The Company is listed on the NYSE and is therefore required to disclose differences in its corporate governance practices adopted as a UK listed company, compared with those of a US company.

The corporate governance practices of the Company are primarily based on the requirements of the Code but substantially conform to those required of US companies listed on the NYSE. The following is a summary of the significant ways in which the Company's corporate governance practices differ from those followed by US companies under Section 303A Corporate Governance Standards of the NYSE.

The NYSE rules and the Code apply different tests for the independence of Board members.

The NYSE rules require a separate nominating/corporate governance committee composed entirely of independent Directors. There is no requirement for a separate corporate governance committee in the UK. Under the Company's corporate governance policies, all Directors on the Board discuss and decide upon governance issues, and the Nominations Committee makes recommendations to the Board with regard to certain responsibilities of a corporate governance committee.

The NYSE rules require listed companies to adopt and disclose corporate governance guidelines. While the Company reports compliance with the Code in each Annual Report and Accounts, the UK requirements do not require the Company to adopt and disclose separate corporate governance guidelines.

The NYSE rules require a separate audit committee composed of at least three independent members. While the Company's Audit Committee exceeds the NYSE's minimum independent Non-executive Director membership requirements, it should be noted that the quorum for a meeting of the Audit Committee, of two independent Non-executive Directors, is less than the minimum membership requirements under the NYSE rules.

The NYSE rules require a compensation committee composed entirely of independent Directors, and prescribe criteria to evaluate the independence of the committee's members and its ability to engage external compensation advisors. While the Code prescribes different independence criteria, the Non-executive Directors on the Company's Remuneration Committee have each been deemed independent by the Board under the NYSE rules. Although the evaluation criteria for appointment of external advisors differ under the Code, the Remuneration Committee is solely responsible for the appointment, retention and termination of such advisors.

Other disclosures continued

Directors' indemnity

The Company has arranged, in accordance with the Companies Act 2006 and the Articles, qualifying third-party indemnities against financial exposure that Directors may incur in the course of their professional duties. Equivalent qualifying third-party indemnities were, and remain, in force for the benefit of those Directors who stood down from the Board in prior financial years for matters arising when they were Directors of the Company. Alongside these indemnities, the Company places Directors' and Officers' liability insurance cover for each Director.

Employees

We negotiate with recognised unions. It is our policy to maintain well-developed communications and consultation programmes. Other than the implementation of the Massachusetts workforce contingency plan in June 2018 in response to a union work stoppage involving 1,250 employees over employment terms and conditions under an expired Massachusetts Gas union collective bargaining agreement, there have been no material disruptions to our operations from labour disputes during the past five years. The agreement under dispute was satisfactorily renegotiated in January 2019 between National Grid and the Massachusetts Gas unions. National Grid believes that it can conduct its relationships with trade unions and employees in a satisfactory manner.

Human rights

Respect for human rights is incorporated into our employment practices and our values, which are integral to our Code of ethical business conduct. The way in which we conduct ourselves allows us to build trust with the people with whom we work. We earn this trust by doing things in the right way, building our reputation as an ethical company that our stakeholders want to do business with and our employees want to work for. Although we do not have specific policies relating to human rights, slavery or human trafficking, our Global Supplier Code of Conduct (GSCoC) integrates human rights into the way we do business throughout our supply chain alongside other areas of sustainability. This Code ensures we create value, preserve natural resources and respect the interests of the communities we serve and from which we procure goods and services. Through our GSCoC, we expect our suppliers to comply with all legislation relating to their business, as well as adhere to the Principles of the United Nations Global Compact, the International Labour Organization (ILO) minimum standards, the Ethical Trading Initiative (ETI) Base Code, the UK Modern Slavery Act 2015 and, for our UK suppliers, the requirements of the Living Wage Foundation.

Listing Rule 9.8.4 R cross-reference table

Information required to be disclosed by LR 9.8.4 R (starting on page indicated):

Interest capitalised	Page 121
Publication of unaudited financial information	Not applicable
Details of long-term incentive schemes	Not applicable
Waiver of emoluments by a director	Page 84
Waiver of future emoluments by a director	Page 71
Non-pre-emptive issues of equity for cash	Not applicable
Item (7) in relation to major subsidiary undertakings	Not applicable
Parent participation in a placing by a listed subsidiary	Not applicable
Contracts of significance	Not applicable
Provision of services by a controlling shareholder	Not applicable
Shareholder waivers of dividends	Page 219
Shareholder waivers of future dividends	Page 219
Agreements with controlling shareholders	Not applicable

Material contracts

On 31 March 2017 we sold a 61% interest in our UK Gas Distribution business (now known as Cadent) to the Consortium and, at the same time, we entered into an agreement with the Consortium for the potential future sale and purchase of an additional 14% equity interest in Quadgas. On 30 April 2018 we entered into a further agreement with the Consortium for the potential future sale and purchase of the remaining 25% equity interest in Quadgas. In November 2018, we announced we had decided to exercise those two options, and the sale of our remaining 39% equity interest to the Consortium is expected to complete at the end of June 2019.

In addition, each of our Executive Directors has a Service Agreement and each Non-executive Director has a Letter of Appointment. Apart from these, no contract (other than contracts entered into in the ordinary course of business) has been entered into by the Group within the two years immediately preceding the date of this report that is, or may be, material, or that contains any provision under which any member of the Group has any obligation or entitlement that is material to the Group at the date of this report.

Political donations and expenditure

At this year's AGM, the Directors will again seek authority from shareholders, on a precautionary basis, for the Company and its subsidiaries to make donations to registered political parties and other political organisations and/or incur political expenditure in the UK and the European Union (EU). In each case, donations will be in amounts not exceeding £125,000 in aggregate. The definitions of these terms in the Companies Act 2006 are very wide. As a result, this can cover bodies such as those concerned with policy review, law reform and the representation of the business community. It could include special interest groups, such as those involved with the environment, which the Company and its subsidiaries might wish to support, even though these activities are not designed to support or influence support for a particular party. The Companies Act 2006 states that all-party parliamentary groups are not political organisations for these purposes, meaning the authority to be sought from shareholders is not relevant to interactions with such groups. The Company has no intention of changing its current practice of not making political donations or incurring political expenditure within the ordinary meaning of those words. This authority is, therefore, being sought to ensure that none of the Company's activities inadvertently infringe these rules.

National Grid made no donations in the UK or the EU during the year, including donations as defined for the purposes of the Political Parties, Elections and Referendums Act 2000. National Grid USA and its affiliated New York and federal political action committees (each a PAC) made political donations in the US totalling $60,081 (£46,025) during the year. National Grid USA's affiliated New York PAC was funded partly by contributions from National Grid USA and certain of its subsidiaries and partly by voluntary employee contributions. National Grid USA's affiliated federal PAC was funded wholly by voluntary employee contributions.

Property, plant and equipment

This information can be found in note 13 property, plant and equipment on pages 132 – 133, note 21 borrowing on pages 141 – 143 and where we operate on page 198.

Research, development and innovation activity

Investment in research and development during the year for the Group was £19 million (2017/18: £13 million; 2016/17: £14 million). Due to the way in which we work with a large number of partners on new ideas, our disclosed research and development expenditure is lower than the overall contribution we make to the industry. We only disclose directly incurred expenditure, and not those amounts our partners contribute to joint or collaborative projects. Collaborating across the industry has played a crucial role in our ability to develop new programmes and deliver value to our stakeholders throughout 2018/19, with increased investment across our UK regulated business areas: UK Electricity Transmission (ET), UK Gas Transmission (GT) and the Electricity System Operator (ESO).

Collaboration remains crucial in search of new technologies and techniques to challenge the way we work. A focus has been on articulation of the impact of the changing energy landscape on our innovation strategies and programmes to the wider stakeholders through workshops and bilateral engagements; and the development of innovation projects to drive the decarbonisation of transport, heat and industry. We are committed to investigating sustainable solutions to our problems. One example is the use of bamboo to try and reduce the impact of transformer noise on our communities.

ET's innovation investment continues to advance our strategic ambitions to reduce the cost of delivering a secure, reliable and sustainable electricity transmission system now and in the future, with 23 new projects started this financial year. We have also started nine projects looking at supporting the decarbonisation of energy, transport and heat. With this aim, we have also actively supported the Flexis initiative in Wales and the Cheshire Energy Hub. Our engagement and in kind contribution to academic research remains strong. We are providing strategic direction, expertise and support to 24 projects funded by the Engineering and Physical Sciences Research Council (EPSRC), helping them and the associated academic partners leverage £64.7 million of grant funding to deliver maximum value and impact to society. These include large consortium initiatives such as the Supergen Energy Networks Hub and the Faraday Institute.

We have also engaged with a wider range of stakeholders by starting our own bi-weekly podcast, Talking Transmission, where we communicate the work we are doing and our views of the energy landscape. We have also launched an electromagnetic field (EMF) website to provide factual, comprehensive information to the wider community and interested parties.

At the Deeside Innovation Centre, the overhead line area and control room are under construction. The first innovation projects are starting to deliver consumer value and contributing to over £21 million savings across UK networks.

This year has been a special one for the ESO, as we legally separated from Electricity Transmission, thus finding new opportunities to deliver innovation projects focused on the specific challenges we are ideally placed to address, helping us realise maximum benefits for our customers and the end consumers in a fast-changing world. As the System Operator (SO), following a refresh of our dual-fuel Innovation Strategy, first published in February 2018, we continue to develop projects that support our priority challenges. To this end, over the last year, the SO has committed over £3.6 million of spend on nine new Network Innovation Allowance (NIA) projects and was awarded £10 million Network Innovation Competition (NIC) funding for our £11.7 million Black Start from Distributed Energy Resources (DERs) project. As the SO sits at the heart of the energy system, we firmly believe in following an Open Innovation approach, and thus strive to collaborate across a range of partners, from academia to industry. The success of our very first SO Open Innovation Day and Gas System Operator (GSO) Hack in 2018 have resulted in new partnerships across our innovation portfolio, which in turn have helped the SO deliver more value to customers and consumers, while exposing us to some of the latest technological solutions out there.

The year ahead will see even more projects come to life from the ESO, including our Black Start NIC project with SP Energy Networks, which will develop and demonstrate coordination of DERs to provide a safe and effective Black Start service at lower cost to consumers. From June 2019, the largest NIA project from the ESO, worth a combined £1.1 million, will trial same-day frequency response procurement for the first time, thus enabling non-programmable generation such as wind to participate, while giving demand-side response providers a clearer picture of what may be required of them and when.

The ESO and UK Power Networks continue to work on the Power Potential project to enable more distributed electricity generation across the South East of England. A technical and commercial solution is being developed that will allow electricity generators to connect to the distribution grid and provide transmission services to the ESO, deferring transmission network reinforcements. This new service is a significant step towards UK Power Networks becoming a Distribution System Operator (DSO) and enabling customers to connect to the network more efficiently. If successful, Power Potential could save energy consumers over £400 million by 2050 and generate an additional 3.72 GW in the South East of the UK, possibly being rolled out to 59 other transmission sites within the UK.

The Enhanced Frequency Control Capability (EFCC) project, which concluded in December 2018, explored how response providers can play a larger role in providing the ESO with faster, coordinated frequency response to help keep the transmission system stable in the most efficient way. The project developed and tested a novel wide-area Monitoring and Control System (MCS), which coordinates and maximises the contribution of fast frequency response from a range of providers. Conclusions from the project provide valuable insight as to how to manage system frequency within a low-inertia system.

GT Innovation has continued to focus on developing innovation programmes across safety, reliability and asset health, while adapting to external factors, such as the future of gas and increasing threats to cyber security. Highlights from the year include:

- the Open Source SCADA project to develop a modularised cyber security solution to provide greater resilience at our compressor sites;
- the Mobile Condensate Tank project, which removes the need for larger, more expensive permanent tanks on site, bringing safety enhancements and significant time and cost efficiencies;
- the Hydrogen Feasibility Study working with the Health and Safety Executive (HSE) to understand the opportunities and challenges of transporting hydrogen through the National Transmission System (NTS); and
- in addition, both of the NIC projects – Project GRAID and Project CLoCC – ended this year, successfully achieving their goals to deliver cost savings and efficiencies to our customers.

Other disclosures continued

Research and Development (R&D) work in the US focused on the advancement of products, processes, systems and work methods that may be new to National Grid. This is accomplished by working with internal departments to identify where strategic R&D investment is needed and is likely to prove beneficial to us. To achieve these goals, we work in collaboration with technical organisations, academia and vendors in the energy sector that align with our goals and objectives. This collaboration has also helped inform our strategic direction in response to jurisdictional requests for modernisation (Grid Modernisation in Massachusetts and REV in New York). We continue to focus our gas R&D on increasing public safety, protecting our workforce and reducing the cost of the work we perform.

In 2018/19, we continued to invest and participate in several significant pilot projects with the intention of obtaining operational knowledge and experience of technology-driven system impacts. Below are a few examples of our R&D projects:

- In Massachusetts under our 'Solar Phase II' programme, we contracted and built 15.27 MW of company-owned photovoltaics (PV). These PV sites have been built with advanced grid interactive control features, beyond what typical PV facilities are required to provide. Operating and analysing the performance of these grid interactive controls will help prepare and future-proof our system to enable a high penetration of distributed energy resources on the distribution system. In the 'Solar Phase III' programme, we have contracted for 14 MW of PV and 5.8 MW of energy storage. The aim of this project is to demonstrate the value of energy storage in the system peak load shaving, solar-ramp rate control and mitigation of power-quality issues. In February 2019, the Company received an Electric Power Research Institute (EPRI) Technology Transfer award, entitled Smart Inverter Requirements and Application, for our work on testing smart inverters' functionalities in support of distribution grid operations.
- We are engaged with the EPRI on a number of programmes, including distributed energy resources integration, energy storage, asset management, system operations, information and communication technology and system planning.
- We have completed two New York REV pilot projects: Fruit Belt Neighbourhood Solar and Community Resilience. We are also progressing an additional four REV pilot projects, to test new technologies and business models in which distributed energy resources are integrated for grid operations:
  - Residential Demand Reduction with time-of-use-rates;
  - Distributed System Platforms;
  - Distributed Generation Integration; and
  - Smart Cities.
- We are also working on developing a new REV pilot project to test strategies to increase residential energy-efficiency uptake.
- We support several US Department of Energy projects under the SunShot programme, aimed to further the integration and proliferation of solar PV.
- We are preparing to demonstrate online monitoring technology at transmission substations and lines in our New England service area. This will help the move towards enhanced condition-based asset management. These technologies will allow the Company to utilise the capacity of lines and transformers more efficiently, enabling the investment to upgrade the asset to be deferred.
- We are preparing to demonstrate power flow control technology in New England to improve the operation of our transmission network and to defer capital investment.
- We are developing an energy storage playbook that would help us to deploy energy storage to improve system reliability and defer capital investment.
- We are building equipment testing and training labs to support our initial upgrades of transmission substations across our service area to the IEC 61850 communications standard.
- Building on the successful development and deployment of new equipment to stop the flow of gas in our distribution mains, we are expanding the applicability of the equipment to mains sized 750mm and larger. These mains are some of the largest operating in our system and will provide some of the greatest cost savings when deployed. This equipment is much smaller than previous equipment. It operates at a higher pressure, allowing our workforce to work more quickly and safely in smaller excavations with less customer impact.
- We are currently selecting projects to field-test alternative trenchless technologies using main insertion and plastic pipe splitting. Main insertion introduces high-pressure gas mains to regions utilising the old gas infrastructure. When using this main replacement technique, gas service is maintained to the customer until it is convenient to transfer the customer to the new high-pressure gas main.
- While partnering with a robotics company and another utility, we are developing and testing new technology to locate inadvertent sewer cross bores created when using some trenchless technology. This technology is deployed in our gas main immediately after installation, prior to the introduction of natural gas. It differs from the current process, which requires us to gain access to the municipal sewer system. Deployment will reduce the risk and cost associated with sewer cross bores.
- We utilised a drone to perform a regulated inspection of a high-pressure gas pipe line suspended under a bridge linking Cape Cod to Massachusetts. This remote vehicle was able to inspect sections of the pipeline not visible from the catwalk. The inspection was performed faster, with more detail and more safely, without putting an inspector forty metres above the water.

Unresolved SEC staff comments

There are no unresolved SEC staff comments required to be reported.

Other unaudited financial information

Alternative performance measures/non-IFRS reconciliations

Within the Annual Report, a number of financial measures are presented. These measures have been categorised as alternative performance measures (APMs), as per the European Securities and Markets Authority (ESMA) guidelines and the Securities and Exchange Commission (SEC) conditions for use of non-GAAP Financial Measures.

An APM is a financial measure of historical or future financial performance, financial position, or cash flows, other than a financial measure defined under IFRS. The Group uses a range of these measures to provide a better understanding of its underlying performance. APMs are reconciled to the most directly comparable IFRS financial measure where practicable.

The Group has defined the following financial measures as APMs derived from IFRS: net revenue, the various adjusted operating profit, earnings and earnings per share metrics detailed in the 'adjusted profit measures' section below, net debt, capital investment, funds from operations (FFO), FFO interest cover and retained cash flow (RCF)/adjusted net debt. For each of these we present a reconciliation to the most directly comparable IFRS measure.

We also have a number of APMs derived from regulatory measures which have no basis under IFRS; we call these Regulatory Performance Measures. They comprise: Group Return on Equity (RoE), UK and US regulatory RoE, regulated asset base, regulated financial performance, regulatory gearing, asset growth and Value Added including Value Added per share. These measures reflect the inputs used by utility regulators to set the allowed revenues for many of our businesses.

We use regulatory performance measures to monitor progress against our regulatory agreements and certain aspects of our strategic objectives. Further, targets for certain of these performance measures are included in the Company's Annual Performance Plan (APP) and Long Term Performance Plan (LTPP) and contribute to how we reward our employees. As such, we believe that they provide close correlation to the economic value we generate for our shareholders and are therefore important supplemental measures for our shareholders to understand the performance of the business and to ensure a complete understanding of Group performance.

As the starting point for our Regulatory Performance Measures is not IFRS, and these measures are not governed by IFRS, we are unable to provide meaningful reconciliations to any directly comparable IFRS measures, as differences between IFRS and the regulatory recognition rules applied have built up over many years. Instead, for each of these we present an explanation of how the measure has been determined and why it is important, and an overview as to why it would not be meaningful to provide a reconciliation to IFRS.

Alternative performance measures

Net revenue

'Net revenue' is revenue less pass-through costs, such as UK system balancing costs, gas and electricity commodity costs in the US and, prior to the adoption of IFRS 15, payments to other UK network owners. Pass-through costs are fully recoverable from our customers and are recovered through separate charges that are designed to recover those costs with no profit. Any over- or under-recovery of these costs is returned to, or recovered from, our customers.

	2019			2018			2017		
Year ended 31 March	Gross revenue £m	Pass-through costs £m	Net revenue £m	Gross revenue £m	Pass-through costs £m	Net revenue £m	Gross revenue £m	Pass-through costs £m	Net revenue £m
UK Electricity Transmission	3,351	(1,397)	1,954	4,154	(2,243)	1,911	4,439	(2,293)	2,146
UK Gas Transmission	896	(227)	669	1,091	(257)	834	1,080	(223)	857
US Regulated	9,846	(3,978)	5,868	9,272	(3,804)	5,468	8,931	(3,411)	5,520
NGV and Other	876	–	876	776	–	776	713	–	713
Sales between segments	(36)	–	(36)	(43)	–	(43)	(128)	–	(128)
Total	14,933	(5,602)	9,331	15,250	(6,304)	8,946	15,035	(5,927)	9,108

Adjusted profit measures

In considering the financial performance of our business and segments, we use various adjusted profit measures in order to aid comparability of results year-on-year.

The various measures are presented on pages 26 – 32 and reconciled below.

Adjusted results, also referred to as Headline results – these exclude the impact of exceptional items and remeasurements that are treated as discrete transactions under IFRS and can accordingly be classified as such. This is a measure used by management that forms part of the incentive target set annually for remunerating certain Executive Directors, and further details of these items are included in Note 5 to the financial statements.

Underlying results – further adapts our adjusted results to take account of volumetric and other revenue timing differences arising due to the in-year difference between allowed and collected revenues, including revenue incentives, as governed by our rate plans in the US or regulatory price controls in the UK (but excluding totex-related allowances and adjustments). For 2018/19, as highlighted on page 226, our underlying results exclude £108 million (2017/18: £104 million) of timing differences, as well as £93 million (2017/18: £142 million) of major storm costs (which are significant in aggregate) where we expect to recover the bulk of the costs incurred through regulatory mechanisms in the US.

Constant currency – the adjusted profit measures are also shown on a constant currency basis to show the year-on-year comparisons excluding any impact of foreign currency movements.

Other unaudited financial information continued

Reconciliation of statutory, adjusted and underlying profits and earnings – at actual exchange rates – continuing operations

Year ended 31 March 2019	Statutory £m	Exceptionals and remeasurements £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	778	237	1,015	77	–	1,092
UK Gas Transmission	267	36	303	38	–	341
US Regulated	1,425	299	1,724	(223)	93	1,594
NGV and Other	400	–	400	–	–	400
Total operating profit	2,870	572	3,442	(108)	93	3,427
Net finance costs	(1,069)	76	(993)	–	–	(993)
Share of post-tax results of JVs and associates	40	–	40	–	–	40
Profit before tax	1,841	648	2,489	(108)	93	2,474
Tax	(339)	(149)	(488)	36	(24)	(476)
Profit after tax	1,502	499	2,001	(72)	69	1,998

Year ended 31 March 2018	Statutory £m	Exceptionals and remeasurements £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	1,041	–	1,041	14	–	1,055
UK Gas Transmission	487	–	487	18	–	505
US Regulated	1,734	(36)	1,698	(136)	142	1,704
NGV and Other	231	–	231	–	–	231
Total operating profit	3,493	(36)	3,457	(104)	142	3,495
Net finance costs	(882)	(119)	(1,001)	–	–	(1,001)
Share of post-tax results of JVs and associates	49	(5)	44	–	–	44
Profit before tax	2,660	(160)	2,500	(104)	142	2,538
Tax	889	(1,473)	(584)	42	(51)	(593)
Profit after tax	3,549	(1,633)	1,916	(62)	91	1,945

Year ended 31 March 2017	Statutory £m	Exceptionals and remeasurements £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	1,361	11	1,372	(137)	–	1,235
UK Gas Transmission	507	4	511	(62)	–	449
US Regulated	1,278	435	1,713	(199)	–	1,514
NGV and Other	62	115	177	–	–	177
Total operating profit	3,208	565	3,773	(398)	–	3,375
Net finance costs	(1,087)	58	(1,029)	–	–	(1,029)
Share of post-tax results of JVs and associates	63	–	63	–	–	63
Profit before tax	2,184	623	2,807	(398)	–	2,409
Tax	(374)	(292)	(666)	119	–	(547)
Profit after tax	1,810	331	2,141	(279)	–	1,862

Reconciliation of adjusted and underlying profits – at constant currency

	At constant currency					
Year ended 31 March 2018	Adjusted at actual exchange £m	Constant currency adjustment £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	1,041	–	1,041	14	–	1,055
UK Gas Transmission	487	–	487	18	–	505
US Regulated	1,698	68	1,766	(141)	148	1,773
NGV and Other	231	(4)	227	–	–	227
Total operating profit	3,457	64	3,521	(109)	148	3,560
Net finance costs	(1,001)	(27)	(1,028)	–	–	(1,028)
Share of post-tax results of JVs and associates	44	1	45	–	–	45
Profit before tax	2,500	38	2,538	(109)	148	2,577

	At constant currency					
Year ended 31 March 2017	Adjusted at actual exchange £m	Constant currency adjustment £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	1,372	–	1,372	(137)	–	1,235
UK Gas Transmission	511	–	511	(62)	–	449
US Regulated	1,713	(38)	1,675	(195)	–	1,480
NGV and Other	177	1	178	–	–	178
Total operating profit	3,773	(37)	3,736	(394)	–	3,342
Net finance costs	(1,029)	12	(1,017)	–	–	(1,017)
Share of post-tax results of JVs and associates	63	–	63	–	–	63
Profit before tax	2,807	(25)	2,782	(394)	–	2,388

Earnings per share calculations from continuing operations – at actual exchange rates

The table below reconciles the profit before tax from continuing operations as per the previous tables back to the earnings per share from continuing operations for each of the adjusted profit measures. Earnings per share is only presented for those adjusted profit measures that are at actual exchange rates, and not for those at constant currency.

Year ended 31 March 2019	**Profit after tax £m**	**Non-controlling interest £m**	**Profit after tax attributable to shareholders £m**	**Weighted average number of shares millions**	**Earnings per share pence**
Statutory	**1,502**	**(3)**	**1,499**	**3,386**	**44.3**
Adjusted (also referred to as headline)	**2,001**	**(3)**	**1,998**	**3,386**	**59.0**
Underlying	**1,998**	**(3)**	**1,995**	**3,386**	**58.9**

Year ended 31 March 2018	Profit after tax £m	Non-controlling interest £m	Profit after tax attributable to shareholders £m	Weighted average number of shares millions	Earnings per share pence
Statutory	3,549	(1)	3,548	3,461	102.5
Adjusted (also referred to as headline)	1,916	(1)	1,915	3,461	55.3
Underlying	1,945	(1)	1,944	3,461	56.2

Year ended 31 March 2017	Profit after tax £m	Non-controlling interest £m	Profit after tax attributable to shareholders £m	Weighted average number of shares millions	Earnings per share pence
Statutory	1,810	–	1,810	3,763	48.1
Adjusted (also referred to as headline)	2,141	–	2,141	3,763	56.9
Underlying	1,862	–	1,862	3,763	49.5

Other unaudited financial information continued

Timing and regulated revenue adjustments

As described on pages 199 – 209, our allowed revenues are set in accordance with our regulatory price controls or rate plans. We calculate the tariffs we charge our customers based on the estimated volume of energy we expect will be delivered during the coming period. The actual volumes delivered will differ from the estimate. Therefore, our total actual revenue will be different from our total allowed revenue. These differences are commonly referred to as timing differences.

If we collect more than the allowed revenue, the balance must be returned to customers in subsequent periods, and if we collect less than the allowed level of revenue, we may recover the balance from customers in subsequent periods. In the US, a substantial portion of our costs are pass-through costs (including commodity and energy efficiency costs) and are fully recoverable from our customers. Timing differences between costs of this type being incurred and their recovery through revenue are also included in timing. The amounts calculated as timing differences are estimates and subject to change until the variables that determine allowed revenue are final.

Our continuing operating profit for the year includes a total estimated in-year over-collection of £108 million (2017/18: £104 million over-collection). Our closing balance at 31 March 2019 was £407 million over-recovered. In the UK, there was cumulative under-recovery of £59 million at 31 March 2019 (2018: over-recovery of £49 million for continuing operations). In the US, cumulative timing over-recoveries at 31 March 2019 were £248 million (2018: £230 million over-recovery). A sizeable part of that balance is expected to be returned to customers next year.

The total estimated in-year over- or under-collection excludes opening balance adjustments related to estimates or finalisation of balances as part of regulatory submissions.

In addition to the timing adjustments described above, as part of the RIIO price controls in the UK, outperformance against allowances as a result of the totex incentive mechanism, together with changes in output-related allowances included in the original price control, will almost always be adjusted in future revenue recoveries, typically starting in two years' time. We are also recovering revenues in relation to certain costs incurred (for example pension contributions made) in prior years.

Our current IFRS revenues and earnings include these amounts that relate to certain costs incurred in prior years or that will need to be repaid or recovered in future periods. Such adjustments will form an important part of the continuing difference between reported IFRS results and underlying economic performance based on our regulatory obligations.

For our UK Regulated businesses as a whole (excluding the UK Gas Distribution business), timing and regulated revenue adjustments totalled a return of £243 million in the year (2017/18: £40 million recovered). In the US, accumulated regulatory entitlements cover a range of different areas, with the most significant being environmental remediation and pension assets, as well as deferred storm costs.

All regulatory entitlements are recoverable (or repayable) over different periods, which are agreed with the regulators to match the expected payment profile for the liabilities. As at 31 March 2019, these extend until 2069.

	UK Electricity Transmission £m	**UK Gas Transmission £m**	**US Regulated £m**	**Total £m**
1 April 2018 opening balance[1]	**(41)**	**97**	**241**	**297**
Over/(under) recovery	**(77)**	**(38)**	**223**	**108**
31 March 2019 closing balance to (recover)/return	**(118)**	**59**	**464**	**405**

	UK Electricity Transmission £m	UK Gas Transmission £m	US Regulated £m	Total £m
1 April 2017 opening balance[1]	(30)	111	106	187
Over/(under) recovery[2]	(14)	(18)	141	109
31 March 2018 closing balance to (recover)/return[1]	(44)	93	247	296

	UK Electricity Transmission £m	UK Gas Transmission £m	US Regulated £m	Total £m
1 April 2016 opening balance[1]	(167)	50	(97)	(214)
Over/(under) recovery[2]	137	62	195	394
31 March 2017 closing balance to (recover)/return[1]	(30)	112	98	180

1. Opening balances have been restated to reflect the finalisation of calculated over/(under)-recoveries in the UK and the US.
2. US over/(under) recovery and all US Regulated balances have been translated using the average exchange rate for the year ended 31 March 2019. The over-recovered closing balance at 31 March 2019 was £407m (translated at the closing rate of $1.30:£1).

Capital investment

'Capital investment' or 'investment' refer to additions to property, plant and equipment and intangible assets, and contributions to joint ventures and associates, other than the St William Homes LLP joint venture during the period. We also include the Group's investments by National Grid Partners during the period which are classified for IFRS purposes as non-current financial assets in the Group's consolidated statement of financial position.

Investments made to our St William Homes LLP arrangement are excluded based on the nature of this joint venture arrangement. We typically contribute property assets to the joint venture in exchange for cash and accordingly do not consider these transactions to be in the nature of capital investment.

	At actual exchange rates			At constant currency		
Year ended 31 March	**2019 £m**	2018 £m	% change	**2019 £m**	2018 £m	% change
UK Electricity Transmission	**925**	999	(7)	**925**	999	(7)
UK Gas Transmission	**308**	310	(1)	**308**	310	(1)
US Regulated	**2,650**	2,424	9	**2,650**	2,521	5
NGV and Other	**438**	341	28	**438**	346	27
Group capex	**4,321**	4,074	6	**4,321**	4,176	3
Equity investment, funding contributions and loans to joint ventures and associates[1]	**185**	177	5	**185**	181	2
Group capital investment	**4,506**	4,251	6	**4,506**	4,357	3

1. Excludes £47 million (2018: £19 million) equity contribution to the St William Homes LLP joint venture. 2018/19 includes £58 million National Grid Partners investment, of which £6 million is in an associate.

Net debt

See note 29 on page 159 for the definition and reconciliation of net debt.

Funds from operations (FFO) and interest cover

FFO is the cash flows generated by the operations of the Group. Credit rating metrics, including FFO, are used as indicators of balance sheet strength.

Year ended 31 March	**2019 £m**	2018[1] £m	2017[1] £m
Interest expense (income statement)	**1,066**	1,128	1,082
Hybrid interest reclassified as dividend	**(51)**	(51)	(51)
Capitalised interest	**135**	128	109
Pensions interest adjustment	**(4)**	(49)	(60)
Interest on lease rentals adjustment	**11**	16	18
Unwinding of discount on provisions	**(74)**	(75)	(73)
Other interest adjustments	**1**	12	1
Interest paid (discontinued operations)	**–**	–	146
Adjusted interest expense	**1,084**	1,109	1,172
Net cash inflow from operating activities	**4,389**	4,710	4,320
Interest received on financial instruments	**68**	57	51
Interest paid on financial instruments	**(914)**	(853)	(839)
Dividends received	**201**	213	99
Working capital adjustment	**(40)**	(118)	(151)
Excess employer pension contributions	**260**	211	606
Hybrid interest reclassified as dividend	**51**	51	51
Lease rentals	**34**	86	86
Difference in net interest expense in income statement to cash flow	**(186)**	(178)	(170)
Difference in current tax in income statement to cash flow	**(13)**	(206)	(47)
Current tax related to prior periods	**(52)**	(22)	(46)
Cash flow from discontinued operations	**(71)**	(207)	909
Interest paid (discontinued operations)	**–**	–	(146)
Funds from operations (FFO)	**3,727**	3,744	4,723
FFO interest cover ((FFO + adjusted interest expense)/adjusted interest expense)	**4.4x**	4.4x	5.0x

1. Numbers for 2018 and 2017 reflect the calculations for the total Group as based on the published accounts for the respective years and have not been restated for discontinued operations.

Other unaudited financial information continued

Retained cash flow (RCF)/adjusted net debt

RCF/net debt is one of two credit metrics that we monitor in order to ensure the Group is generating sufficient cash to service its debts, consistent with maintaining a strong investment-grade credit rating. We calculated RCF/net debt applying the methodology used by Moody's, as this is one of the most constrained calculations of credit worthiness. The net debt denominator includes adjustments to take account of off-balance sheet leases and the equity component of hybrid debt.

Year ended 31 March	2019 £m	2018 £m	2017 £m
Funds from operations (FFO)	**3,727**	3,744	4,723
Hybrid interest reclassified as dividend	**(51)**	(51)	(51)
Ordinary dividends paid to shareholders	**(1,160)**	(1,316)	(1,463)
RCF (excluding share buybacks)	**2,516**	2,377	3,209
Repurchase of shares	**–**	(178)	(189)
RCF (net of share buybacks)	**2,516**	2,199	3,020
Borrowings	**28,730**	26,625	28,638
Less:			
50% hybrid debt	**(1,039)**	(1,050)	(1,033)
Cash and cash equivalents	**(252)**	(329)	(1,139)
Financial and other investments	**(1,311)**	(2,304)	(7,432)
Restricted cash	**–**	–	2
Underfunded pension obligations	**845**	857	1,487
Operating leases adjustment	**248**	408	526
Derivative balances removed from debt	**141**	(479)	52
Currency swaps	**38**	117	72
Nuclear decommissioning liabilities reclassified as debt	**18**	5	36
Collateral – cash received under collateral agreements	**(558)**	(878)	(709)
Accrued interest removed from short-term debt	**(223)**	(195)	(210)
Adjusted net debt (includes pension deficit)	**26,637**	22,777	20,290
RCF (excluding share buybacks)/adjusted net debt	**9.4%**	10.4%	15.8%
RCF (net of share buybacks)/adjusted net debt	**9.4%**	9.7%	14.9%

Regulatory Performance Measures

Regulated financial performance – UK

Regulatory financial performance is a pre-interest and tax measure, starting at segmental operating profit and making adjustments (such as the elimination of all pass-through items included in revenue allowances and timing) to approximate regulatory profit for the UK regulated activities. This measure provides a bridge for investors between a well-understood and comparable IFRS starting point and through the key adjustments required to approximate regulatory profit. This measure also provides the foundation to calculate Group Return on Equity (RoE).

For the reasons noted above, the table below shows the principal differences between the IFRS operating profit and the regulated financial performance, but is not a formal reconciliation to an equivalent IFRS measure.

UK Electricity Transmission

Year ended 31 March	2019 £m	2018 £m	2017 £m
Adjusted operating profit	**1,015**	1,041	1,372
Movement in regulatory 'IOUs'	**174**	51	(288)
Deferred taxation adjustment	**64**	70	62
RAV indexation (average 3% long-run inflation)	**391**	374	356
Regulatory vs IFRS depreciation difference	**(394)**	(377)	(379)
Fast money/other	**72**	69	34
Pensions	**(51)**	(49)	(47)
Performance RAV created	**90**	83	74
Regulated financial performance	**1,361**	1,262	1,184

UK Gas Transmission

Year ended 31 March	2019 £m	2018 £m	2017 £m
Adjusted operating profit	**303**	487	511
Movement in regulatory 'IOUs'	**68**	(91)	(120)
Deferred taxation adjustment	**8**	18	39
RAV indexation (average 3% long-run inflation)	**179**	173	168
Regulatory vs IFRS depreciation difference	**(42)**	(29)	(21)
Fast money/other	**(10)**	(11)	(14)
Pensions	**(33)**	(32)	(53)
Performance RAV created	**(30)**	(16)	(11)
Regulated financial performance	**443**	499	499

Regulated financial performance – US Regulated

Year ended 31 March	2019 £m	2018 £m	2017 £m
Adjusted operating profit	**1,724**	1,698	1,713
Major storm costs	**93**	142	–
Timing	**(223)**	(136)	(199)
US GAAP pension adjustment	**(80)**	(73)	(155)
Regulated financial performance	**1,514**	1,631	1,359

Total regulated financial performance

Year ended 31 March	2019 £m	2018 £m	2017 £m
UK Electricity Transmission	**1,361**	1,262	1,184
UK Gas Transmission	**443**	499	499
US Regulated	**1,514**	1,631	1,359
UK Gas Distribution	**n/a**	n/a	864
Total regulated financial performance	**3,318**	3,392	3,906

US timing, major storms and movement in UK regulatory 'IOUs' – Revenue related to performance in one year may be recovered in later years. Revenue may be recovered in one year but be required to be returned to customers in future years. In the UK, this is calculated as the movement in other regulated assets and liabilities.

Performance RAV – UK performance efficiencies are in-part remunerated by the creation of additional RAV which is expected to result in future earnings under regulatory arrangements. This is calculated as in-year totex outperformance multiplied by the appropriate regulatory capitalisation ratio and multiplied by the retained company incentive sharing ratio.

Pension adjustment – Cash payments against pension deficits in the UK are recoverable under regulatory contracts. In US Regulated operations, US GAAP pension charges are generally recoverable through rates. Revenue recoveries are recognised under IFRS but payments are not charged against IFRS operating profits in the year. In the UK this is calculated as cash payments against the regulatory proportion of pension deficits in the UK regulated business, whereas in the US, it is the difference between IFRS and US GAAP pension charges.

3% RAV indexation – Future UK revenues expected to be set using an asset base adjusted for inflation. This is calculated as UK RAV multiplied by 3% (long-run RPI inflation assumption).

UK deferred taxation adjustment – Future UK revenues are expected to recover cash taxation cost including the unwinding of deferred taxation balances created in the current year. This is the difference between: (a) IFRS underlying EBITDA less other regulatory adjustments; and (b) IFRS underlying EBITDA less other regulatory adjustments less current taxation (adjusted for interest tax shield) then grossed up at full UK statutory tax rate.

Regulatory depreciation – US and UK regulated revenues include allowance for a return of regulatory capital in accordance with regulatory assumed asset lives. This return does not form part of regulatory profit.

Fast/slow money adjustment – The regulatory remuneration of costs incurred is split between in-year revenue allowances and the creation of additional RAV. This does not align with the classification of costs as operating costs and fixed asset additions under IFRS accounting principles. This is calculated as the difference between IFRS classification of costs as operating costs or fixed asset additions and the regulatory classification.

Other unaudited financial information continued

Regulated asset base

The regulated asset base is a regulatory construct, based on predetermined principles not based on IFRS. It effectively represents the invested capital on which we are authorised to earn a cash return. By investing efficiently in our networks, we add to our regulated asset base over the long term and this in turn contributes to delivering shareholder value. Our regulated asset base is comprised of our regulatory asset value in the UK, plus our rate base in the US.

Maintaining efficient investment in our regulated asset base ensures we are well positioned to provide consistently high levels of service to our customers and increases our revenue allowances in future years. While we have no specific target, our overall aim is to achieve between 5% and 7% growth in regulated asset base each year through continued investment in our networks in both the UK and US.

In the UK, the way in which our transactions impact RAV is driven by principles set out by Ofgem. In a number of key areas these principles differ from the requirements of IFRS, including areas such as additions and the basis for depreciation. Further, our UK RAV is adjusted annually for inflation. RAV in each of our retained UK businesses has evolved over the period since privatisation in 1990, and as a result, historical differences between the initial determination of RAV and balances reported under UK GAAP at that time still persist. Due to the above, substantial differences exist in the measurement bases between RAV and an IFRS balance metric, and therefore, it is not possible to provide a meaningful reconciliation between the two.

In the US, rate base is a regulatory measure determined for each of our main US operating companies. It represents the value of property and other assets or liabilities on which we are permitted to earn a rate of return, as set out by the regulatory authorities for each jurisdiction. The calculations are based on the applicable regulatory agreements for each jurisdiction and include the allowable elements of assets and liabilities from our US companies. For this reason, it is not practical to provide a meaningful reconciliation from the US rate base to an equivalent IFRS measure. However, we include the calculation below.

'Total Regulated and other balances' includes the under- or over-recovery of revenues that National Grid's UK regulated businesses target to collect in any year, which are based on the regulator's forecasts for that year. Under the UK price control arrangements, revenues will be adjusted in future years to take account of actual levels of collected revenue, costs and outputs delivered when they differ from those regulatory forecasts. In the US, other regulatory assets and liabilities include regulatory assets and liabilities which are not included in the definition of rate base within that jurisdiction, including working capital where appropriate.

The investment in 'NGV and other businesses' includes net assets excluding pensions, tax and items related to the UK Gas Distribution sale.

As at 31 March (£m at constant currency)	RAV, rate base or other business assets		Total Regulated and other balances	
	2019	2018[1]	**2019**	2018[1]
UK Electricity Transmission	**13,537**	13,045	**13,302**	12,676
UK Gas Transmission	**6,155**	5,960	**6,112**	5,855
US Regulated	**17,565**	16,087	**19,463**	18,007
Total regulated	**37,257**	35,092	**38,877**	36,538
NGV and other businesses	**2,815**	2,300	**2,657**	1,957
Total Group regulated and other balances	**40,072**	37,392	**41,534**	38,495

1. Figures relating to prior periods have, where appropriate, been re-presented at constant currency, for opening balance adjustments following the completion of the UK regulatory reporting pack process in 2018, and finalisation of US balances.

US rate base and Total Regulated and other balances for 31 March 2018 have been restated in the table above at constant currency. At actual currency the values were £14.9 billion and £16.7 billion respectively.

Other business assets and other balances for NGV and Other businesses for 31 March 2018 have been restated in the table above at constant currency. At actual currency the values were £2.2 billion and £1.9 billion respectively.

Group Return on Equity (RoE)

Group RoE provides investors with a view of the performance of the Group as a whole compared with the amounts invested by the Group in assets attributable to equity shareholders. It is the ratio of our regulatory financial performance to our measure of equity investment in assets. It therefore reflects the regulated activities as well as the contribution from our non-regulated businesses together with joint ventures and non-controlling interests.

We use Group RoE to measure our performance in generating value for our shareholders, and targets for Group RoE are included in the incentive mechanisms for executive remuneration within both the APP and LTPP schemes.

Group RoE is underpinned by our regulated asset base. For the reasons noted above, no reconciliation to IFRS has been presented, as we do not believe it would be practical. However, we do include the calculations below.

Calculation: Regulatory financial performance including a long-run assumption of 3% RPI inflation, less adjusted interest and adjusted taxation divided by equity investment in assets:

- adjusted interest removes interest on pensions, capitalised interest in regulated operations and unwind of discount rate on provisions;
- adjusted taxation adjusts the Group taxation charge for differences between IFRS profit before tax and regulated financial performance less adjusted interest; and
- equity investment in assets is calculated as the total opening UK regulatory asset value, the total opening US rate base plus goodwill plus opening net book value of National Grid Ventures and Other activities and our share of joint ventures and associates, minus opening net debt as reported under IFRS restated to the weighted average £/$ exchange rate for the year.

Year ended 31 March	2019 £m	2018 £m	2017 £m
Regulated financial performance	**3,318**	3,392	3,906
Operating profit of other activities	**424**	255	204
Group financial performance	**3,742**	3,647	4,110
Share of post-tax results of joint ventures and associates	**40**	238	63
Non-controlling interests	**(3)**	(1)	1
Adjusted Group interest charge	**(1,037)**	(980)	(1,075)
Group tax charge	**(488)**	(639)	(808)
Tax on adjustments	**(34)**	27	166
Group financial performance after interest and tax	**2,220**	2,292	2,457
Opening rate base/RAV	**35,045**	32,446	40,435
Share of Cadent RAV	**–**	512	–
Opening other	**2,298**	1,787	1,987
Opening goodwill	**5,852**	5,626	5,984
Opening capital employed	**43,195**	40,371	48,406
Opening net debt	**(24,345)**	(21,770)	(27,346)
Opening equity	**18,850**	18,601	21,060
Return on Equity	**11.8%**	12.3%	11.7%

UK and US regulated RoE

		Achieved Return on Equity		Base or Allowed Return on Equity	
Years ended 31 March	Regulatory Debt: Equity assumption	2019 %	2018 %	2019 %	2018 %
UK Electricity Transmission	**60/40**	**13.7**	13.1	**10.2**	10.2
UK Gas Transmission	**62.5/37.5**	**9.5**	10.0	**10.0**	10.0
US Regulated	**Avg. 50/50**	**8.8**	8.9	**9.4**	9.4

UK regulated RoE

UK regulated RoEs are a measure of how the businesses are performing against the assumptions used by our UK regulator. These returns are calculated using the assumption that the businesses are financed in line with the regulatory adjudicated capital structure, at the cost of debt assumed by the regulator, and that RPI inflation is equal to a long-run assumption of 3%. They are calculated by dividing elements of out/under-performance versus the regulatory contract (i.e. regulated financial performance disclosed above) by the average equity RAV in line with the regulatory assumed capital structure and adding to the base allowed RoE.

This is an important measure of UK regulated business performance, and our operational strategy continues to focus on this metric. This measure can be used to determine how we are performing under the RIIO framework and also helps investors to compare our performance with similarly regulated UK entities. Reflecting the importance of this metric, it is also a key component of the APP scheme.

The UK RoE is underpinned by the UK RAV. For the reasons noted above, no reconciliation to IFRS has been presented, as we do not believe it would be practical.

US regulated RoE

US regulated RoE is a measure of how a business is performing against the assumptions used by the US regulators. This US operational return measure is calculated using the assumption that the businesses are financed in line with the regulatory adjudicated capital structure and allowed cost of debt. The returns are divided by the average rate base (or where a reported rate base is not available, an estimate based on rate base calculations used in previous rate filings) multiplied by the adjudicated equity portion in the regulatory adjudicated capital structure.

This is an important measure of our US regulated business performance, and our operational strategy continues to focus on this metric. This measure can be used to determine how we are performing and also helps investors compare our performance with similarly regulated US entities. Reflecting the importance of this metric, it is also a key component of the APP scheme.

The US return is based on a calculation which gives proportionately more weighting to those jurisdictions which have a greater rate base. For the reasons noted above, no reconciliation to IFRS for the RoE measure has been presented, as we do not believe it would be practical to reconcile our IFRS balance sheet to the equity base.

The table below shows the principal differences between the IFRS result of the US Regulated segment, and the ‘return’ used to derive the US RoE. In outlining these differences, we also include the result for the US regulated Operating Companies (OpCo) entities aggregated under US GAAP.

In respect of 2017/18 and 2016/17, this measure is the aggregate operating profit of our US OpCo entities’ publicly available financial statements prepared under US GAAP. For 2018/19, this measure represents our current estimate, since local financial statements have yet to be prepared.

Other unaudited financial information continued

	2019 £m	2018 £m	2017 £m
Underlying IFRS profit for US regulated segment	**1,594**	1,704	1,514
Weighted average £/$ exchange rate	**$1.305**	$1.358	$1.277

	2019 $m	2018 $m	2017 $m
Underlying IFRS operating profit for US regulated segment	**2,081**	2,313	1,931
Adjustments to convert to US GAAP as applied in our US OpCo entities			
Adjustment in respect of customer contributions	**(50)**	(151)	(96)
Pension accounting differences[1]	**(10)**	(101)	(120)
Environmental charges recorded under US GAAP	**(117)**	(106)	(91)
Storm costs and recoveries recorded under US GAAP	**(112)**	(113)	(57)
Other regulatory deferrals, amortisation and other items	**121**	(146)	(29)
Results for US regulated OpCo entities, aggregated under US GAAP[2]	**1,913**	1,696	1,538
Adjustments to determine regulatory operating profit used in US RoE			
Levelisation revenue adjustment	**(48)**	82	46
Net other	**(1)**	40	70
Regulatory operating profit	**1,864**	1,818	1,654
Pensions[1]	**(95)**	–	–
Regulatory interest charge	**(457)**	(395)	(391)
Regulatory tax charge	**(345)**	(520)	(499)
Regulatory earnings used to determine US RoE	**967**	903	764

1. Following a change in US GAAP accounting rules, an element of the pensions charge is reported outside operating profit with effect from 2019.
2. Based on US GAAP accounting policies as applied by our US regulated OpCo entities.

	2019 $m	2018 $m	2017 $m
US equity base (average for the year)	**11,045**	10,092	9,267
US RoE	**8.8%**	8.9%	8.2%

Value Added and Value Added per share

Value Added is a measure that reflects the value to shareholders of our dividend and the growth in National Grid's regulated and non-regulated assets (as measured in our regulated asset base, for regulated entities), net of the growth in net debt. It is a key metric used to measure our performance and underpins our approach to sustainable decision-making and long-term management incentive arrangements.

Value Added is derived using our regulated asset base and, as such, it is not practical to provide a meaningful reconciliation from this measure to an equivalent IFRS measure due to the reasons set out for our regulated asset base. However, the calculation is set out in the Financial review on page 30. Value Added per share is calculated by dividing Value Added by the weighted average number of shares (3,386 million) set out in note 8 on page 126.

Asset growth

Asset growth is the annual percentage increase in our RAV and rate base and other business balances (including the assets of NGV and NGP) calculated at constant currency.

Regulatory gearing

Regulatory gearing is a measure of how much of our investment in RAV and rate base and other elements of our invested capital (including our investments in NGV, UK property and other assets and US other assets) is funded through debt. Comparative amounts as at March 2018 are presented at historical exchange rates and have not been restated for opening balance adjustments.

As at 31 March	2019 £m	2018 £m	
UK RAV	**19,692**	19,059	
US rate base	**17,565**	14,762	
Other invested capital included in gearing calculation	**2,815**	2,167	
Total assets included in gearing calculation	**40,072**	35,988	
Net debt (including 100% of hybrid debt)	**26,529**	23,002	change
Group gearing (based on 100% of net debt)	**66%**	64%	2% pts
Group gearing (excluding 50% of hybrid debt from net debt)	**64%**	61%	3% pts

Commentary on consolidated financial statements

for the year ended 31 March 2018

In compliance with SEC rules, we present a summarised analysis of movements in the income statement and an analysis of movements in adjusted operating profit (for the continuing group) by operating segment. This should be read in conjunction with the 31 March 2019 financial review included on pages 25 – 33.

Analysis of the income statement for the year ended 31 March 2018

Revenue

Revenue for the year ended 31 March 2018 increased by £215 million to £15,250 million. This increase was driven by higher revenues in our US Regulated and NGV and Other businesses, partially offset by lower revenues in our UK Electricity Transmission business. US Regulated revenues were £341 million higher year-on-year including increased pass-through costs, the impact of new rate plans and the benefit of capital trackers, partially offset by an unfavourable impact from foreign exchange. UK Electricity Transmission revenues decreased by £284 million, including a reduction in pass-through costs, the absence of the recovery of outstanding timing balances in 2016/17 and higher adjustments this year to return the benefits of efficiencies and lower required outputs to customers. Revenue from NGV and Other businesses increased by £57 million, primarily driven by support services provided to Cadent.

Operating costs

Operating costs for the year ended 31 March 2018 of £11,757 million were £70 million lower than the prior year. This decrease in costs included a £601 million decrease in exceptional items and remeasurements, which is discussed below. Excluding exceptional items and remeasurements, operating costs were £531 million higher, principally due to higher pass-through costs in the US, £142 million of major storm costs incurred in the US and higher depreciation as a result of continued asset investment, partially offset by the impact of movement in exchange rates.

Net finance costs

For the year ended 31 March 2018, net finance costs before exceptional items and remeasurements were £28 million lower than 2016/17 at £1,001 million, mainly as a result of the impact of the weaker US dollar, higher gains on the sale of financial assets and lower pension interest expense due to a reduction in pension deficits, partially offset by the impact of higher UK RPI inflation. Net finance costs in 2017/18 included remeasurement gains of £119 million on derivative financial instruments used to hedge our borrowings, compared to £58 million of remeasurement losses in 2016/17. In addition, during 2017/18 we had a £110 million remeasurement gain on a derivative financial instrument relating to the put/call option over a 14% interest in Quadgas HoldCo Limited.

Tax

The tax charge on profits before exceptional items and remeasurements of £584 million was £82 million lower than 2016/17. This was primarily due to lower UK and US corporate tax rates, partially offset by lower tax credits in respect of prior years.

Exceptional items and remeasurements

Operating costs for the year ended 31 March 2018 included a £26 million gain on settlement of outstanding balances related to the LIPA Management Services Agreement, together with a net £10 million gain on remeasurement of commodity contracts. In the previous year, operating costs included £633 million of exceptional costs primarily associated with environmental charges and gas holder decommissioning, offset by a net £68 million gain on remeasurement of commodity contracts.

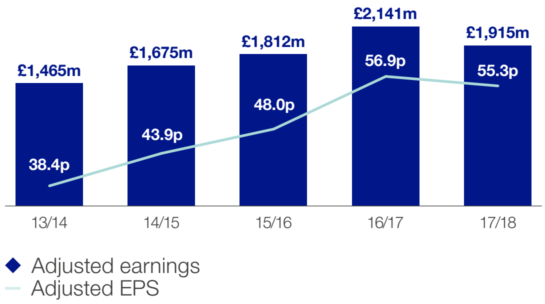
Finance costs for the year ended 31 March 2018 included a gain of £229 million on financial remeasurements of derivative financial instruments, including a £110 million gain on the put option to dispose of a 14% interest in Cadent. For the previous year ended 31 March 2017, we incurred a loss of £58 million on financial remeasurements.

Share of post-tax results of joint ventures and associates before exceptional items for the year ended 31 March 2018 of £44 million was £19 million lower, principally due to a lower contribution from BritNed.

Exceptional items and remeasurements relating to taxation for 2017/18 comprised a net credit of £1,473 million, including a £1,515 million decrease in net deferred tax liabilities due to the reduction in the US corporate tax rate.

Adjusted earnings and EPS from continuing operations

Adjusted earnings and EPS, which exclude exceptional items and remeasurements, are provided to reflect the Group's results on a 'business performance' basis, described further in note 5. The following chart shows the five-year trend in adjusted profit attributable to equity shareholders of the parent (adjusted earnings) and adjusted earnings per share. See page 227 for a reconciliation of adjusted basic EPS to EPS.



The above earnings performance translated into a decrease in adjusted EPS in 2017/18 of 1.6p (3%).

Exchange rates

Our financial results are reported in sterling. Transactions for our US operations are denominated in dollars, so the related amounts that are reported in sterling depend on the dollar to sterling exchange rate. The table below shows the average and closing exchange rates of sterling to US dollars.

	2017/18	2016/17	% change
Weighted average (income statement)	1.36	1.28	6%
Year-end (statement of financial position)	1.40	1.25	12%

The movement in foreign exchange during 2017/18 has resulted in a £536 million reduction in revenue, a £98 million reduction in adjusted operating profit and a £73 million reduction in operating profit.

Commentary on consolidated financial statements

for the year ended 31 March 2018 continued

Analysis of the adjusted operating profit by segment for the year ended 31 March 2018

UK Electricity Transmission

For the year ended 31 March 2018, revenue in the UK Electricity Transmission segment decreased by £285 million to £4,154 million, and adjusted operating profit decreased by £331 million to £1,041 million.

The revenue reduction of £285 million included a reduction in pass-through costs, such as system balancing costs charged on to customers. Excluding pass-through costs, net revenue was £235 million lower, reflecting the absence of 2016/17's recovery of outstanding timing balances along with higher adjustments this year to return the benefits of efficiencies and lower required outputs to customers. Regulated controllable costs were £35 million higher, reflecting inflation, increased headcount and workload, and initiative spend. Depreciation and amortisation was £54 million higher, reflecting the continued capital investment programme. Other costs were in line with 2016/17.

Capital expenditure decreased by £28 million compared with 2016/17 to £999 million.

UK Gas Transmission

Revenue in the UK Gas Transmission segment increased by £11 million to £1,091 million, and adjusted operating profit decreased by £24 million to £487 million.

After deducting pass-through costs, net revenue was £23 million lower than 2016/17. Increases in allowed revenues this year were more than offset by the end of certain legacy revenue allowances and the refund of prior year over-recoveries to customers. Regulated controllable costs were £9 million higher than 2016/17, mainly as a result of higher employee numbers to deliver additional outputs. Depreciation and amortisation costs were £8 million higher, reflecting ongoing investment. Other operating costs were £16 million lower than 2016/17, including the release of unused provisions relating to LNG plant closures.

Capital expenditure increased to £310 million, £96 million higher than last year, with increases in asset health spend and higher investment on compressor projects.

US Regulated

Revenue in our US Regulated business increased by £341 million to £9,272 million, and adjusted operating profit decreased by £15 million to £1,698 million.

The weaker US dollar decreased revenue and operating profit in 2017/18 by £534 million and £102 million respectively. Excluding the impact of foreign exchange rate movements, revenue increased by £875 million. Of this increase, £597 million was due to increases in pass-through costs charged on to customers. Excluding pass-through costs, net revenue increased by £278 million at constant currency, reflecting increased revenue allowances under new rate plans in downstate New York and Massachusetts Electric, and the benefit of capital trackers.

We incurred £142 million of major storm costs in 2017/18 including a sequence of heavy storms this winter that caused substantial damage to our electricity networks. Separate from these costs, regulated controllable costs were broadly in line with 2016/17 at constant currency, and bad debt costs were £13 million lower. Depreciation and amortisation was £31 million higher this year at constant currency as a result of ongoing investment in our networks. Other operating costs were £34 million higher at constant currency, reflecting higher property taxes.

Capital expenditure in the US Regulated business increased to £2,424 million in 2017/18, £177 million more than in 2016/17. At constant currency, this represented a £311 million increase in investment driven by higher investment in new and replacement gas mains.

NGV and Other

Revenue in NGV and Other increased by £63 million to £776 million, and adjusted operating profit increased by £54 million to £231 million. This reflects higher revenues and profit on disposal of property sites in the UK and lower levels of business change costs incurred, partially offset by lower auction revenues in the French Interconnector.

Capital expenditure in NGV and Other was £94 million higher than 2016/17 at £341 million, including the start of construction of a second French Interconnector and increases in smart meter installations in the UK.

Summary consolidated financial information

Financial summary (unaudited)

The financial summary set out below has been derived from the audited consolidated financial statements of National Grid for the five financial years ended 31 March 2019. It should be read in conjunction with the consolidated financial statements and related notes, together with the Strategic Report. The information presented below is adjusted for the matters described in footnote 1 for the years ended 31 March 2019, 2018, 2017, 2016 and 2015 and has been prepared under IFRS as issued by the IASB and as adopted by the EU[1].

Summary income statement (£m)	2019	2018[1]	2017	2016[2]	2015[2]
Continuing operations					
Revenue	**14,933**	15,250	15,035	13,212	13,357
Operating profit					
Before exceptional items, remeasurements	**3,442**	3,457	3,773	3,214	3,034
Exceptional items, remeasurements	**(572)**	36	(565)	11	(83)
Profit before tax					
Before exceptional items, remeasurements	**2,489**	2,500	2,807	2,417	2,208
Exceptional items, remeasurements	**(648)**	160	(623)	(88)	(248)
Profit after tax from continuing operations					
Before exceptional items, remeasurements	**2,001**	1,916	2,141	1,813	1,665
Exceptional items, remeasurements	**(499)**	1,633	(331)	89	(172)
Profit after tax from discontinued operations					
Before exceptional items, remeasurements	**57**	145	606	576	516
Exceptional items, remeasurements	**(45)**	(143)	57	116	2
Gain on disposal of UK Gas Distribution after tax	**–**	–	5,321	–	–
Total profit for the year	**1,514**	3,551	7,794	2,594	2,011
Profit for the year attributable to equity shareholders					
Before exceptional items, remeasurements	**2,055**	2,060	2,747	2,386	2,189
Exceptional items, remeasurements	**(544)**	1,490	(273)	205	(170)
Gain on disposal of UK Gas Distribution after tax	**–**	–	5,321	–	–
Total	**1,511**	3,550	7,795	2,591	2,019
Earnings per share					
Basic – continuing operations (pence)	**44.3**	102.5	48.1	50.4	39.4
Diluted – continuing operations (pence)	**44.1**	102.1	47.9	50.2	39.2
Basic – total (pence)	**44.6**	102.6	207.1	68.7	52.9
Diluted – total (pence)	**44.4**	102.1	206.2	68.4	52.7
Weighted average number of shares – basic (millions)	**3,386**	3,461	3,763	3,774	3,817
Weighted average number of shares – diluted (millions)	**3,401**	3,476	3,780	3,790	3,834
Dividends per ordinary share					
Paid during the year (pence)	**46.52**	128.965	43.51	43.16	42.25
Approved or proposed during the year (pence)[3]	**47.34**	45.93	128.65	43.34	42.87
Paid during the year ($)	**0.607**	1.751	0.555	0.664	0.697
Approved or proposed during the year ($)	**0.618**	0.624	1.642	0.635	0.672

1. Items previously reported for 2018 have been re-presented to reflect our investment in Quadgas HoldCo Limited being presented as a discontinued operation in the current year.
2. Items previously reported for 2015–2016 have been re-presented to reflect UK Gas Distribution being presented as a discontinued operation.
3. Following the disposal of UK Gas Distribution, 2017 includes a special interim dividend of 84.375 pence per share that was paid on 2 June 2017.

Summary statement of net assets (£m)	2019	2018	2017	2016	2015
Non-current assets	**55,017**	52,106	52,266	52,622	49,058
Current assets	**7,946**	6,681	13,574	6,312	6,031
Total assets	**62,963**	58,787	65,840	58,934	55,089
Current liabilities	**(9,129)**	(8,697)	(10,511)	(7,721)	(7,374)
Non-current liabilities	**(34,465)**	(31,242)	(34,945)	(37,648)	(35,741)
Total liabilities	**(43,594)**	(39,939)	(45,456)	(45,369)	(43,115)
Net assets	**19,369**	18,848	20,384	13,565	11,974
Total shareholders' equity	**19,349**	18,832	20,368	13,555	11,962

Definitions and glossary of terms

Our aim is to use plain English in this Annual Report and Accounts. However, where necessary, we do use a number of technical terms and abbreviations. We summarise the principal ones below, together with an explanation of their meanings. The descriptions below are not formal legal definitions. Alternative and Regulatory Performance Measures are defined on pages 225 – 234.

A

Adjusted interest

A measure of the interest charge of the Group, calculated by making adjustments to the Group reported interest charge.

Adjusted net debt

A measure of the indebtedness of the Group, calculated by making adjustments to the Group reported borrowings, including adjustments made to include elements of pension deficits and exclude elements of hybrid debt financing.

American Depositary Shares (ADSs)

Securities of National Grid listed on the New York Stock Exchange, each of which represents five ordinary shares. They are evidenced by American Depositary Receipts or ADRs.

Annual General Meeting (AGM)

Meeting of shareholders of the Company held each year to consider ordinary and special business as provided in the Notice of AGM.

B

BAME

Black, Asian, and Minority Ethnic (being the UK term used to refer to members of non-white communities).

bps

Basis point (bp, bps) is a unit that is equal to 1/100th of 1% and is typically used to denote the movement in a percentage-based metric such as interest rates or RoE. A 0.1% change in a percentage represents 10 basis points.

BEIS

The Department for Business, Energy and Industrial Strategy, the UK Government department responsible for business, industrial strategy, and science and innovation with energy and climate change policy.

Board

The Board of Directors of the Company (for more information see pages 48 – 49).

BritNed

BritNed Development Limited.

C

Cadent

Cadent Gas Limited, the former UK Gas Distribution business. A 61% equity interest in it was sold to the Consortium on 31 March 2017, and the sale of the remaining 39% is expected to complete in June 2019.

Called-up share capital

Shares (common stock) that have been issued and have been fully paid for.

Capital tracker

In the context of our US rate plans, this is a mechanism that allows the recovery of the revenue requirement of incremental capital investment above that embedded in base rates, including depreciation, property taxes and a return on the incremental investment.

Carrying value

The amount at which an asset or a liability is recorded in the Group's statement of financial position and the Company's balance sheet.

The Company, the Group, National Grid, we, our or us

We use these terms to refer to either National Grid plc itself or to National Grid plc and/or all or certain of its subsidiaries, depending on context.

Consolidated financial statements

Financial statements that include the results and financial position of the Company and its subsidiaries together as if they were a single entity.

Consortium

The Consortium that purchased a 61% equity interest in Cadent on 31 March 2017. It comprised Macquarie Infrastructure and Real Assets, Allianz Capital Partners, Hermes Investment Management, CIC Capital Corporation, Qatar Investment Authority, Dalmore Capital and Amber Infrastructure Limited/International Public Partnerships.

Constant currency

'Constant currency basis' refers to the reporting of the actual results against the results for the same period last year, which, in respect of any US$ currency denominated activity, have been translated using the average US$ exchange rate for the year ended 31 March 2019, which was \$1.31 to £1. The average rate for the year ended 31 March 2018 was \$1.36 to £1, and for the year ended 31 March 2017 was \$1.28 to £1. Assets and liabilities as at 31 March 2018 have been retranslated at the closing rate at 31 March 2019 of \$1.30 to £1. The closing rate for the balance sheet date 31 March 2018 was \$1.40 to £1.

Contingent liabilities

Possible obligations or potential liabilities arising from past events for which no provision has been recorded, but for which disclosure in the financial statements is made.

CPIH

The UK Consumer Prices Index including Owner Occupiers' Housing Costs as published by the Office for National Statistics.

D

Dth

Decatherm, being an amount of energy equal to 1 million British thermal units (BTUs), equivalent to approximately 293 kWh.

DB

Defined benefit, relating to our UK or US (as the context requires) final salary pension schemes.

DC

Defined contribution, relating to our UK or US (as the context requires) pension schemes to which National Grid, as an employer, pays contributions based on a percentage of employees' salaries.

Deferred tax

For most assets and liabilities, deferred tax is the amount of tax that will be payable or receivable in respect of that asset or liability in future tax returns as a result of a difference between the carrying value for accounting purposes in the statement of financial position or balance sheet and the value for tax purposes of the same asset or liability.

Deposit agreement

The amended and restated deposit agreement entered into between National Grid plc, the Depositary and all the registered holders from time to time of ADRs, pursuant to which ADSs have been issued, dated 23 May 2013, and any related agreement.

Depositary
Depositary means The Bank of New York Mellon acting as depositary.

Derivative
A financial instrument or other contract where the value is linked to an underlying index, such as exchange rates, interest rates or commodity prices. In most cases, we exclude contracts for the sale or purchase of commodities that are used to supply customers or for our own needs from this definition.

Directors/Executive Directors/Non-executive Directors
The Directors/Executive Directors and Non-executive Directors of the Company, whose names are set out on pages 48 – 49 of this document.

Distributed Energy Resources (DER)
Decentralised assets, generally located behind the meter, covering a range of technologies including solar, storage, electric vehicle charging, district heating, smart street lighting and combined heat and power.

Dollars or $
Except as otherwise noted, all references to dollars or $ in this Annual Report and Accounts relate to the US currency.

E

Earnings per share (EPS)
Profit for the year attributable to equity shareholders of the Company allocated to each ordinary share.

Electricity Market Reform (EMR)
An energy policy initiative, introduced by the Energy Act 2013, designed to provide greater financial certainty to investors in both low-carbon and conventional generation in order to meet environmental targets and maintain security of supply, and to do so at the lowest cost to consumers.

Electricity System Operator (ESO)
The party responsible for the long-term strategy, planning and real-time operation (balancing supply and demand) of the electricity system in Great Britain.

Employee engagement
A key performance indicator (KPI), based on the percentage of favourable responses to certain indicator questions repeated in each employee survey. It is used to measure how employees think, feel and act in relation to National Grid. Research shows that a highly engaged workforce leads to increased productivity and employee retention. We use employee engagement as a measure of organisational health in relation to business performance.

Employee resource group (ERG)
A group of employees who join together in their workplace based on shared characteristics or life experiences.

Estate Tax Convention
The convention between the US and the UK for the avoidance of double taxation with respect to estate and gift taxes.

EU
The European Union (EU) is the economic and political union of 28 member states located in Europe, currently including the UK. As at the date of this document, the timing for Brexit and the UK's leaving the EU is not confirmed.

Exchange Act
The US Securities Exchange Act 1934, as amended.

F

FERC
The US Federal Energy Regulatory Commission.

Finance lease
A lease where the asset is treated as if it was owned for the period of the lease, and the obligation to pay future rentals is treated as if they were borrowings. Also known as a capital lease.

Financial year
For National Grid this is an accounting year ending on 31 March. Also known as a fiscal year.

FRS
A UK Financial Reporting Standard as issued by the UK Financial Reporting Council (FRC). It applies to the Company's individual financial statements on pages 189 – 195, which are prepared in accordance with FRS 101.

Funds from Operations (FFO)
A measure used by the credit rating agencies of the operating cash flows of the Group after interest and tax but before capital investment.

G

Grain LNG
National Grid Grain LNG Limited.

Great Britain
England, Wales and Scotland.

Group Value Growth
Group Value Growth is Group-wide value added expressed as a proportion of Group equity. See page 234 for an explanation of Value Added.

GW
Gigawatt, an amount of power equal to 1 billion watts (10^9 watts).

GWh
Gigawatt hours, an amount of energy equivalent to delivering 1 billion watts (10^9 watts) of power for a period of one hour.

GWm
Gigawatt month, an amount of energy equivalent to delivering 1 billion watts (10^9 watts) of power for a period of one month.

H

Hinkley-Seabank (HSB)
A project to connect the new Hinkley Point C nuclear power station to the electricity transmission network.

HMRC
HM Revenue & Customs. The UK tax authority.

HVDC
High-voltage, direct-current electric power transmission that uses direct current for the bulk transmission of electrical power in contrast to the more common alternating current systems.

Definitions and glossary of terms continued

I

IAS or IFRS

An International Accounting Standard (IAS) or International Financial Reporting Standard (IFRS), as issued by the International Accounting Standards Board (IASB). IFRS is also used as the term to describe international generally accepted accounting principles as a whole.

Individual financial statements

Financial statements of a company on its own, not including its subsidiaries or joint ventures and associates.

Injury frequency rate (IFR)

The number of lost time injuries (LTIs) per 100,000 hours worked in a 12-month period.

Interest cover

A measure used by the credit rating agencies, calculated as FFO plus adjusted interest divided by adjusted interest.

J

Joint venture (JV)

A company or other entity that is controlled jointly with other parties.

K

KEDLI

KeySpan Gas East Corporation, also known as KeySpan Energy Delivery Long Island.

KEDNY

The Brooklyn Union Gas Company, also known as KeySpan Energy Delivery New York.

KPI

Key performance indicator.

kV

Kilovolt, an amount of electric force equal to 1,000 volts.

kW

Kilowatt, an amount of power equal to 1,000 watts.

kWm

Kilowatt month, an amount of energy equivalent to delivering 1kW of power for a period of one month.

L

LIPA

The Long Island Power Authority.

LNG

Liquefied natural gas is natural gas that has been condensed into a liquid form, typically at temperatures at or below -161°C (-258°F).

Lost time injury (LTI)

An incident arising out of National Grid's operations that leads to an injury where the employee or contractor normally has time off for the following day or shift following the incident. It relates to one specific (acute) identifiable incident which arises as a result of National Grid's premises, plant or activities, and was reported to the supervisor at the time and was subject to appropriate investigation.

M

MADPU

The Massachusetts Department of Public Utilities.

MSA

The managed services agreement under which the Company maintained and operated the electricity transmission and distribution system on Long Island owned by LIPA, which was transitioned to a third party with effect from 31 December 2013.

MW

Megawatt, an amount of power equal to 1 million watts.

N

National Grid Metering (NGM)

National Grid Metering Limited is National Grid's UK regulated metering business.

National Grid Partners (NGP)

The Company's new unit, established in November 2018 as the venture investment and innovation arm of the Group.

National Grid Ventures (NGV)

The Company's division that operates outside its core UK and US regulated businesses, comprising a broad range of activities in the UK and US, including electricity interconnectors, the Grain LNG terminal and energy metering, as well as being tasked with investment in adjacent businesses, distributed energy opportunities and the development of new and evolving technologies.

Net Promoter Score (NPS)

A commonly used tool to measure customer experience to gauge the loyalty of a company's customer relationships. It is an index ranging from -100 to +100.

New UK Corporate Governance Code (the New Code)

Revised guidance, issued by the Financial Reporting Council in 2018 and having effect for financial years commencing on or after 1 January 2019.

New England

The term refers to a region within northeastern US that includes the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. National Grid's New England operations are primarily in the states of Massachusetts and Rhode Island.

Northeastern US

The Northeastern region of the US, comprising the states of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

National Transmission System (NTS)

The gas National Transmission System in Great Britain.

NYPSC

The New York Public Service Commission.

O

Ofgem

The UK Office of Gas and Electricity Markets is part of the UK Gas and Electricity Markets Authority (GEMA) that regulates the energy markets in the UK.

OPEB

Other post-employment benefits.

Ordinary shares

Voting shares entitling the holder to part ownership of a company. Also known as common stock. National Grid's ordinary shares have a nominal value of $12^{204/473}$ pence following the share consolidation approved at the General Meeting of the Company held on 19 May 2017.

P

Paris Agreement

The agreement, also known as the Paris Climate Accord, within the United Nations Framework Convention on Climate Change dealing with greenhouse gas emissions mitigation, adaptation and finance starting in the year 2020, and adopted by consensus on 12 December 2015.

Price control

The mechanism by which Ofgem sets restrictions on the amounts of revenue we are allowed to collect from customers in our UK businesses. The allowed revenues are intended to cover efficiently incurred operational expenditure, capital expenditure and financing costs, including a Return on Equity invested.

R

Rate base

The base investment on which the utility is authorised to earn a cash return. It includes the original cost of facilities, minus depreciation, an allowance for working capital and other accounts.

Rate plan

The term given to the mechanism by which a US utility regulator sets terms and conditions for utility service, including, in particular, tariffs and rate schedules. The term can mean a multi-year plan that is approved for a specified period, or an order approving tariffs and rate schedules that remain in effect until changed as a result of future regulatory proceedings. Such proceedings can be commenced through a filing by the utility or on the regulator's own initiative.

Regulated controllable costs

Total operating costs under IFRS less depreciation and certain regulatory costs where, under our regulatory agreements, mechanisms are in place to recover such costs in current or future periods.

Regulatory asset value (RAV)

The value ascribed by Ofgem to the capital employed in the relevant licensed business. It is an estimate of the initial market value of the regulated asset base at privatisation, plus subsequent allowed additions at historical cost, less the deduction of annual regulatory depreciation. Deductions are also made to reflect the value realised from the disposal of certain assets that formed part of the regulatory asset base. It is also indexed to the RPI to allow for the effects of inflation.

Regulatory IOUs

Net under/over-recoveries of revenue from output related allowance changes, the totex incentive mechanism, legacy price control cost true-up and differences between allowed and collected revenues.

Retained cash flow (RCF)

A measure of the cash flows of the Group used by the credit rating agencies. It is calculated as funds from operations less dividends paid and costs of repurchasing scrip shares.

Revenue decoupling

Revenue decoupling is the term given to the elimination of the dependency of a utility's revenue on the volume of gas or electricity transported. The purpose of decoupling is to eliminate the disincentive a utility otherwise has, to encourage energy-efficiency programmes.

RIIO

Revenue = Incentives + Innovation + Outputs, the regulatory framework for energy networks issued by Ofgem.

RIIO-T1

The regulatory framework for transmission networks that was implemented in the eight-year price controls that started on 1 April 2013.

RIIO-T2

The regulatory framework for transmission networks expected to be issued by Ofgem to start on 1 April 2021.

RIPUC

The Rhode Island Public Utilities Commission.

RPI

The UK retail price index as published by the Office for National Statistics.

S

Scope 1 greenhouse gas emissions

Scope 1 emissions are direct greenhouse gas emissions that occur from sources that are owned or controlled by the Company. Examples include emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.

Scope 2 greenhouse gas emissions

Scope 2 emissions are greenhouse gas emissions from the generation of purchased electricity consumed by the Company. Purchased electricity is defined as electricity, heat, steam or cooling that is purchased or otherwise brought into the organisational boundary of the Company. Scope 2 emissions physically occur at the facility where electricity is generated.

Scope 3 greenhouse gas emissions

Scope 3 emissions are indirect greenhouse gas emissions as a consequence of the operations of the Company, but are not owned or controlled by the Company, such as emissions from third-party logistics providers, waste management suppliers, travel suppliers, employee commuting, and combustion of sold gas by customers.

SEC

The US Securities and Exchange Commission, the financial regulator for companies with registered securities in the US, including National Grid and certain of its subsidiaries.

SF_6

Sulphur hexafluoride is an inorganic, colourless, odourless and non-flammable greenhouse gas. SF_6 is used in the electricity industry as a gaseous dielectric medium for high-voltage circuit breakers, switchgear and other electrical equipment. The Kyoto protocol estimated that the global warming potential over 100 years of SF_6 is 23,900 times more potent than that of CO_2.

Share premium

The difference between the amount shares are issued for and the nominal value of those shares.

Stranded cost recoveries

The recovery of historical generation-related costs in the US, related to generation assets that are no longer owned by us.

STEM

Science, technology, engineering and mathematics.

Subsidiary

A company or other entity that is controlled by National Grid.

Swaption

A swaption gives the buyer, in exchange for an option premium, the right, but not the obligation, to enter into an interest-rate swap at some specified date in the future. The terms of the swap are specified on the trade date of the swaption.

Definitions and glossary of terms continued

T

Taxes borne

Those taxes that represent a cost to the Company and are reflected in our results.

Taxes collected

Those taxes that are generated by our operations but do not affect our results. We generate the commercial activity giving rise to these taxes and then collect and administer them on behalf of HMRC.

Tax Convention

Tax Convention means the income tax convention between the US and the UK.

Tonne

A unit of mass equal to 1,000 kilogrammes, equivalent to approximately 2,205 pounds.

Tonnes carbon dioxide equivalent (CO_2e)

A measure of greenhouse gas emissions in terms of the equivalent amount of carbon dioxide.

Totex

Total expenditure, comprising capital and operating expenditure.

Treasury shares

Shares that have been repurchased but not cancelled. These shares can then be allotted to meet obligations under the Company's employee share schemes.

TWh

Terawatt hours, an amount of energy equivalent to delivering 1 billion watts of power for a period of 1,000 hours.

U

UK

The United Kingdom, comprising England, Wales, Scotland and Northern Ireland.

UK Corporate Governance Code (the Code)

Guidance, issued by the Financial Reporting Council in 2016, on how companies should be governed, applicable to UK listed companies, including National Grid.

UK GAAP

Generally accepted accounting principles in the UK. These differ from IFRS and from US GAAP.

US

The United States of America, its territories and possessions, any state of the United States and the District of Columbia.

US GAAP

Generally accepted accounting principles in the US. These differ from IFRS and from UK GAAP.

US state regulators (state utility commissions)

In the US, public utilities' retail transactions are regulated by state utility commissions, including the New York Public Service Commission (NYPSC), the Massachusetts Department of Public Utilities (MADPU) and the Rhode Island Public Utilities Commission (RIPUC).

V

Value growth

Value growth is the value added expressed as a proportion of Group equity. See page 234.

Want more information or help?

Equiniti

For queries about ordinary shares:

0800 169 7775
This is a Freephone number from landlines within the UK, mobile costs may vary. Lines are open 8.30am to 5.30pm, Monday to Friday, excluding public holidays. If calling from outside the UK: +44 (0) 121 415 0931. Calls from outside the UK will be charged at the applicable international rate.

Visit help.shareview.co.uk for information regarding your shareholding (from here you will also be able to email a query securely).

National Grid Share Register
Equiniti
Aspect House
Spencer Road, Lancing
West Sussex BN99 6DA

The Bank of New York Mellon

For queries about American Depositary Shares:

1-800-466-7215
If calling from outside the US:
+1-201-680-6825

www.mybnymdr.com
Email: shrrelations@cpushareownerservices.com

BNY Mellon – ADR
PO Box 505000
Louisville, KY 40233-5000

Further information about National Grid, including share price and interactive tools, can be found on our website: https://investors.nationalgrid.com

Beware of share fraud

Investment scams are often sophisticated and difficult to spot. Shareholders are advised to be wary of any unsolicited advice or offers, whether over the telephone, through the post or by email. If you receive any unsolicited communication, please check the company or person contacting you is properly authorised by the Financial Conduct Authority (FCA) before getting involved. Be ScamSmart and visit www.fca.org.uk/scamsmart. You can report calls from unauthorised firms to the FCA by calling 0800 111 6768.

Financial calendar

The following dates have been announced or are indicative:

16 May 2019	2018/19 full-year results
30 May 2019	Ordinary shares and ADRs go ex-dividend for 2018/19 final dividend
31 May 2019	Record date for 2018/19 final dividend
6 June 2019	Scrip reference price announced
17 July 2019 (5pm London time)	Scrip election date
29 July 2019	2019 AGM
14 August 2019	2018/19 final dividend paid to qualifying shareholders
14 November 2019	2019/20 half-year results
27 November 2019	ADRs go ex-dividend for 2019/20 interim dividend
28 November 2019	Ordinary shares go ex-dividend for 2019/20 interim dividend
29 November 2019	Record date for 2019/20 interim dividend
5 December 2019	Scrip reference price announced
16 December 2019 (5pm London time)	Scrip election date for 2019/20 interim dividend
15 January 2020	2019/20 interim dividend paid to qualifying shareholders

Dividends

The Directors are recommending a final dividend of 31.26 pence per ordinary share ($2.0256 per ADS) to be paid on 14 August 2019 to shareholders on the register as at 31 May 2019. Further details on dividend payments can be found on page 33. If you live outside the UK, you may be able to request that your dividend payments are converted into your local currency.

Under the Deposit agreement, a fee of up to $0.05 per ADS can be charged for any cash distribution made to ADS holders, including cash dividends. ADS holders who receive cash in relation to the 2018/19 final dividend will be charged a fee of $0.02 per ADS by the Depositary prior to the distribution of the cash dividend.

Have your dividends paid directly into your bank or building society account:

- your dividend reaches your account on the payment day;
- it is more secure – cheques sometimes get lost in the post; and
- no more trips to the bank.

Elect to receive your dividends as additional shares:

Join our scrip dividend scheme; no stamp duty or commission to pay.

Electronic communications

Please register at www.shareview.co.uk.

It only takes a few minutes to register – just have your 11-digit Shareholder Reference Number to hand. You will be sent a PIN number to complete registration.

Once you have registered, you can elect to receive your shareholder communications electronically.

Registered office

National Grid plc was incorporated on 11 July 2000. The Company is registered in England and Wales No. 4031152, with its registered office at 1–3 Strand, London WC2N 5EH.

Share dealing

Postal share dealing: Equiniti offer our European Economic Area resident shareholders a share dealing service by post. This service is available to private shareholders resident within the European Economic Area, the Channel Islands or the Isle of Man. If you hold your shares in CREST, you are not eligible to use this service. For more information and to obtain a form, please visit www.shareview.co.uk or call Equiniti on 0800 169 7775.

Internet and telephone share dealing: Equiniti also offer telephone and online share dealing at live prices. For full details together with terms and conditions, please visit www.shareview.co.uk. You can call Equiniti on 03456 037037 for further details, or to arrange a trade. Lines are open Monday to Friday, 8.00am to 4.30pm for dealing, and until 6.00pm for enquiries.

ShareGift: If you only have a small number of shares that would cost more for you to sell than they are worth, you may wish to consider donating them to ShareGift. ShareGift is a registered charity (No. 1052686) which specialises in accepting such shares as donations. For more information, visit www.sharegift.org or contact Equiniti.

Individual Savings Accounts (ISAs): ISAs for National Grid shares are available from Equiniti. For more information, call Equiniti on 0345 300 0430 or visit www.shareview.co.uk/ISA.

Cautionary statement

This document comprises the Annual Report and Accounts for the year ended 31 March 2019 for National Grid and its subsidiaries.

It contains the Directors' Report and Financial Statements, together with the independent auditor's report thereon, as required by the Companies Act 2006. The Directors' Report, comprising pages 2 – 90 and 196-237 has been drawn up in accordance with the requirements of English law, and liability in respect thereof is also governed by English law. In particular, the liability of the Directors for these reports is solely to National Grid.

This document contains certain statements that are neither reported financial results nor other historical information. These statements are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements include information with respect to our financial condition, our results of operations and businesses, strategy, plans and objectives. Words such as 'aims', 'anticipates', 'expects', 'should', 'intends', 'plans', 'believes', 'outlook', 'seeks', 'estimates', 'targets', 'may', 'will', 'continue', 'project' and similar expressions, as well as statements in the future tense, identify forward-looking statements. These forward-looking statements are not guarantees of our future performance and are subject to assumptions, risks and uncertainties that could cause actual future results to differ materially from those expressed in or implied by such forward-looking statements. Many of these assumptions, risks and uncertainties relate to factors that are beyond our ability to control or estimate precisely, such as changes in laws or regulations, including any arising as a result of the United Kingdom's exit from the European Union; announcements from and decisions by governmental bodies or regulators, including proposals relating to the RIIO-T2 price controls as well as increased political and economic uncertainty; the timing of construction and delivery by third parties of new generation projects requiring connection; breaches of, or changes in, environmental, climate change, and health and safety laws or regulations, including breaches or other incidents arising from the potentially harmful nature of our activities; network failure or interruption, the inability to carry out critical non-network operations, and damage to infrastructure, due to adverse weather conditions, including the impact of major storms as well as the results of climate change, due to counterparties being unable to deliver physical commodities, or due to the failure of or unauthorised access to or deliberate breaches of our IT systems and supporting technology; failure to adequately forecast and respond to disruptions in energy supply; performance against regulatory targets and standards and against our peers with the aim of delivering stakeholder expectations regarding costs and efficiency savings; and customers and counterparties (including financial institutions) failing to perform their obligations to the Company. Other factors that could cause actual results to differ materially from those described in this document include fluctuations in exchange rates, interest rates and commodity price indices; restrictions and conditions (including filing requirements) in our borrowing and debt arrangements, funding costs and access to financing; regulatory requirements for us to maintain financial resources in certain parts of our business and restrictions on some subsidiaries' transactions, such as paying dividends, lending or levying charges; the delayed timing of recoveries and payments in our regulated businesses and whether aspects of our activities are contestable; the funding requirements and performance of our pension schemes and other post-retirement benefit schemes; the failure to attract, develop and retain employees with the necessary competencies, including leadership and business capabilities, and any significant disputes arising with our employees or the breach of laws or regulations by our employees; the failure to respond to market developments, including competition for onshore transmission, the threats and opportunities presented by emerging technology, development activities relating to changes to the energy mix and the integration of distributed energy resources; and the need to grow our business to deliver our strategy, as well as incorrect or unforeseen assumptions or conclusions (including unanticipated costs and liabilities) relating to business development activity.

For further details regarding these and other assumptions, risks and uncertainties that may affect National Grid, please read the Strategic Report and the Risk factors on pages 212 – 215 of this document. In addition, new factors emerge from time to time and we cannot assess the potential impact of any such factor on our activities or the extent to which any factor, or combination of factors, may cause actual future results to differ materially from those contained in any forward-looking statement. Except as may be required by law or regulation, the Company undertakes no obligation to update any of its forward-looking statements, which speak only as of the date of this document.

The contents of any website references in this document do not form part of this document.

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nationalgrid

National Grid plc
1–3 Strand
London WC2N 5EH
United Kingdom

www.nationalgrid.com