

Law and Practice

Contributed by:

Tom Sprange QC, Flora Jones and Elizabeth Warwick
King & Spalding International LLP see p.547



CONTENTS

1. General Structure and Ownership of the Power Industry	p.528	4. Generation	p.538
1.1 Principal Laws Governing the Structure and Ownership of the Power Industry	p.528	4.1 Principal Laws Governing the Construction and Operation of Generation Facilities	p.538
1.2 Principal State-Owned or Investor-Owned Entities	p.528	4.2 Regulatory Process for Obtaining All Approvals to Construct and Operate Generation Facilities	p.538
1.3 Foreign Investment Review Process	p.529	4.3 Terms and Conditions Imposed in Approvals to Construct and Operate Generation Facilities	p.539
1.4 Principal Laws Governing the Sale of Power Industry Assets	p.529	4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights	p.540
1.5 Central Planning Authority	p.531	4.5 Requirements for Decommissioning	p.540
1.6 Recent Material Changes in Law or Regulation	p.532	5. Transmission	p.541
1.7 Announcements Regarding New Policies	p.532	5.1 Regulation of Construction and Operation of Transmission Lines and Associated Facilities	p.541
1.8 Unique Aspects of the Power Industry	p.533	5.2 Regulation of Transmission Service, Charges and Terms of Service	p.543
2. Market Structure, Supply and Pricing	p.533	6. Distribution	p.544
2.1 Structure of the Wholesale Electricity Market	p.533	6.1 Regulation of Construction and Operation of Electricity Distribution Facilities	p.544
2.2 Imports and Exports of Electricity	p.534	6.2 Regulation of Distribution Service, Charges and Terms of Service	p.545
2.3 Supply Mix for the Entire Market	p.534		
2.4 Principal Laws Governing Market Concentration Limits	p.535		
2.5 Agency Conducting Surveillance to Detect Anti-competitive Behaviour	p.535		
3. Climate Change Laws and Alternative Energy	p.535		
3.1 Principal Climate Change Laws and/or Policies	p.535		
3.2 Principal Laws and/or Policies Relating to the Early Retirement of Carbon-Based Generation	p.536		
3.3 Principal Laws and/or Policies to Encourage the Development of Alternative Energy Sources	p.537		

1. GENERAL STRUCTURE AND OWNERSHIP OF THE POWER INDUSTRY

1.1 Principal Laws Governing the Structure and Ownership of the Power Industry

The UK has a fully liberalised and privatised electricity market. The companies responsible for the generation, transmission, distribution and sale of the UK's electricity are all in the private sector.

Structure and System of Ownership

- Currently, England, Wales and Scotland (Great Britain or GB) have a single integrated energy market for both electricity and natural gas. The National Grid ESO is the electricity system operator for Great Britain. National Grid ESO is part of National Grid PLC, but is a legally separate business within the group.
- The power industry in Northern Ireland is separate to and distinct from the industry in GB. This is because energy in Northern Ireland (other than nuclear energy) is a devolved power, meaning the Northern Ireland Assembly (rather than the UK Parliament) has legislative control. The electricity industry operates a single wholesale market across the whole of the island of Ireland, known as the Single Electricity Market or SEM. The operation of this single wholesale market requires the physical connection of the Northern Ireland grid to that in the Republic, which is facilitated by the Single Electricity Market Operator (SEMO), a contractual joint venture between the two system operators – SONI in Northern Ireland and EirGrid plc in the Republic of Ireland.

Principal Laws Governing Ownership

The Electricity Act 1989 requires that the following are authorised by a licence:

- generators;
- transmission owners and the System Operator (SO);
- distribution network operators;
- supply companies;
- interconnector operators; and
- smart meter providers.

The most current EU energy legislation package (the Third Energy Package), was adopted by the:

- Gas and Electricity (Internal Markets) Regulations 2011 in Great Britain.
- Gas and Electricity (Internal Markets) Regulations (Northern Ireland) 2011 and 2013 in Northern Ireland.

A collection of detailed codes and agreements, known as the industry documents or industry codes, govern the rights and obligations of the companies that participate in the electricity industry. Ofgem is involved in the modification processes for most of these industry documents, and requires, under the terms of the licences granted under the Electricity Act 1989:

- Each licensed company to be a party to each agreement and comply with each code that is relevant to its licensable activities (as specified in the licence).
- Network companies, such as National Grid or a Distribution Network Operator (DNO), or the SO to maintain and provide for the administration of key industry documents.

1.2 Principal State-Owned or Investor-Owned Entities

Generation

- As at 25 April 2022, there were 337 electricity generation licences in GB. Key operators include Centrica, Drax Power, EDF Energy, Engie, RWE, Scottish Power and SSE.
- At the time of writing there are 65 electricity generation licences in Northern Ireland.

Transmission

- In GB, transmission is owned and operated by National Grid Electricity Transmission plc (in England & Wales) (one of the world's largest investor-owned energy companies), SP Transmission plc (in central and southern Scotland), and Scottish Hydro-Electric Transmission plc (in northern Scotland).
- As at 25 April 2022, there were 28 transmission licence-holders in GB.
- System Operator for Northern Ireland Limited (SONI), a subsidiary of EirGrid Plc, holds the transmission system operator licence for Northern Ireland. NIE Networks Limited and Moyle Interconnector Limited also hold transmission licences.

Distribution

- As at 25 April 2022, there were 14 Distribution Network Operators and 15 Independent Distribution Network Operators in GB. The Distribution Network Operators are: Eastern Power Networks plc, Electricity North West Limited, London Power Networks plc, Northern Powergrid (Northeast) Limited, Northern Powergrid (Yorkshire) plc, Scottish Hydro Electric Power Distribution plc, South Eastern Power Networks plc, Southern Electric Power Distribution plc, SP Distribution plc, SP Manweb plc, Western Power Distribution (East Midlands) plc, Western Power Distribution (South Wales) plc, Western Power Distribution (South West) plc, Western Power Distribution (West Midlands) plc.
- In Northern Ireland, NIE Networks Limited holds a distribution licence.

Sales to End User Consumers

- As at 25 April 2022, there were 74 Domestic and Non-Domestic Suppliers, and 34 Non-Domestic Suppliers in GB. The main suppliers include: Centrica (which owns British Gas and is quoted on the London stock market); EDF Energy (owned by French state-owned energy

firm EDF); E.ON (owned by German energy firm E.ON SE); nPower (ultimately owned by German energy firm RWF); OVO (a privately owned firm that bought SSE's domestic energy business last year); and Scottish Power (owned by Spanish energy firm Iberdrola).

- In Northern Ireland, at the time of writing, there are 18 Supply Licences.

1.3 Foreign Investment Review Process NSIA

On 4 January 2022, the National Security and Investment Act 2021 (NSIA) came into force. It introduces new requirements for foreign direct investment in certain business sectors that potentially affect national security. The new regime creates notification requirements for certain transactions on either a mandatory or voluntary basis. Mandatory pre-notification requirements apply in respect of entities in "key sectors", which includes energy (and specifically includes entities that hold transmission, distribution, interconnector and/or generation licences). The requirements apply to transactions involving the acquisition of a 25% stake or more (or equivalent levels of voting rights, including certain "veto" rights) in an entity, as well as certain acquisitions involving the acquirer moving to a higher level of interest (eg, over 50%).

Industry Act 1975

Section 13 of the Industry Act 1975 entitles the Secretary of State to block an acquisition by a non-UK-based entity of an "important manufacturing undertaking" when it appears that a change of control would be contrary to the interests of the UK or a substantial part of it.

1.4 Principal Laws Governing the Sale of Power Industry Assets**Restrictions**

As explained in **1.3 Foreign Investment Review Process**, from 4 January 2022, a mandatory notification regime under the NSIA 2021 applies

to transactions that fall within the definition of a “notifiable acquisition”, as set out in section 6 of the NSIA.

Under section 13 of the NSIA, a notifiable acquisition that is completed without the approval of the Secretary of State is void.

To qualify as a notifiable acquisition the transaction must meet both of the following criteria, according to sections 6 and 8 of the NSIA:

- The subject being acquired must be a qualifying entity that operates within a specific high-risk sector of the economy. The energy sector is specified by the Notifiable Acquisition Regulations.
- As a result of the transaction, the acquirer gains control of the qualifying entity by:
 - (a) increasing its shares or voting rights: (i) from 25% or less to more than 25%; (ii) from 50% or less to more than 50%; or (iii) from less than 75% to 75% or more; or
 - (b) acquiring voting rights that enable it to secure or prevent the passage of any class of resolution governing the affairs of the qualifying entity.

The person gaining control or acquiring an interest in the qualifying entity must submit a notification digitally using the NSI electronic portal and must comply with the form and content prescribed by the NSI Notices Regulation.

Parties may voluntarily notify the Secretary of State of a transaction that does not require a mandatory notification in order to obtain a call-in decision regarding the transaction.

Principal Law Governing Sales or Mergers

The Competition Act 1998 and the Enterprise Act 2002 are the major sources of competition law in the UK and govern mergers.

The Competition Act 1998 prohibits companies from (i) engaging in practices that distort, restrict or prevent competition in the market and (ii) abusing a dominant position in the market. The Enterprise Act 2002 builds upon the Competition Act 2002 and sets out the tests for when and how the government can intervene in mergers.

Following the UK’s withdrawal from the European Union (Brexit), any mergers that began after 1 January 2021 require clearance from the UK’s Competition and Markets Authority (CMA).

Regulator and Approval Process

The CMA

The CMA was established under the Enterprise and Regulatory Reform Act 2013 and is the body in charge of competition regulation and enforcement in the UK. The CMA studies the function of competition in the UK’s energy market as a whole and can initiate targeted investigations based on its findings.

The CMA has the jurisdiction to examine a merger where (i) two or more businesses cease to be distinct, and (ii) either the UK turnover of the acquired enterprise exceeds GBP70 million, or the two businesses supply or acquire at least 25% of the same goods or services supplied in the UK and the merger increases that share of supply.

The CMA may commence a review of a merger following a formal notification being made by the businesses or on its own initiative. The CMA has a statutory deadline of 40 working days in which to complete the first phase (Phase 1) of its merger review process. If the CMA determines that the merger has a realistic prospect of substantially decreasing competition, it will begin an in-depth assessment, which is generally limited to 24 weeks (Phase 2). Parties may offer to alter aspects of the transaction to mitigate any competition risks that were identified.

The GEMA

The Gas and Electricity Markets Authority (GEMA), a panel of independent experts appointed by the Secretary of State, has concurrent authority with the CMA on the application and enforcement certain competition rules in the energy sector.

The NIAUR

The Northern Ireland Authority for Utility Regulation (NIAUR) is an independent government department that promotes effective competition in the market of Northern Ireland. It enforces the prohibitions in the Competition Act 1998 and can make market investigation references to the CMA under the Enterprise Act 2002. The NIAUR and the CMA work together under the terms of a Memorandum of Understanding.

1.5 Central Planning Authority

Ofgem

Ofgem regulates the electricity and downstream gas industries within Great Britain. Its powers are set out in the:

- Gas Act 1986.
- Electricity Act 1989.
- Competition Act 1998.
- Enterprise Act 2002.
- Utilities Act 2000.
- Energy Act 2004, Energy Act 2008, Energy Act 2010 and Energy Act 2011.
- Electricity and Gas (Market Integrity and Transparency) (Enforcement etc) Regulations 2013 (SI 2013/1389).
- Domestic Gas and Electricity (Tariff Cap) Act 2018.

Ofgem's principal duty is to protect the interests of gas and electricity consumers. Ofgem is governed by the Gas and Electricity Markets Authority (GEMA).

Northern Ireland has its own national regulatory authority, the NIAUR (see **1.4 Principal Laws Governing the Sale of Power Industry Assets**), which works in close co-operation with Ofgem. Ofgem is responsible for the process of accrediting renewable energy installations and issuing Northern Ireland Renewable Obligation Certificates (NIROCs) to generators in Northern Ireland.

Other Key Bodies

In GB, National Grid owns and maintains the high-voltage electricity transmission network in England and Wales. National Grid ESO is responsible for ensuring the stable and secure operation of the national electricity transmission system (NETS), including the adequacy of supply to satisfy the demand for electricity.

The Department for Business, Energy and Industrial Strategy (BEIS) is the UK government department responsible for energy, including the civil nuclear sector. BEIS is dealing with the implications of Brexit for the energy sector.

The CMA has concurrent powers with Ofgem to enforce prohibitions on anti-competitive agreements and on abuse of a dominant position, and to make market investigation references, for both the gas and electricity industries.

The Financial Conduct Authority (FCA) monitors and enforces financial regulation across the commodities markets, including the energy markets. Ofgem and the FSA first put in place co-operation arrangements in 2002. Ofgem is the principal regulatory authority for UK REMIT (the retained EU law version of the Regulation on energy market integrity and transparency (Regulation 1227/2011)).

Citizens Advice is an independent watchdog that operates across the whole of the economy. Its core work in the energy sector is to secure a fair

deal for energy customers. It is a registered charity. For more information, see citizensadvice.org.uk.

Elexon is a non-profit-making entity responsible for managing the balancing mechanism and the imbalance price process. For more information, see elexon.co.uk.

Proposals

Future System Operation

A joint consultation between Ofgem and BEIS published in July 2021 proposed the creation of an independent system operator, known as the Future System Operator (FSO). In April 2022, Ofgem published a document setting out decisions of the joint consultation, which explains Ofgem's collective commitment to proceed with the creation of the FSO, as an expert, impartial body with an important duty to facilitate net zero while also maintaining a resilient and affordable system.

Electricity Networks Commissioner

The British Energy Security Strategy (published by BEIS in April 2022) stated that the government intends to appoint an Electricity Networks Commissioner to advise it on policies and regulatory changes to accelerate progress on network infrastructure.

1.6 Recent Material Changes in Law or Regulation

On 17 November 2020 Ofgem announced that it would implement the Income Adjusting Events Condition licence modifications, including modifications to the threshold amount, in future offshore transmission licences.

1.7 Announcements Regarding New Policies

In October 2021, the government announced a target to fully decarbonise the power sector by 2035.

On 7 April 2022, the government announced the British Energy Security Strategy, which included the following commitments/ambitions:

- to phase out the use of Russian oil and coal by the end of 2022, and end imports of Russian liquefied natural gas as soon as possible thereafter;
- to deliver up to 50 GW of offshore wind by 2030, including up to 5 GW of innovative floating wind;
- a five-fold increase in solar deployment by 2035 (up to 70 GW);
- by 2050, up to a quarter of power consumed in Great Britain (up to 24 GW) will be from nuclear; and
- to double the UK ambition for hydrogen production to up to 10 GW by 2030, with at least half of this from electrolytic hydrogen.

On 10 May 2022, a new Energy Bill was announced in the Queen's Speech (which sets the government's legislative agenda for the upcoming parliamentary session). The Energy Bill will deliver on many of the commitments set out in the Energy Security Strategy (as well as the government's Ten Point Plan announced in November 2020), for example by:

- establishing a new Future System Operator, which will look at Great Britain's energy system as a whole, and integrating existing networks with emerging technologies such as hydrogen;
- introducing competition in Britain's onshore electricity networks to encourage investment and innovation; and
- supporting the growth of a 10 GW hydrogen economy and new CCUS industry.

1.8 Unique Aspects of the Power Industry

The UK has often led the way in terms of innovation in energy technology and markets. For example:

- the world's first coal-fired power station, the Edison Electric Light Station, was built in London in 1882;
- the UK has been a leader in the development of offshore wind; and
- the UK was the first major economy to put into law that it would reach net zero carbon emissions by 2050.

2. MARKET STRUCTURE, SUPPLY AND PRICING

2.1 Structure of the Wholesale Electricity Market

GB currently uses national pricing. In 2005, the British Electricity Transmission and Trading Arrangements (BETTA) introduced a GB-wide electricity market, setting one price for electricity in each trading period.

Two wholesale markets operate within BETTA to allow electricity market participants to buy and sell power:

- **Forwards and futures market:** Contracts are entered into between generators and supply companies for the delivery of electricity, ranging from several years to 24 hours in advance. These markets allow generators and suppliers to enter into contracts for the purchase of electricity at an agreed price on an agreed date. The majority of electricity trading in Great Britain takes place in either the forwards market or the futures markets.
- **Short-term market (also known as the spot market):** This market operates two days ahead of the relevant half-hour settlement

period. This means that contracts for electricity can be bought between 48 hours prior to the relevant settlement periods and the submission deadline.

In order to achieve liquidity, GB's major energy suppliers (the Big Six), have committed to trade a proportion of their power station output in the day-ahead market (where power is sold for use the next day).

As DNOs own and operate the local distribution systems within their allocated areas, they have a monopoly. Regulation of DNOs is achieved through price controls, which limit how much DNOs can charge the supply companies. Price controls also limit how much TOs (who have a monopoly over the transmission system) can charge DNOs. The current price control for DNOs (referred to as RIIO-ED1) runs for an eight-year period from 1 April 2015 to 31 March 2023. The price control regime that applies from 1 April 2023 for electricity distribution is known as RIIO-ED2. The RIIO-2 price control periods are five years, instead of eight, with companies able to submit proposals for allowances for specific longer-term items.

For electricity TOs, the first RIIO period (referred to as RIIO-ET1) ran from 1 April 2013 to 31 March 2021, and the second period (RIIO-ET2) began on 1 April 2021. The SO has a separate incentive regime.

For electricity suppliers, the licensing regime provides Ofgem with a means to implement consumer protection measures (including retail price controls and appointing a supplier of last resort) and industry-wide schemes such as feed-in tariffs (FITs).

The UK has a capacity market (CM), which was introduced in 2014 as part of a wider programme of reform (known as Electricity Market Reform

– itself part of the Energy Act 2013). Following the end of the UK-European Union (EU) Withdrawal Agreement Transition Period (the Transition Period) on 31 December 2020, the CM operates under new trading arrangements with the EU under the terms of the UK-EU Trade and Cooperation Agreement (TCA).

The CM is governed by the Electricity Capacity Regulations 2014 (the Regulations) and the CM Rules. The regulations provide the overarching policy and design, including the powers the Secretary of State holds in overseeing the CM. The CM Rules provide the detail for implementing the operating framework set out in the Regulations. National Grid Electricity System Operator is the EMR Delivery Body, responsible for administering key elements of the CM.

2.2 Imports and Exports of Electricity

Imports and exports of electricity to and from other jurisdictions are permitted in the UK. Currently, there are interconnectors linking GB to France, Belgium, Norway and the Netherlands. An interconnector with Denmark is planned.

The North Sea Link (NSL) is the latest interconnector, which connects the British electricity network at Blyth in Northumberland with the Norwegian village of Kvilldal.

GB's electricity market currently has 6 GW of electricity interconnector capacity:

- 3 GW to France (IFA and IFA2);
- 1 GW to the Netherlands (BritNed);
- 1 GW to Belgium (Nemo Link);
- 500 MW to Northern Ireland (Moyle); and
- 500 MW to the Republic of Ireland (East West).

Under the current regulatory framework, there are two general routes for interconnector investment:

- A regulated route under our “cap and floor” regime, which allows developers to identify, propose and build interconnectors, subject to Ofgem approval. A cap and floor mechanism regulates how much money a developer can earn once in operation, providing developers with a minimum return (floor) and a limit on the potential upside (cap) for a 25-year period.
- As an alternative to the cap and floor model, developers can seek exemptions from regulatory requirements. Under this route, developers would face the full upside and downside of the investment and would usually apply for an exemption from certain regulatory requirements to better enable the business case of their investment.

All interconnection capacity is allocated to the market via market-based methods, ie, auctions, and the trading arrangements on electricity interconnectors are governed by Access Rules and Charging Methodologies as noted in each interconnector's licence.

Imports and exports typically occur when there is surplus renewable electricity. The National Grid states that by 2030, 90% of the energy imported by interconnectors will be from zero carbon energy sources.

2.3 Supply Mix for the Entire Market

In April 2022 GB's supply mix was:

- Gas 40%;
- Wind 23.4%;
- Nuclear 17.1%;
- Biomass 5.1%;
- Coal 1%;
- Solar 6.1%;
- Imports 5.1%;
- Hydro 1.4%; and
- Storage 0.7%.

48% of electricity came from zero carbon sources.

In 2020 Northern Ireland's supply mix was:

- Coal 10.8%;
- Oil 0.9%;
- Gas 42.5%;
- Nuclear 0%;
- Hydro 0.4%;
- Wind 33.7%;
- Solar 3%; and
- Bioenergy 8.4%.

45.6% of all electricity came from low-carbon sources.

2.4 Principal Laws Governing Market Concentration Limits

The CMA has concurrent powers with Ofgem to enforce prohibitions on abuse of a dominant position, and to make market investigation references, for both the gas and electricity industries.

As explained above, the CMA has the jurisdiction to examine a merger where (i) two or more businesses cease to be distinct; and (ii) either the UK turnover of the acquired enterprise exceeds GBP70 million, or the two businesses supply or acquire at least 25% of the same goods or services supplied in the UK and the merger increases that share of supply.

2.5 Agency Conducting Surveillance to Detect Anti-competitive Behaviour

The CMA has concurrent powers with Ofgem to enforce prohibitions on anti-competitive agreements, and to make market investigation references, for both the gas and electricity industries.

3. CLIMATE CHANGE LAWS AND ALTERNATIVE ENERGY

3.1 Principal Climate Change Laws and/or Policies

The Climate Change Act 2008 (CC Act) requires the Secretary of State for BEIS to ensure that “the net UK carbon account” for 2050 is at least 100% lower than the baseline in 1990 for CO₂ and other greenhouse gases (Section 1). Section 4 of the CC Act imposes a duty on the Secretary of State to set an amount for the net UK carbon account, referred to as a carbon budget, for successive five-year periods beginning with 2008 to 2012. Each carbon budget must be set “with a view to meeting” the 2050 target in Section 1. The Secretary of State has set the first six carbon budgets (the sixth came into force on 24 June 2021). Each has been the subject of affirmative resolution by parliament.

The CC Act also established the Committee on Climate Change (CCC) to ensure that emissions targets are evidence-based and independently assessed. In addition, the CC Act requires the government to assess the risks and opportunities from climate change for the UK, and to adapt to them. The CCC's Adaptation Committee advises on these climate change risks and assesses progress towards tackling them.

The UK ratified the Paris Agreement on 19 November 2016. Article 4(2) of the Paris Agreement requires each party “to prepare, communicate and maintain successive nationally determined contributions that it intends to achieve”. On 12 December 2020, the UK communicated its new Nationally Determined Contribution (NDC) under the Paris Agreement to the United Nations Framework Convention on Climate Change (UNFCCC). The NDC committed the UK to reducing economy-wide greenhouse gas

emissions by at least 68% by 2030, compared to 1990 levels.

On 20 April 2021, the UK government announced that it will build on its NDC commitments to 2030, by setting the world's most ambitious climate change target into law to reduce emissions by 78% by 2035 compared to 1990 levels.

The UK's current strategy publications include: the Net Zero Strategy (BEIS 2020); the Ten Point Plan for a Green Industrial Revolution (HMG 2020); Net Zero Review (HMT 2020); the Energy White Paper (BEIS 2020); and the Industrial Decarbonisation Strategy (HMG 2021).

The current UK government policy that directly enables or supports decarbonisation includes:

- the Climate Change Levy (CCL), which is an environmental tax on commercial energy use. The “carbon price support” (CPS) rates of the CCL are paid by owners of electricity-generating stations and operators of combined heat and power stations. Certain suppliers do not have to pay CPS rates (including small generators standby generators and generating stations in Northern Ireland); and
- The UK Emissions Trading Scheme (UK ETS), which is the carbon emission trading scheme of the UK. It is “cap and trade” and applies to power generation (as well as to aviation and heavy industry). The UK ETS applies to regulated activities which result in greenhouse gas emissions, including combustion of fuels on a site where combustion units with a total rated thermal input exceeding 20 MW are operated (except in installations where the primary purpose is the incineration of hazardous or municipal waste). Northern Ireland electricity generators remain in the EU ETS under the Ireland/Northern Ireland Protocol. Activities in scope of the UK ETS are listed in Schedule 1 (aviation) and Schedule 2 (installations) of the

Greenhouse Gas Emissions Trading Scheme Order 2020.

Recent Updates

On 18 July 2022 the English High Court handed down a judgment in which it declared that the Secretary of State for BEIS breached his obligations under the Climate Change Act 2008 by:

- failing to consider the quantitative contributions that individual proposals and policies of the Net Zero Strategy were expected to make;
- failing to explain that analysis carried out by BEIS predicted that the policies in the Net Zero Strategy would only deliver 95% of the emissions reductions required to meet the 2035 target; and
- failing to explain how the identified 5% shortfall for meeting the 2035 target would be made up.

The court ordered the government to produce a new Net Zero Strategy by 31 March 2023.

3.2 Principal Laws and/or Policies Relating to the Early Retirement of Carbon-Based Generation

On 30 June 2021, the UK announced its commitment to phase out coal power completely by 2024.

There are currently three coal plants in the UK – two of which are due to close by the end of 2022 (EDF's West Burton A plant in Nottinghamshire and Drax's facility in Selby, North Yorkshire) and the third (Uniper's plant at Ratcliffe-on-Soar) is due to close by September 2024, a month before the government's deadline.

However, it has been reported that due to the war in Ukraine, Business Secretary Kwasi Kwarteng wrote to EDF, Drax and Uniper in April 2022 to ask that they temporarily extend the operation

of the coal plants. The three energy firms are reportedly in discussions with the National Grid Electricity System Operator.

3.3 Principal Laws and/or Policies to Encourage the Development of Alternative Energy Sources

Capacity Targets

As indicated above, on 7 April 2022 the government announced the British Energy Security Strategy, which includes the following commitments/ambitions:

- to phase out the use of Russian oil and coal by the end of 2022, and end imports of Russian liquefied natural gas as soon as possible thereafter;
- to deliver up to 50 GW of offshore wind by 2030, including up to 5 GW of innovative floating wind;
- a five-fold increase in solar deployment by 2035 (up to 70 GW);
- by 2050, up to a quarter of power consumed in Great Britain (up to 24 GW) will be from nuclear; and
- to double the UK ambition for hydrogen production to up to 10 GW by 2030, with at least half of this from electrolytic hydrogen.

Contracts for Difference

The Contracts for Difference (CfD) scheme is the government's main mechanism for supporting low-carbon electricity generation.

CfDs incentivise investment in renewable energy by providing developers of projects with high upfront costs and long lifetimes with direct protection from volatile wholesale prices, and they protect consumers from paying increased support costs when electricity prices are high.

Renewable generators located in the UK that meet the eligibility requirements can apply for a CfD by submitting a form of "sealed bid". There

have been three auctions, or allocation rounds, to date, which have seen a range of different renewable technologies competing directly against each other for a contract.

Successful developers of renewable projects enter into a private contract with the Low Carbon Contracts Company (LCCC), a government-owned company. Developers are paid a flat (indexed) rate for the electricity they produce over a 15-year period; the difference between the "strike price" (a price for electricity reflecting the cost of investing in a particular low-carbon technology) and the "reference price" (a measure of the average market price for electricity in the GB market).

National Grid ESO is the Delivery Body for the CfD scheme, responsible for running the CfD allocation process.

Zero Innovation Portfolio

The Net Zero Innovation Portfolio is a GBP1 billion fund, announced in the Prime Minister's Ten Point Plan for a Green Industrial Revolution, to accelerate the commercialisation of low-carbon technologies, systems and business models in power, buildings and industry.

The ten priority areas include: future offshore wind; nuclear advanced modular reactors (supported through the aligned Advanced Nuclear Fund); energy storage and flexibility; bioenergy; hydrogen; homes; direct air capture and greenhouse gas removal (GGR); advanced carbon capture, usage and storage (CCUS); industrial fuel switching; and disruptive technologies.

Funding is being made available to successful applicants for projects across Great Britain and Northern Ireland. The Net Zero Innovation Portfolio succeeds the BEIS Energy Innovation Programme (EIP), which ran from 2015 to 2021.

Net Zero Hydrogen Fund

The aim of the Net Zero Hydrogen Fund (NZHF) is to provide capital expenditure and development expenditure to support the commercial deployment of new low-carbon hydrogen production projects during the 2020s. The NZHF will deliver up to GBP240 million via four separate “strands”. The funding is provided by grant and projects must have a grant request of between GBP80,000 and GBP15 million.

4. GENERATION

4.1 Principal Laws Governing the Construction and Operation of Generation Facilities

The construction and operation of generation facilities is principally governed by the Electricity Act 1989. Specific authorisations required will depend on the size, nature and location of the generation facilities.

Section 6 of the Electricity Act 1989 lays down the procedures in respect of the grant, extension or restriction of electricity licensed. Unless one of two exemptions applies, an electricity generator must issue an application to Ofgem for a generation licence under section 6(1)(a) of the Electricity Act 1989.

Once a licence is granted, licensees are required to comply with applicable industry codes, including the Balancing and Settlement Code (BSC); Grid Code; Connection and Use of System Code (CUSC); and the Distribution Code.

Onshore Generation Facilities

- For the construction of onshore generation facilities over 50 MW in England and Wales, consent from the Secretary of States of Business, Energy and Industrial Strategy (BEIS) is required under section 36 of the Electricity Act 1989.

- Typically, it is often the case that such generation projects are classified as a nationally significant infrastructure project (NSIP) under the Planning Act 2008 and therefore require a development consent order (DCO).
- Generation projects with a capacity of less than 50 MW are considered under the Town & Country Planning Act 1990.

Onshore Wind Farms

- Irrespective of their size, onshore windfarms are considered under the Town and County Planning Act 1990.
- Facilities between 1 MW and 100 MW require consent of the Marine Management Organisation.
- Facilities over 100 MW are considered NSIPs and are subject to the DCO regime.

Nuclear Generation Facilities

- All nuclear generation facilities are NSIPs and therefore require a DCO, as well as environmental permits and a Nuclear Site Licence. The 1965 Nuclear Installations Act deals with liability and governs the construction and safe operation of nuclear plants.

4.2 Regulatory Process for Obtaining All Approvals to Construct and Operate Generation Facilities

All electricity generators must obtain a generation licence – issued by Ofgem – under section 6(1)(a) of the Electricity Act 1989. It is an offence to generate, distribute or supply energy without a licence unless the Secretary of State for Energy and Climate Change grants a class or individual exemption.

The Electricity (Applications for Licences, Modifications of an Area and Extensions and Restrictions of Licences) Regulations 2019 (SI 2019/1023) (Electricity Licence Application Regulations 2019), made by Ofgem, set out the

procedure for applying for a licence and the fee payable.

While primary responsibility of the energy sector falls on GEMA, GEMA delegates the day-to-day administration of its functions to Ofgem. Accordingly, it is Ofgem that has the authority to grant licences (without further reference to GEMA or any government ministry) and enforces them.

Ofgem adopts a risk-based approach to licence applications, where all applicants must complete the information required under Tier 1 so that an initial risk assessment may be carried out. The application may then progress to Tier 2, which gives rise to additional requirements.

When considering whether or not to grant a licence, Ofgem will consider whether:

- The licensee can finance their activities;
- All reasonable demands for electricity and gas are met;
- The licence will contribute to the achievement of sustainable development; and
- The interests of particular consumer groups, such as those with a disability, are met.

Ofgem must act in accordance with its duties set out in section 3A of the Electricity Act 1989 as well as the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002, the Energy Act 2004, the Energy Act 2008, the Energy Act 2010, the Energy Act 2011 and the Energy Act 2013.

Public participation/input is not permitted or required; rather, Ofgem undertakes the process internally.

Once Ofgem has deemed that an application has been “duly made”, ie, confirmed as complete, the relevant time period for processing the

application commences. For electricity generation it is 65 working days.

Applicants for a gas or electricity licence must publish notice of their application within 10 working days of notification that the relevant application is duly made.

Once a licence is granted, Licensees must comply with the standard licence conditions (SLCs) and also become party to and/or comply with certain industry codes.

4.3 Terms and Conditions Imposed in Approvals to Construct and Operate Generation Facilities

The SLCs will depend on the type of licence that is granted. In general terms, the licence requires the provision of ancillary services to National Grid, prevents the licensee from making excessive profits from transmission constraints, and in some cases prohibits discrimination in selling electricity. The licence is a public document and is available on Ofgem’s electronic public register. A generation licence is the least regulated of the licensable activities.

As of 29 November 2020, an Electricity Generation Licence has the following standard conditions:

The Licensee shall:

- Comply with:
 - (a) the requirements of the Grid Code (so far as applicable);
 - (b) every applicable Distribution Code;
 - (c) the Fuel Security Code;
 - (d) the programme implementation scheme designated by the Secretary of State;
 - (e) the Balancing and Settlement Code (BSC);
 - (f) the connection and use of system code (CUSC);
 - (g) the BETTA run-off arrangements scheme;

- (h) any scheme imposed by the Secretary of State in relation to the preparation and storage of regulatory accounts; and
 - (i) any scheme made by the Secretary of State under Schedule 7 to the Utilities Act 2000.
- Take all reasonable measures to secure and implement the provisions of the Utility Act 2000.
 - Be party to:
 - (a) the BSC Framework Agreement; and
 - (b) the CUSC Framework Agreement.
 - From time to time upon request by the system operator offer terms for the provision by the Licensee of ancillary services from any operating generation set of the Licensee.
 - The Licensee shall at any time upon request of GEMA provide a report containing the details of:
 - (a) prices offered for the provision of ancillary services; and
 - (b) an explanation of the factors justifying the prices offered.
 - The Licensee shall furnish GEMA with information it reasonably requires for the purpose of performing the functions conferred on it by or under the Electricity Act 1989.
 - Prepare and publish a Consolidated Segmental Statement in relation to revenues, costs and profits of its activities on its website.
 - Not obtain an excessive benefit from electricity generation in relation to a Transmission Constraint Period.

There are supplementary standard conditions that apply in Scotland, under section C of the SLCs for Electricity Generation.

The standard conditions may be modified by Ofgem when granting a licence, or subsequently, and can in some cases be modified by the Secretary of State.

4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights

There are no general eminent domain rights or similar for electricity generation facilities in the UK.

The Secretary of State may, however, authorise any licence-holder the power to acquire land compulsorily under Schedule 3 of the Electricity Act 1989.

- In England, compulsory purchase in practice falls under the Planning Act 2008 DCO procedure.
- Standard Licence Condition 14(3) restricts exercise of compulsory purchase powers to generating stations of 50 MW or above.
- In Wales, compulsory purchase procedures apply to onshore wind (of any capacity) and other (non-wind) onshore generating stations of between 50 and 350 MW capacity (save for pumped storage, to which the Planning Act 2008 DCO regime applies).

4.5 Requirements for Decommissioning

There are only specific requirements for decommissioning nuclear power stations. In particular, there are two distinct decommissioning processes under the Energy Act 2008:

- process for decommissioning existing power plants, commissioned before 2008; and
- process for decommissioning new power plants, commissioned after 2008.

Most of the UK's existing fleet of nuclear power stations were built in the 1960s and 1970s and are nearing the end of generation. At present, seven power plants in the UK are being decommissioned at a cost of circa GBP23.5 billion, and most of the UK's existing nuclear power stations will need to be decommissioned this decade. The body responsible for decommissioning nuclear power plants is the Nuclear Decommis-

sioning Authority (NDA). The NDA is sponsored by the BEIS.

Energy companies seeking to construct any new nuclear power stations must ensure that they have sufficient funds to cover the full costs of:

- decommissioning their nuclear power stations; and
- managing any radioactive waste produced by their power stations.

This is known as the Funded Decommissioning Programme (FDP). Operators of new nuclear power stations are required to have an FDP, approved by the Secretary of State, in place before construction of a new nuclear power station can begin (section 45, Energy Act 2008).

5. TRANSMISSION

5.1 Regulation of Construction and Operation of Transmission Lines and Associated Facilities

5.1.1 Principal Laws Governing the Construction and Operation of Transmission Facilities

The Electricity Act 1989 is the principal law regulating transmission licences. The Electricity (Applications for Licences, Modifications of an Area and Extensions and Restrictions of Licences) Regulations 2019 (SI 2019/1023) (Electricity Licence Application Regulations 2019), made by Ofgem, set out the procedure for applying for a licence and the fee payable.

5.1.2 Regulatory Process for Obtaining Approvals to Construct and Operate Transmission Facilities

Unless an exemption applies, companies engaged in the transmission of energy must obtain a licence under the Electricity Act 1989.

In the event of offshore transmission, there is a competitive tender process in place of the application procedure.

The Electricity (Applications for Licences, Modifications of an Area and Extensions and Restrictions of Licences) Regulations 2019 (SI 2019/1023) (Electricity Licence Application Regulations 2019), made by Ofgem, set out the procedure for applying for a licence and the fee payable.

For a standard licence application, an applicant must complete the form and send the relevant fee to Ofgem. As with all licence applications (including generation licence applications as referred to above), Ofgem must act in accordance with its duties and objectives under the Electricity Act 1989 as well as the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002, the Energy Act 2004, the Energy Act 2008, the Energy Act 2010, the Energy Act 2011 and the Energy Act 2013.

Once Ofgem has deemed that an application has been “duly made”, ie, confirmed as complete, the relevant time period for processing the application commences, which for an electricity transmission licence is six months.

5.1.3 Terms and Conditions Imposed in Approvals to Construct and Operate Transmission Facilities

Standard conditions have been determined under section 137(1) of the Energy Act 2004.

In general terms, the licence ensures the provision of an efficient, co-ordinated and economical system and the facilitation of competition in supply and generation, including price controls that ensures a network company does not abuse its monopoly position, has restrictions on asset disposal, and measures to ensure it can finance its functions. The licence is a public document

and is available on Ofgem's electronic public register.

The Electricity Transmission Standard Licence Conditions is divided into the following sections:

- A – Definitions and Interpretation.
- B – General.
- C – System Operator and Standard Conditions.
- D – Transmission Owner Standard Conditions.
- E – Offshore Transmission Owner Standard Conditions.

The conditions that are “switched on” will depend on whether the licensee is a System Operator (SO), Transmission Owner (TO), or Offshore Transmission Owner (OFTO).

For a System Operator (SO), sections A, B and C of the standard conditions are “switched on”. For a Transmission Owner (TO), sections A, B and D of the standard conditions are “switched on”.

Electricity transmission is a highly regulated activity due to the need to secure safe and efficient networks, and to regulate the charging for a monopoly activity.

As of 1 April 2022, an Electricity Transmission Licence has 18 general standard B conditions in operation, relating to:

1. The preparation and publication of regulatory accounts.
2. Maintaining operational control over relevant assets.
3. Furnishing information to GEMA as may reasonably be required.
4. Prohibition of cross-subsidies.
5. Restriction on certain activities and financial ringfencing.
6. Ensuring the availability of resources.

7. Procuring an undertaking from the ultimate controller of the Licensee.
8. Maintaining an Investor Grade Issuer Credit Rating at all times.
9. Complying with the provisions of the Fuel Security Code in respect of transmission in England and Wales, and complying with the directions of the Secretary of State under section 34 and/or 35 of the Act in respect of transmission in Scotland.
10. Having a System Operator – Transmission Owner Code (STC) in force.
11. Complying with the Regulatory Instructions and Guidance (RIGs) published by GEMA.
12. Developing and maintaining an Electricity Network Innovation Strategy.
13. Complying with any Section E (offshore transmission owner of last resort) Direction given by GEMA.
14. Doing all such things to give effect to all modifications made by the Secretary of State to the licence, CUSC or STC.
15. Notifying GEMA or any changes or circumstances that may affect its eligibility for certification.
16. Having two non-executive directors who meet the criteria set out in Condition B22 of the licence.
17. Complying with the provisions of the Data Assurance Guidance.
18. The ability of GEMA to making “housekeeping” modifications to the Licence.

Special Conditions apply to NGENSO and National Grid Electricity Transmission plc.

SLCs in respect of transmission licences may be “switched on” or “switched off” by Ofgem.

5.1.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights

There are no general eminent domain rights or similar for electricity transmission facilities.

Section 37 of the Electricity Act 1989 requires the consent of the Secretary of State to install an electric line above ground unless the electric line either:

- has a nominal voltage of less than 20 kilovolts (kV) and is used for supplying a single customer; or
- is within premises either occupied or controlled by the person responsible for the installation.

In England and Wales, an overhead electric line with a nominal voltage of 132 kV or more is considered to be an NSIP, and a DCO from the Secretary of State will be required unless a specific exemption applies.

If any electric line passes over or under private land, the consent or agreement of the relevant landowner is also required. A wayleave or easement agreement with the landowner or occupier gives us the provider rights to install, access, maintain and repair the provider's equipment on their land.

A wayleave is an annual agreement for which a landowner and/or occupier receive an annual wayleave payment. The wayleave payment is based on the type and number of assets on the land and its land use.

An easement is an agreement that allows the provider permanent rights for the equipment in return for a one-off lump sum payment. It can only be agreed between the landowner, or long-lease holder, and the provider's rights endure even if the land changes hands. An existing wayleave agreement can be converted to an easement.

Certain transmission works may be classified as "permitted developments" under the Town and Country Planning (General Permitted Develop-

ment) Order 1995, meaning that planning permission is not required. A marine licence may be required for the laying of a cable within UK territorial waters.

5.1.5 Transmission Service Monopoly Rights

The transmission system in England, Wales and Scotland as a whole is operated by National Grid Electricity System Operator (NGESO), which is responsible for ensuring the stable and secure operation of the national electricity transmission system.

There are four companies that own the onshore transmission system in the UK:

- National Grid;
- Scottish Power Transmission Ltd;
- Scottish Hydro-Electric Transmission plc; and
- Northern Ireland Electricity Ltd.

5.2 Regulation of Transmission Service, Charges and Terms of Service

5.2.1 Principal Laws Governing the Provision of Transmission Service, Regulation of Transmission Charges and Terms of Service

Ofgem is responsible for governing transmission licences. In turn, and as noted in **1.5 Central Planning Authority**, Ofgem is governed by GEMA. GEMA's powers are provided for under: Gas Act 1986, Electricity Act 1989, Utilities Act 2000, Competition Act 1998, Enterprise Act 2002 and measures set out in other Energy Acts.

With respect to transmission charging arrangements, Transmission Network Use of System (TNUoS) charges are levied on generators for transmitting electricity across the GB electricity grid network. TNUoS tariffs are calculated, set and billed by NGESO, who recover revenue from generators and suppliers and pay it to the GB Transmission Owners.

TNUoS represents a proportion of overall transmission costs, with the remainder being met directly by consumers. As of February 2022, TNUoS charges levied on generators was estimated to be circa GBP800 million and TNUoS charges on consumers was estimated to be circa GBP2.7 billion.

Recently, stakeholders have raised some concerns with us around TNUoS charges, including their cost-reflectivity, unpredictability and absolute values.

On 1 October 2021, Ofgem issued a Call for Evidence in respect of TNUoS charges. On 25 February 2022, Ofgem confirmed that it will be asking NGENSO to launch and lead Task Forces under the Charging Futures arrangements considering the root causes of unpredictability in TNUoS charges and how they might be addressed, alongside an examination of the input data into the current model used to calculate the locational element of TNUoS, to ensure that charges remain cost-reflective. Further, Ofgem will itself be undertaking a significant programme of work looking at the longer-term purpose and structure of transmission charges, considering in particular the trade-offs between market signals, network planning and network charging signals in fostering a flexible, net zero energy system.

5.2.2 Establishment of Transmission Charges and Terms of Service

The obligation to pay TNUoS charges and the methodology for their calculation is set out in the CUSC.

The charges may be positive or negative, depending on location, and their recovery is split between electricity suppliers and generators. Charges to generators are based on their transmission entry capacity (TEC). Charges to electricity suppliers and large industrial cus-

tomers are based on their electricity demand at peak times. TNUoS tariffs are calculated using a Transport & Tariff model – also known as the DCLF ICRP model – and are published annually by 31 January and take effect from 1 April each year. The TNUoS methodology is published in section 14 of the CUSC.

The recovery of TNUoS will change following Ofgem's Targeted Charging Review Significant Code Review, expected to be finalised by 1 April 2023.

5.2.3 Open-Access Transmission Service

The Electricity Standard Licence Conditions confirm that there is prohibition of discriminating between users (see Condition C7) and prohibition on transmission owners engaging in preferential or discriminatory behaviour (see Condition D5).

6. DISTRIBUTION

6.1 Regulation of Construction and Operation of Electricity Distribution Facilities

6.1.1 Principal Laws Governing the Construction and Operation of Electricity Distribution Facilities

DNOs are required to have a distribution licence under the Electricity Act 1989. Ofgem is responsible for issuing such licences, which are granted under section 6(1)(c) of the Electricity Act 1989.

The holder of a distribution licence may not hold a generation licence or a supply licence.

6.1.2 Regulatory Process for Obtaining Approvals to Construct and Operate Distribution Facilities

Electricity distribution is a highly regulated activity. The Electricity (Applications for Licences,

Modifications of an Area and Extensions and Restrictions of Licences) Regulations 2019 (SI 2019/1023) (Electricity Licence Application Regulations 2019), made by Ofgem, set out the procedure for applying for a licence and the fee payable.

Once Ofgem has deemed that an application has been “duly made”, ie, confirmed as complete, the relevant time period for processing the application commences, which for an electricity distribution licence is six months.

6.1.3 Terms and Conditions Imposed in Approvals to Construct and Operate

The Standard Licence Conditions of an Electricity Distribution, which were consolidated in October 2021, are split into 12 chapters:

- Chapter 1 – Interpretation and Application.
- Chapter 2 – Standard Conditions 4–7: General Obligations and Arrangements.
- Chapter 3–Standard Conditions 8–11: Public Service Requirements.
- Chapter 4–Standard Conditions 12–17: Arrangements for the provision of Services.
- Chapter 5–Standard Conditions 20–23: Industry Codes and Agreements.
- Chapter 6–Standard Conditions 24–28: Integrity and Development of the Network.
- Chapter 7–Standard Conditions 29–31: Financial and Ring-Fencing Arrangements.
- Chapter 8–Standard Conditions 32–33: Application and Interpretation of Section B.
- Chapter 9–Standard Conditions 34–39: Requirements within the Distribution Services Area.
- Chapter 10–Standard Conditions 40–41: Credit Rating and Restriction of Indebtedness.
- Chapter 11–Standard Conditions 42–43: Independence of the Distribution Business.
- Chapter 12–Standard Conditions 44–49: Provision of Regulatory Information.

The licence can relate to any area, or only to a specified area. In practice, most distribution licences will cover the whole of Great Britain, and in some cases will cover offshore distribution. The licence is a public document and is available on Ofgem’s electronic public register.

6.1.4 Proponent’s Eminent Domain, Condemnation or Expropriation Rights

There are no general eminent domain rights or similar for electricity distribution facilities.

6.1.5 Distribution Service Monopoly Rights

As DNOs own and operate the local distribution systems within their allocated areas, they have a monopoly and, in the absence of any price controls, each DNO could seek to maximise its profits by increasing its prices or reducing the availability of its service. DNOs are, therefore, regulated by Ofgem to ensure that they do not abuse their monopoly status.

6.2 Regulation of Distribution Service, Charges and Terms of Service

6.2.1 Principal Laws Governing the Provision of Distribution Service, Regulation of Distribution Charges and Terms of Service

The principal law governing the provision of electric distribution service, regulation of distribution charges and terms of service is the Electricity Act 1989.

Standard conditions for generation, supply and distribution licences were determined under section 33(1) of the Utilities Act 2000.

6.2.2 Establishment of Distribution Charges and Terms of Service

Distribution use of system charges (DUoS) are charges are paid to distribution network operators and cover the cost of building and maintaining a local distribution network. The charge is mostly collected from suppliers under DCUSA

(and are recharged by those suppliers) but is also paid directly by any generator who is a party to DCUSA.

Regulation of DNOs is achieved through price controls, which limit how much DNOs can charge the supply companies. Price controls also limit how much TOs (who have a monopoly over the transmission system) can charge DNOs. The current price control for DNOs (referred to as RIIO-ED1) runs for an eight-year period from 1 April 2015 to 31 March 2023.

The price control regime that will apply from 1 April 2023 for electricity distribution is known as RIIO-ED2. The RIIO-2 price control periods are five years, instead of eight, with companies able to submit proposals for allowances for specific longer-term items.

Ofgem published its final determinations for RIIO-ET2 in December 2020. In March 2021, National Grid Electricity Transmission, Scottish Hydro Electric Transmission and SP Transmission applied to the CMA to appeal the determinations. The CMA issued its final determination in October 2021.