

Renewable Energy

Contributing editor
Eric Pogue



2019

GETTING THE
DEAL THROUGH

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Eric Pogue

Hunton Andrews Kurth LLP

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Preface

Renewable Energy 2019

Second edition

Getting the Deal Through is delighted to publish the second edition of *Renewable Energy*, which is available in print, as an e-book and online at www.gettingthedealthrough.com.

Getting the Deal Through provides international expert analysis in key areas of law, practice and regulation for corporate counsel, cross-border legal practitioners, and company directors and officers.

Throughout this edition, and following the unique **Getting the Deal Through** format, the same key questions are answered by leading practitioners in each of the jurisdictions featured. Our coverage this year includes new chapters on Armenia, Indonesia, Iran, Taiwan, Tanzania and Ukraine.

Getting the Deal Through titles are published annually in print. Please ensure you are referring to the latest edition or to the online version at www.gettingthedealthrough.com.

Every effort has been made to cover all matters of concern to readers. However, specific legal advice should always be sought from experienced local advisers.

Getting the Deal Through gratefully acknowledges the efforts of all the contributors to this volume, who were chosen for their recognised expertise. We also extend special thanks to the contributing editor, Eric Pogue of Hunton Andrews Kurth LLP, for his continued assistance with this volume.

GETTING THE
DEAL THROUGH

London
August 2018

United Kingdom

John Dewar and Seyda Duman

Milbank, Tweed, Hadley & McCloy LLP

Market framework

1 Who are the principal government participants in the electricity sector? What roles do they perform in relation to renewable energy?

Ministerial departments

The Department of Energy and Climate Change (DECC), formed in 2008, was the ministerial department responsible for making decisions, setting policy and implementing legislation affecting the electricity sector. The corresponding government ministry in Northern Ireland is the Department of Enterprise, Trade and Investment. Following the EU Referendum held on 23 June 2016, DECC was merged together with the Department for Business and Innovation to create the Department for Business, Energy and Industrial Strategy (BEIS).

Independent bodies

BEIS works closely with and is supported by other agencies and public bodies, including:

GEMA and Ofgem

The Gas and Electricity Markets Authority (GEMA) has primary responsibility for regulation of the energy sector. GEMA's powers and duties are largely provided for in statute (such as the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Acts of 2004, 2008, 2010 and 2011) as well as arising from directly effective European Community legislation.

GEMA's principal objective is to protect the interests of existing and future consumers in relation to gas conveyed through pipes and electricity conveyed by distribution or transmission systems. The interests of such consumers are their interests taken as a whole, including their interests in the reduction of greenhouse gases in the security of the supply of gas and electricity to them.

GEMA is constituted of individuals who are appointed by the Secretary of State for specified terms of not less than five years. GEMA is independent and has very limited stakeholder participation (such as the Secretary of State's ability to remove members on the grounds of misbehaviour, determine the remuneration of members and give guidance).

GEMA delegates its functions to the Office of Gas and Electricity Markets (Ofgem) and provides Ofgem with strategic direction and oversight. Ofgem is also a non-ministerial government department and an independent National Regulatory Authority recognised by EU Directives. Ofgem states that its principal objective is to protect the interests of existing and future electricity and gas consumers.

Ofgem E-Serve, which introduces itself as the 'delivery arm of Ofgem', administers environmental schemes and consumer and social programmes on behalf of the government, including schemes related to renewable energy such as the feed-in tariff (FIT), Contracts for Difference (CfD), the Renewables Obligation, Domestic RHI, Non-Domestic RHI, the Climate Change Levy, the Renewable Energy Guarantees of Origin scheme and the Offtaker of Last Resort (OLR) scheme. Please see the response to question 6 for more details.

Competition and Markets Authority (CMA)

The CMA was established in April 2014 under the Enterprise and Regulatory Reform Act 2013. It is an independent non-ministerial department which brought together the existing competition and certain consumer protection functions of the Office of Fair Trading and the responsibilities of the Competition Commission to promote competition for the benefit of consumers within and outside the UK.

The Environment Agency

The Environment Agency is responsible for protecting and improving the environment as well as promoting sustainable development. The role of the Environment Agency regarding electricity is limited to matters related to pollution and therefore mainly relates to conventional generation and nuclear energy.

2 Who are the principal private participants in the electricity sector? What roles do they serve in relation to renewable energy?

Generation

Following privatisation of the generation industry during the 1990s, there has been an increasing number of generating companies in Great Britain. These are made up of what are known as the 'Big Six' – British Gas, e.on, EDF, npower, Scottish Power and SSE – and an ever increasing number of smaller suppliers (approximately 60 as of June 2017). Renewable energy makes up more than 20 per cent of the UK's electricity and under the current EU targets this is likely to increase to 30 per cent by 2020; it is not yet known whether the Brexit process and withdrawal from the EU will result in a change in this target.

Transmission

National Grid Electricity Transmission (NGET) is the licensed national electricity transmission system operator for Great Britain. Ownership of the transmission assets is divided as follows:

- NGET owns the transmission network in England and Wales;
- Scottish Hydro Electric Transmission owns northern Scottish transmission assets;
- Scottish Power Transmission (Southern Scotland) owns central and southern Scotland transmission assets; and
- Northern Ireland Electricity owns the transmission network in Northern Ireland where the System Operator Northern Ireland (SONI) is licensed as the transmission system operator.

As the UK is well placed to take advantage of wind power, Ofgem together with DECC identified both onshore and offshore wind farms as an important part of UK renewable energy. To this end, the UK has invested significantly in offshore wind, and as part of this process DECC (now BEIS) and Ofgem have established a regulatory regime for offshore transmission networks with a view to ensuring that offshore renewable generation projects are economically and efficiently connected to the British electricity grid. A key part of this regime is the granting of offshore transmission licences on the basis of a competitive tender process; Ofgem is responsible for running this process. There have so far been five rounds of tendering for the granting of 21 offshore transmission licences.

3 Is there any legal definition of what constitutes 'renewable energy' or 'clean power' (or their equivalents) in your jurisdiction?

Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 (the Renewable Energy Directive) on the promotion of the use of energy from renewable sources defines 'energy from renewable sources' as energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases, each of which are then defined separately within the Renewable Energy Directive. Although not clearly excluded from the scope of renewable energy by national legislation, for the purpose of this questionnaire, we have not considered nuclear energy as a renewable energy source.

The National Renewable Energy Action Plan adopted by the United Kingdom in accordance with article 4 of the Renewable Energy Directive additionally states that Ofgem, on behalf of DECC (now BEIS), administers schemes designed to promote the increased take-up of renewable generation (such as the Renewables Obligation scheme, the Renewable Energy Guarantees of Origin scheme and the FIT scheme). Each such scheme includes different eligibility criteria to determine whether the electricity generated is renewable, with Ofgem responsible for the accreditation of renewable generators in relation to such schemes. If Ofgem assesses that a station meets all the eligibility criteria under a particular scheme it can award accreditation. This accreditation allows renewable generators to claim support in the form of certificates that are sold to and used by suppliers for a variety of different purposes.

4 What is the legal and regulatory framework applicable to developing, financing, operating and selling power and 'environmental attributes' from renewable energy projects?

Broadly speaking, the Energy Act 2013 (together with secondary legislation) implements key aspects of electricity market reform and is a policy initiative pioneered by the UK government to mobilise £110 billion (approximately US\$140 billion) of capital investment required by 2020 to ensure reliable and diverse supply of low-carbon electricity. This is the applicable regulatory framework for the developing, financing, operating and selling power and environmental attributes from renewable projects. Certain key aspects of the Energy Act 2013 are:

- CfD: the Energy Act 2013 provides a legal framework for the CfD regime, setting out statutory obligations on suppliers and generators;
- ROCs: the Energy Act 2013 introduced new sections to the Electricity Act 1989 to provide for the Secretary of State to make an order that imposes an obligation on Ofgem, the Secretary of State or a CfD counterparty to purchase the replacement for the renewables obligation certificates (ROCs) called 'certificate purchase obligations' in Great Britain; and
- capacity market: the Energy Act 2013 empowered the Secretary of State to introduce a capacity market based on the government's forecast of future electricity demand together with an analysis of existing security of supply.

5 Can environmental attributes be stripped and sold separately?

The Renewables Obligation scheme (RO) has created a market for the sale of environmental attributes. Through the RO scheme, the government places an annual obligation on licensed electricity suppliers to source a proportion of the electricity they supply to customers from renewable energy sources. These suppliers are required to meet their individual obligation target by purchasing ROCs from renewable generators directly, from the ROCs market or by paying a set amount to government by way of a penalty. Through this mechanism, ROCs have a monetary value (the auction price for a November 2017 e-ROC auction was £49.41 per ROC) and generators have been able to sell (among other things) the electricity generated by their renewable generating stations (and associated ROCs) to licensed electricity suppliers.

6 Does the government offer incentives to promote the development of renewable energy projects? In addition, has the government established policies that also promote renewable energy?

As noted above, Ofgem E-Serve administers environmental schemes and consumer and social programmes on behalf of the government, including schemes related to renewable energy, such as:

- FIT: the scheme is a government programme designed to promote the uptake of renewable and low-carbon electricity generation technologies. Introduced on 1 April 2010, the scheme requires participating licensed electricity suppliers to make payments on both generation and export from eligible installations. The FIT scheme is available for anyone who has installed, or is looking to install, solar photovoltaic, wind, micro combined heat and power, hydro or anaerobic digestion technology types up to a capacity of 5MW, or 2kW for micro combined heat and power.
- Contracts for Difference: the provision of CfDs are one of the key policy measures to incentivise new low-carbon electricity generation. The provision of CfDs is intended to stabilise revenues for investors in low-carbon electricity generation projects such as renewables, by helping developers secure the large upfront capital costs for low-carbon infrastructure. The CfD is a quasi-power purchase agreement; generators with a CfD will sell their electricity into the market in the normal way, and remain active participants in the wholesale electricity market. The CfD then pays the difference between an estimate of the market price for electricity and an estimate of the long-term price needed to bring forward investment in a given technology (the strike price). This means that when a generator sells its power, if the market price is lower than needed to reward investment, the CfD pays a 'top-up'. However, if the market price is higher than needed to reward investment, the contract obliges the generator to pay back the difference. In this way, CfDs stabilise returns for generators at a fixed level, over the duration of the contract. This removes the generator's long-term exposure to electricity price volatility, substantially reducing the commercial risks faced by these projects. The Energy Act includes a provision whereby a new UK government-owned company (the Low Carbon Contracts Company or LCCC) will act as the counterparty to eligible generators under the CfD. This mechanism was in direct response to concerns about the 'credit' behind the CfD economics. Although a CfD is a private law contract between a low-carbon electricity generator and the LCCC, the cost of CfDs will ultimately be met by consumers via a levy on electricity suppliers.

The first CfD auction result published in February 2015 was a success, with a competitive allocation process, with the cost £105 million less than the original strike prices published for the same technologies. Last year, BEIS awarded 11 CfDs to a number of renewables projects across the UK, including Moray Offshore Wind Farm and Grangemouth Renewable Energy Plant.

- The RO scheme: the RO scheme is one of the main support mechanisms for large-scale renewable electricity projects in the UK. Smaller-scale generation is mainly supported through the FIT scheme. The RO came into effect in 2002 in England, Wales and Scotland, followed by Northern Ireland in 2005. The scheme places an obligation on UK electricity suppliers to source an increasing proportion of the electricity they supply from renewable sources. The RO scheme closed to all new generating capacity on 31 March 2017.
- The Domestic RHI scheme: the Domestic Renewable Heat Incentive (RHI) is a government financial scheme to promote the use of renewable heat. BEIS has undertaken a consultation process with respect to the existing Domestic RHI scheme and it is expected that, subject to parliamentary approval, the changes announced in the consultation response will come into effect during 2017.
- The Non-Domestic RHI scheme: the Non-Domestic RHI is a government environmental programme that provides financial incentives to increase the uptake of renewable heat by businesses, the public sector and non-profit organisations. Eligible installations receive quarterly payments over 20 years based on the amount of heat generated.
- The Climate Change Levy (CCL) Exemption: the CCL was introduced in April 2001 and is a tax on UK business, collected by energy suppliers, designed to encourage energy efficiency, reduce carbon

emissions and promote energy from renewable sources. Businesses were previously able to claim an exemption if they could show a levy exemption certificate, showing that they bought energy from qualifying renewable energy sources. In the July 2015 budget, the UK government announced the removal of CCL exemption for electricity generated from renewable sources from 1 August 2015. In September 2015, Drax, along with one of the UK's leading generators of renewable power, Infinis, announced that they were to apply for judicial review of the UK government's decision to remove the CCL exemption. Drax and Infinis' challenge was also based on the fact that when the CCL exemption was removed from electricity generated from combined heat and power plants, there was a two-year notice period, whereas in this case the notice period was only 24 days. Judgment was entered against Drax and Infinis on 10 February 2016. The High Court recognised the merits of bringing the case but noted that the government had not made any specific and clear assurances that the exemptions would continue to apply.

- The Offtaker of Last Resort scheme: the OLR is a government scheme that aims to promote the availability of power purchase agreements (PPA). It is intended as a last resort to help renewable generators who cannot get a PPA through the usual commercial means. The OLR scheme is part of the government's wider programme on Electricity Market Reform.

7 Are renewable energy policies and incentives generally established at the national level, or are they established by states or other political subdivisions?

Renewable energy policies and incentives are established at the national level under the National Renewable Energy Action Plan for the United Kingdom in accordance with the United Kingdom's obligations under article 4 of the Renewable Energy Directive.

8 What mechanisms are available to facilitate the purchase of renewable power by private companies?

We have seen an increasing number of corporate PPAs in the UK since 2015. These are long-term power purchase agreements under which a corporate entity agrees to purchase renewable energy from a renewable energy generator, usually to take all of the energy generated by its plant (or plants).

The PPA will contain provisions for the sale and purchase of electricity and the benefit in any renewable energy subsidies, and all of the provisions governing that sale and purchase. The delivery of renewable energy is notional and not physical in most cases.

In the UK and some other European countries, these provisions will also include obligations on the corporate offtaker to provide or procure certain metering and regulatory activities that can only be undertaken by licensed electricity suppliers.

As such, the corporate offtaker will need to enter into a back-to-back agreement with a licensed supplier under which the licensed supplier commits to undertake these obligations. The licensed supplier will also commit to purchase the electricity and renewable energy benefits from the corporate offtaker on the same terms with some margin built in.

In parallel to this arrangement, in the UK and some other European countries, the corporate offtaker will have an electricity supply agreement with the licensed supplier, under which electricity will be supplied to the meet the corporate offtaker's energy demands from time to time.

The terms of supply under this supply agreement will take into account the electricity purchased under the PPA and passed through to the licensed supplier under the licensed supplier agreement. This ensures that the corporate has the benefit of the fixed pricing for renewable energy under the PPA, but the reliability of a supply agreement with a licensed electricity supplier to meet its day-to-day energy demands.

9 Describe any notable pending or anticipated legislative proposals regarding renewable energy in your jurisdiction.

In November 2016 the government published its plans to upgrade UK energy infrastructure, reaffirming its commitment to spend £730 million of annual support on renewable electricity projects, also setting out proposals for the next steps to phase out electricity generation from unabated coal-fired power stations within the next decade. This long-term plan is intended to provide confidence to investors that the UK is open to investment in new, cleaner energy capacity. This message was perhaps intended to allay fears following the 2015 General Election that

there had been a shift in the government policy away from being 'pro-renewables', to what was described by some commentators as being more 'pro-business'.

The second allocation process for CfDs for renewable generators begun in April 2017, aiming to provide support for projects to be delivered between 2021 and 2023. There will be no allocation of CfD budget for onshore wind or solar, consistent with the government's view that these are mature or politically undesirable technologies which should no longer receive subsidies. The only technologies supported will be offshore wind, certain forms of biomass or waste-fuelled plant (advanced conversion technologies, anaerobic digestion, biomass with CHP) wave, tidal stream and geothermal.

The energy policy outlined above, coupled with the potential impact of upcoming negotiations relating to the withdrawal of the UK from the European Union, are likely to give rise to a legislative overhaul regarding the electricity sector including with respect to renewable energy.

10 What are the biggest drivers of change in the renewable energy markets in your jurisdiction?

The UK government's commitments under the Paris Climate Agreement, together with its obligations under the 2009 Renewable Energy Directive, set a target for the UK to achieve 15 per cent of its energy consumption from renewable sources by 2020, coupled in turn with the political and legislative uncertainty resulting from the UK's referendum vote to exit the European Union, are likely to be the biggest drivers of change in the renewable energy markets.

11 Describe the legal framework applicable to disputes between renewable power market participants, related to pricing or otherwise.

In relation to disputes that may arise between NGET and participants in the capacity market and CfDs, Ofgem will consider appeals made to it by participants in accordance with the relevant regulations. Such appeals may only be made to Ofgem following an initial appeal to NGET.

Dispute resolution between parties to the contractual arrangements governing the relationships between renewable power market participants are otherwise governed in accordance with the contractual terms agreed within the relevant contracts.

Utility-scale renewable projects

12 Describe the primary types and sizes of existing and planned utility-scale renewable energy projects in your jurisdiction.

The primary types of existing utility-scale renewable energy projects are offshore wind, biomass or waste-fuelled plant, wave and tidal stream, and hydropower. Examples include the London Array Wind Farm at 630MW, the 44MW biomass plant at Steven's Croft, the 398 MW MeyGen offshore tidal stream project and the Foyers pumped storage power station with a capacity of 305 MW.

The National Infrastructure and Construction Pipeline Analysis paper published by the Infrastructure and Projects Authority states that there are 96 renewable energy projects in the UK pipeline, examples of some of the projects are:

- Hull Energy works: a 28MW waste-to-energy gasification plant in Hull;
- BH Energy Gap Walsall: the waste-to-energy plant was awarded a CfD and when complete, the Walsall project will process up to 300,000 tonnes of mixed waste every year to produce a synthetic gas that will be used to generate up to 26MW of electricity;
- MGT Teesside biomass plant: a 299MW biomass-powered, combined heat and power (CHP) plant proposed by MGT Teesside;
- Hornsea Project Two: an offshore wind farm located in the North Sea off the coast of England, with a planned maximum capacity of 1,800MW; and
- Triton Knoll offshore wind project: to be located off the coast of Lincolnshire, with an expected capacity of 750MW to 900MW.

As recently as June 2018, Ørsted announced that its Race Bank 91 turbine offshore wind farm has opened off the Norfolk and Lincolnshire coast. It is expected that this offshore wind farm will produce 573MW. This new project also features a new state-of-the-art Service Operation Vessel (SOV) used to carry out offshore maintenance.

13 What types of issues restrain the development of utility-scale renewable energy projects?

Throughout Europe we have seen retroactive changes to regulatory support regimes for renewable energy projects in countries such as Spain, Greece, Bulgaria and the Czech Republic; investors in renewable energy are understandably wary of 'change in law' risk in the renewable sector and the damaging effect that such changes can have on a project's economics. The potential impact of such changes is one of the key hurdles faced in the development of utility-scale renewable energy projects in the UK. The inclusion of clear provisions safeguarding the generator or guaranteed beneficiary of any applicable incentives against UK 'change in law' risk could mitigate concerns both investors and lenders may have in this respect.

Hydropower

14 Describe the primary types of hydropower projects that are prevalent.

There are three main types of hydroelectric schemes in use in the UK:

- run-of-river schemes, using the natural flow of a river, where a weir can enhance the continuity of the flow. Both storage and run-of-river schemes can be diversion schemes, where water is channelled from a river, lake or dammed reservoir to a remote powerhouse containing the turbine and generator;
- storage schemes, where a dam impounds water in a reservoir that feeds the turbine and generator that are usually located within the dam itself; and
- pumped storage, incorporating two reservoirs. At times of low demand, generally at night, electricity is used to pump water from the lower to the upper basin. This water is then released to create power at a time when demand, and therefore price, is high. However, it should be noted that pumped storage is not considered a renewable energy (because of its reliance on electricity).

In addition to the above, tidal hydro systems are being developed, with one of the two tidal hydro projects in Europe being the 1.2MW SeaGen tidal turbine at Strangford Lough in Northern Ireland. On 25 June 2018, the UK government rejected the planned development of the 320MW Swansea Bay tidal lagoon. At the time of writing, it remains unclear whether this project will be revised on new, more favourable terms.

15 What legal considerations are relevant for hydroelectric generation in your jurisdiction?

Because of the nature of hydroelectric generation, often the barriers to successful projects can be high. Part of the reason behind this is the sheer number of authorities that need to be consulted on any given project: the Environment Agency, the local relevant planning authority, fisheries bodies, statutory environmental bodies such as Natural England and landowners, to name a few. This can be difficult in both a legal and practical sense (ie, time and cost). Furthermore, although hydropower has been embraced in Scotland, in England and Wales the review of FITs at the end of 2015 preceded diminishing support for hydro schemes, with the tariffs available being reduced significantly in the 100–500kW band. While wind and solar projects continue to benefit from legislative and regulatory support, the same is not true for hydroelectric generation, and it does not appear that this will change, at least for the foreseeable future.

Distributed generation

16 Describe the prevalence of on-site, distributed generation projects.

Underpinned by general environmental concerns, technological innovation and government policy, the growth of on-site distributed generation projects has been noticeable in recent years. In particular, an uptake in residential use has been seen, with very small-scale projects operated and maintained by residential end users evident across the country. Similarly, businesses and public sector institutions continue to install their own generation projects, whether that be high-street stores, office blocks or public sector services buildings such as hospitals. Those that operate and maintain such distributed generation projects as ultimate end users, regardless of size, have been doing so in increasing numbers for the benefit of the environment and for long-term cost savings.

17 Describe the primary types of distributed generation projects that are common in your jurisdiction.

The types of technologies seen in the residential sector include solar photovoltaic panels, small wind turbines, natural-gas-fired fuel cells and emergency backup generators. In the commercial and industrial sectors, the same technologies exist in addition to hydropower, biomass combustion, municipal solid waste incineration, natural gas or biomass-fuelled fuel cells and reciprocating combustion engines. The uses of such distribution generation projects and the ownership and offtake structure depend largely on the user and their needs. For example, if a hospital has a system, they will seek high reliability and thus high quality, perhaps at the expense of cost. On the flip side, industrial plants may prioritise a low-cost system over other factors.

18 Have any legislative or regulatory efforts been undertaken to promote the development of microgrids? What are the most significant legal obstacles to the development of microgrids?

Recently, microgrids have emerged as part of a number of solutions for the UK's transition from a conventional energy system to one fit for the 21st century and beyond, responsive to changing needs and desires, namely the pursuit of low-cost, efficient energy that has minimal environmental impact. The UK government in particular has encouraged microgrids because, as they work locally, they can be disconnected from the national grid to operate independently where necessary. The importance of their independence cannot be understated, namely because, in the event of a disturbance, microgrids can be isolated to minimise greater disruption. For that reason they are an attractive option for small communities. An example of a scheme is the Flexible Plug and Play (FPP) initiative, introduced in 2012. This three-year project delivered cheaper and faster distributed generation connections, as well as enabling such distribution schemes to become active which were thought to be unfeasible. The clean energy company Powerhouse Energy has recently announced its successful connection to a microgrid, enabling it to get a step closer to a commercial roll-out of its waste-to-clean electrical energy solution. We anticipate there will be more similar announcements this year and into the next, as more clean energy companies invest in technologies that make it easier to connect to microgrids.

19 What additional legal considerations are relevant for distributed generation?

The nature of distributed generation is that it allows for self-consumption, offering significant consumer benefits in terms of economics. However, it is particularly important in this context that consumers fully understand the legal backdrop of any electricity generated, especially if they intend to sell the electricity generated (eg, gaining FIT payments and ROCs). Not only is compliance with the applicable regulations imperative, but there are a number of agreements and contracts that need to be put in place by the distributor, meaning in the residential sector legal and professional advice must be sought, adding to expense. In terms of property rights, it may be advisable for those involved to ensure they are sufficiently protected by obtaining options for leases and options for easements. In addition, the effect of Brexit is unknown, and such uncertainty has a particular impact on distributed generation, an area partially regulated by the European Union.

Energy storage

20 What storage technologies are used and what legal framework is generally applicable to them?

At the end of 2016, there were 27 installed energy storage projects in the UK, with a total capacity of around 33GWh. These storage projects consist in the majority of lithium-ion battery, lead-acid battery, open-loop pumped hydro storage, closed-loop pumped hydro storage and modular compressed storage.

Recent developments include:

- battery storage and demand-side response won more than 500MW of contracts in the T-1 Capacity Market auction in February 2018;
- GE has announced plans for a 41MW project, to be located in the UK, amounting to its largest grid scale battery energy storage system to date; and
- Battery Energy Storage Solutions (BESS) has raised more than US\$100 million to invest in energy storage projects in the UK totalling 100MW.

Electricity storage is treated as a form of electricity generation and, as such, the applicable legal framework for electricity storage is currently the same as that applicable to electricity generation.

21 Are there any significant hurdles to the development of energy storage projects?

The classification of electricity storage as generation (and therefore the application of the legal framework applicable to generators) has been seen to be a significant hurdle to the development of energy storage projects in the UK; this has been acknowledged by Ofgem, which has committed to work together with the government to provide greater regulatory clarity. Some of the key concerns are that certain licensed operators, such as distribution licence holders, are restricted from holding a generation licence and therefore from operating electricity storage. The requirement for electricity storage operators to hold a generation licence is administratively burdensome on such operators, as it imposes on them all the regulations and codes that apply to electricity generators. In addition to the above, the current regulatory regime also treats electricity storage operators as consumers as well as electricity generators, resulting in electricity storage operators being double-charged for using the electricity grid – once as a consumer when electricity is taken from the grid for storage and again as a generator when exporting electricity to the grid (they also potentially face double-charging of various government levies to fund low-carbon incentive schemes where the levies are themselves added to electricity costs).

Recent regulatory developments include:

- in July 2017, Ofgem and the UK government released their preliminary response to the November 2016 consultation, 'A smart, flexible energy system: call for evidence', in which it addressed potential commercial and regulatory issues that are inhibiting energy storage developments, such as the classification of 'storage'; and
- in December 2017, Ofgem released draft guidance seeking to clarify existing guidance on the requirements that generators must satisfy under the RO and FIT schemes if storage is colocated with generation accredited under these schemes.

Foreign investment

22 May foreign investors invest in renewable energy projects? Are there restrictions on foreign ownership relevant to renewable energy projects?

There are no particular restrictions on foreign investment of UK renewable energy projects. However, Ofgem, currently together with the European Commission (subject to any Brexit-related developments), additionally undertakes an assessment as to whether the foreign ownership or control of a renewable power project poses a security of supply risk (Electricity and Gas (Internal Markets) Regulations 2011).

23 What restrictions are in place with respect to the import of foreign manufactured equipment?

As the EU is a customs union, UK companies can currently buy most goods from other member countries without restrictions, although VAT and excise duty will normally still apply. If a UK company imports from outside the EU, it may have to comply with import licensing requirements and with common customs tariffs that apply across the EU. Apart from the general restrictions concerning materials that are deleterious to health and safety and the environment, there are no legal restrictions or controls that apply exclusively to importing construction equipment.

Projects

24 What government authorisations must investors or owners obtain prior to constructing or directly or indirectly transferring or acquiring a renewable energy project?

The Planning Act 2008 sets out the regime for planning authorisations for energy infrastructure projects in England and Wales which fall within the category of 'nationally significant infrastructure projects'. Such projects require the issuance of Development Consent Orders (DCO). The applicable thresholds to determine whether a renewable project is a nationally significant infrastructure project is more than 50MW onshore and more than 100MW offshore. Applications for

DCO are made to and publicly examined by the Planning Inspectorate, which then makes a recommendation to the Secretary of State for BEIS. On a successful application, the DCO is awarded by BEIS.

In addition, consent under section 36 of the Electricity Act 1989 is needed for offshore generating stations with a generating capacity of more than 1MW, but less than or equal to 100MW (section 36, Electricity Act 1989). Projects with a generating capacity of 50MW and less in England and Wales are consented under the Town and Country Planning Act 1990.

Depending on the type of plant, further authorisations such as relating to health and safety, environmental or nuclear specific matters may also be required from the appropriate regulator.

25 What type of offtake arrangements are available and typically used for utility-scale renewables projects?

We have already mentioned above the three main types of offtake arrangements used for utility-scale renewables projects and the offtake counterparties: licensed suppliers (utility companies) under negotiated power purchase agreements; the LCCC within the scope of the CfD arrangements; and commercial power purchase arrangements with corporate entities. In addition to those arrangements, the government has introduced the OLR scheme, which aims to promote the availability of power purchase agreements. It is intended as a last resort to help renewable generators who cannot get a power purchase agreement through the usual commercial means and is part of the government's wider programme on Electricity Market Reform, which we have discussed above. The OLR scheme is only available to eligible CfD generators and provides an alternative route to markets for them by facilitating a backstop power purchase agreement between the generator and a licensed supplier under which the licensed supplier will buy the electricity purchased under the backstop power purchase agreement at a specified discount below the market reference price. In March 2018, Ofgem published the levelisation schedule for the year running from April 2018 to March 2019.

26 How are long-term power purchase agreements procured by the offtakers in your jurisdiction? Are they the subject of feed-in tariffs, the subject of multi-project competitive tenders, or are they typically developed through the submission of unsolicited tenders?

The approach taken by UK offtakers and suppliers alike varies on the circumstances, depending on the nature of the project, the market generally or a range of other factors. Often offtakers choose to tender competitively, approaching multiple suppliers, allowing themselves optionality. Alternatively, and commonly used in the UK where a large number of applicants is expected, a 'restricted procedure' is used, a two-stage bidding process whereby suppliers respond to a notice in the Official Journal of the European Union, where large-scale public contracts are published. Bidders through this process will go through a pre-qualification stage initially, before being shortlisted and then selected following a second stage (if successful). For more complex long-term PPAs, a competitive dialogue or negotiation procedure may be used. With this type of procurement, a supplier will respond to an invitation to tender (or other call to competition), with selected bidders invited to further negotiate elements of their bid. Following these subsequent negotiations, bidders will then submit a revised tender, tailoring their bid to the purchaser once they have better visibility on their requirements.

Behind the dynamic between supplier and offtaker is the interplay between generator and supplier, and in particular, the OLR scheme, alongside the CfD regime, as discussed above in the response to question 6. For generators who may otherwise struggle to get a PPA, the OLR scheme is available to eligible investment contract CfD generators. The Ofgem scheme allows for a backstop power purchase agreement between the generator and a licensed supplier, achieved through a competitive auction process. The benefit for the purchaser is that they will be able to purchase at a specified discount below the market reference price, while the benefit for the generator is that they have a route to market, a genuine 'last resort'.

27 What government authorisations are required to operate a renewable energy project and sell electricity from renewable energy projects?

A generation licence is required for the sale of electricity and this stipulates compliance with the relevant industry codes. In particular, all licence holders (for example, transmission, generation, supply and distribution) must be registered within the Balancing and Settlement Code.

Certain environmental, health and safety, and electricity quality measures must also be in place for the construction and operation of systems that generate and supply electricity (Electricity, Safety, Quality and Continuity Regulations 2002 (as amended)). These will depend on the relevant renewable project in question.

28 Are there legal requirements for the decommissioning of renewable energy projects? Must these requirements be funded by a sinking fund or through other credit enhancements during the operational phase of a renewable energy project?

Sections 105 to 114 of the Energy Act 2004 introduced a decommissioning scheme for offshore wind and marine energy installations. Under the terms of the Act, the Secretary of State may require a person who is responsible for one of these installations to submit (and eventually carry out) a decommissioning programme for the installation.

DECC stated that it believed that by imposing a legal obligation on businesses to prepare and carry out a decommissioning programme – and potentially requiring them to provide financial security – it had reduced the risk of businesses defaulting on their decommissioning liabilities, while maintaining a fine balance so as not to hinder the development of offshore renewable energy installations.

Sections 69 to 71 of the Energy Act 2008 introduced three new provisions into the offshore renewables decommissioning regime. These provisions did not change the overriding policy governing the decommissioning of offshore renewable energy installations, but were intended to help provide greater clarity to developers, and greater protection to taxpayers. In summary, the Energy Act 2008 introduced the following changes:

- Information requirements: the Secretary of State was given greater powers to request information from developers when taking a decision on whether or not to approve a decommissioning programme. The requested information could be operational or financial.
- Parent and associate companies: the Energy Act 2008 introduced provisions seeking to ensure a clearer legal framework for the rights and obligations of those companies associated with a developer of an offshore renewable energy installation. The provisions clarified that where a developer of an offshore renewable energy installation is directly controlled by another company, such as a parent or associate company, the Secretary of State has the discretionary power to issue them with a decommissioning notice.
- Insolvency protection: provisions were introduced to measure ring-fencing of amounts set aside for decommissioning purposes with a view to ensuring that such funds are insolvency remote.

Transaction structures

29 What are the primary structures for financing the construction of renewable energy projects in your jurisdiction?

As with all energy and infrastructure projects, the financing structure for renewable energy projects depends on the nature of the client and the type of project. In a straightforward project, for example, the funding may come from a combination of equity investment or debt finance (including in some cases, mezzanine finance), through a single lender or multiple lenders and on a non or limited recourse basis.

Senior lenders can include commercial banks familiar with project financings, export credit agencies, multilaterals such as the European Investment Bank or IFC and, in UK renewables projects, the Green Investment Bank; the scope of the Green Investment Bank's activities are to be seen following its recent acquisition by Macquarie.

We have also seen private equity funds taking construction risk and providing additional funding ranking senior to pure equity, which can be contributed at a senior or mezzanine level (depending on the particular project).

Where there are unproven technologies or other uncommon risks traditional financiers are not willing to take, or where the use of traditional project financing would prove too expensive, certain other sources of funding have been available, such as the EU NER300 fund, direct grants from the government and, in Scotland, the RIEF fund administered by the Scottish Investment Bank.

30 What are the primary structures for financing operating renewable energy projects in your jurisdiction?

Once the 'risky' construction phase period has ended and projects are operational, further financing structures become available in addition to those described above. Examples of these are refinancing of construction phase bank financings by way of capital market instruments and institutional investors such as pension and insurance funds who do not customarily have an appetite for construction risk, but who look favourably at long-term debt financings with proven and stable cash flows.

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