



## ENERGY BILL 2022: ELECTRICITY, DOWNSTREAM GAS AND HEAT

### 1. Introduction

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- 1.1 This note provides a brief overview of the Energy Bill 2022<sup>1</sup> as it relates to electricity, downstream gas and heat.

### 2. Independent System Operator, (ISOP), (part 4).

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- 2.1 The Bill introduces the power for the Secretary of State, (**SoS**), to designate the ISOP, (also known as the Future System Operator/FSO). The ISOP/FSO will take on the functions of National Grid Electricity System Operator, (**NGESO**), as well as strategic planning functions of National Grid Gas, (**NGG**).
- 2.2 The creation of the ISOP is one of the most significant changes in the Great Britain energy sector for many years.
- 2.2.1 The ISOP will be a public body, so the reform is a departure from the privatisation of the electricity and gas sectors, (a process started by Lord Lawson when he was Secretary of State for Energy from 1981 to 1983);
- 2.2.2 One entity will be responsible for strategic planning gas and electricity systems on a unified “whole system” basis; and
- 2.2.3 That entity will have the scope to take on wider energy system planning e.g. as regards hydrogen.
- 2.3 The ISOP will have core objectives. These include (i) enabling Great Britain to achieve net zero; (ii) ensuring security of supply of gas and electricity; and (iii) efficiency of gas and electricity transmission and distribution. The ISOP will also have a wider objective of ensuring efficiency across the production, conveyance and supply of energy across Great Britain. This means that the ISOP could grow to be a body with profound influence over almost all of Britain’s energy industry.
- 2.4 The ISOP will also have various duties, including facilitating competition and innovation, as well as considering consumer impacts. The focus on innovation is a key element of policy. The Explanatory Notes explain:
- “The intention is for the ISOP to be alive to the possibilities of new and better ways of doing things, and, working with industry, to facilitate innovation. Examples could include the better collection and use of data, and various digital technologies, to improve consumer experience and outcomes.”<sup>2</sup>*
- 2.5 The ISOP will have a range of powers, including information-gathering powers.
- 2.6 The objective is to establish the FSO/ISOP no later than 2024.

### 3. Gas and electricity industry codes (Part 5)

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- 3.1 Industry codes form a central part of the regulation of electricity and downstream gas activities. These codes set out detailed operational rules and technical standards.
- 3.2 To date, the codes have been primarily governed by industry panels, subject to rigorous Ofgem oversight. The Bill enables the introduction of new “code managers” independent from industry.

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<sup>1</sup> The note covers the Bill as introduced, on 6 July 2022. [Link](#)

<sup>2</sup> Explanatory Notes – paragraph 316

- 3.3 The reform of code governance is a long-standing objective of Ofgem. The need to reform governance was identified by the Competition and Markets Authority, (**CMA**) in their Energy Market Investigation. Various reasons have been put forward for these reforms, including ensuring that governance remains robust, reducing the influence of industry members and enabling Ofgem to have greater powers to direct changes, (particularly important when changes engage multiple codes).<sup>3</sup>
- 3.4 The most important reason is simply ensuring that the changes to industry arrangements can take place swiftly to assist with the achievement of net zero.

#### **Designation of codes**

- 3.5 Clause 133 provides that the SoS may, on the recommendation of Ofgem, designate codes that are to fall within the scope of the new governance framework. Under the framework, governance will fall within the remit of a code manager which will be subject to a licence and Ofgem supervision.
- 3.6 Ofgem may select code managers on a non-competitive basis or through a tender process.

#### **Modifications and directions by Ofgem**

- 3.7 Ofgem may publish an annual strategic direction statement detailing how energy codes should develop over the following year informed by Government policy and other changes in the energy sector. Before publishing this statement Ofgem must take into account any advice provided by the ISOP/FSO.
- 3.8 The Bill grants Ofgem the ability to make direct changes to the energy codes in certain circumstances including:
- 3.8.1 where the matter is urgent and amendment through the normal procedure would cause a delay with adverse effects on consumers; and
- 3.8.2 a modification is required to affect a strategic direction statement or it is too complex to be effected through the normal procedure.

#### **Central systems**

- 3.9 Ofgem may give directions to bodies responsible for operating, or procuring the operation of, the critical IT systems that underpin the energy system. The Explanatory Notes at paragraph 362 explain the intention behind this provision:

*“This power is primarily intended to allow the GEMA to ensure that these bodies do what they are required to do by the codes. In addition, it will also allow the GEMA to issue directions that are reasonably necessary for the efficient operation of the code, such as a direction to help a code manager develop a specific code change proposal.”*

- 3.10 It is to be seen that this reform involves a significant extension of Ofgem’s role.

## **4. Energy networks reforms (Part 6)**

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- 4.1 The Bill introduces some potentially important wider reforms to electricity networks regulation.

#### **Competition in electricity networks (Part 6)**

- 4.2 Ofgem and BEIS have been seeking to introduce competition into the delivery of significant additions, (e.g. a new overhead 400kV line), to onshore electricity networks for many years. The Bill contains enabling provisions for GEMA and BEIS to implement detailed rules for competition in onshore and offshore networks.
- 4.3 NGESO and Ofgem have carried out a lot of work to identify how competition could work in the context of onshore transmission. However, the introduction of competition would delay progress with onshore and offshore transmission projects. Achieving the Government’s targets for new renewable generation, which includes 50GW of offshore wind by 2030, necessitates a vast

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<sup>3</sup> For more detail please see Energy Security Bill Factsheet: Code Governance. BEIS July 2022 [Link](#)

amount of work to modify the transmission system, as is set out in NGESO's "Holistic Network Design" or "HND".<sup>4</sup>

- 4.4 The Government has decided that this set of transmission system upgrades, essential to achieve the 50GW target, could not be achieved if all of the projects were put out to competition, and has confirmed in the British Energy Security Strategy that:

*"The HND will identify strategic infrastructure needed to deliver offshore wind by 2030. Certain infrastructure identified in the HND and CSNP will be exempt from the introduction of onshore network competition."*<sup>5</sup>

#### **Mergers of energy network companies (Part 6)**

- 4.5 BEIS and Ofgem are concerned at the potential consumer detriment that can arise from mergers between energy network companies. There has been a lot of takeover activity of late, including National Grid's acquisition of the WPD DNOs.
- 4.6 The focus of the proposed change is the basis on which the CMA assesses such mergers. It will do so by addressing whether the merger "*substantially prejudice to the ability of*" Ofgem "*to make comparisons between energy network enterprises.*" This is akin to the approach that is taken with water company mergers.
- 4.7 This reflects that Ofgem regulates the charges and performance of network companies on the basis of "comparative regulation." It assesses and incentivises performance and expenditure by comparing the network companies and benchmarking them against each other. This exercise is more productive if there is a reasonably number of separate companies. It is made much more difficult if there are fewer companies.
- 4.8 The regime will give Ofgem locus to input into the decision of the CMA. It adds a further layer of complexity to mergers, which will also inevitably be scrutinised under the National Security and Investment Act regime.

#### **Multi-purpose interconnectors**

- 4.9 BEIS' and Ofgem's "Offshore Transmission Network Review" has identified scope for "multi-purpose interconnectors" or "**MPIs**". These are transmission links (interconnectors) between different electricity systems, (e.g. Ireland and GB), which also connect to and transport power from offshore windfarms to land.
- 4.10 This fixes an issue with the current Electricity Act 1989 regime, which contemplates that offshore transmission cannot serve both purposes.
- 4.11 However, offshore transmission and distribution is also critical to enable the de-carbonisation of offshore oil and gas. The new class of licence does not appear to allow for transmission of electricity generated onshore to offshore oil and gas installations – which is potentially critical to ensure a reliable supply when any offshore supply is not generating.
- 4.12 This seems to be a missed opportunity to create a new flexible regime to allow for transmission and distribution of electricity offshore for all net zero purposes.

### **5. Consumer facing reforms (Part 6)**

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- 5.1 The Bill also introduces some consumer facing amendments, which, on any view, are material.

#### **Tariff Cap**

- 5.2 The Default Tariff Price Cap sets a limit on the price that energy suppliers can charge domestic consumers for each unit of gas and electricity. The Bill extends the energy price cap beyond 2023 by inserting new sections into The Domestic Gas and Electricity (Tariff Cap) Act 2018.

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<sup>4</sup> See NGESO webpage Pathway to 2030 Holistic Network Design, [Link](#)

<sup>5</sup> British energy security strategy, BEIS and Prime Minister's Office, April 2022. [Link](#)

- 5.3 The reason for this change is that the Default Tariff Cap was planned to be a temporary measure. Without amendment it would stop applying. The amendments do not specify an end date to the tariff cap. It is not obvious when it will end. Be that as it may, BEIS say that it remains temporary.<sup>6</sup>

#### **Extension of the ECO scheme.**

- 5.4 Under the ECO scheme suppliers with over 150,000 customer accounts need to install energy efficiency and heating measures. The scheme is primarily targeted at assisting low income households. The objective of the Bill is to allow the removal of the 150,000 customer threshold, so it applies to smaller energy suppliers, whilst enabling suppliers to “buy out” their obligation. Given the extensive exit of smaller suppliers from the energy retail market this reform may not be of such great impact.

#### **Smart meters**

- 5.5 The Bill extends the SoS’s powers to modify energy licence conditions and codes for the purposes of the programme to install smart meters to 1 November 2028. These powers would otherwise expire on 1 November 2023.

## **6. Electricity market changes**

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### **Electricity storage, (Part 6)**

- 6.1 The Bill delivers on a long-standing commitment to amend the Electricity Act 1989 to confirm that electricity storage is a form of generation.

### **Electricity smart appliances and load control (Part 8)**

- 6.2 This reform is a critical building block for a more flexible energy system.
- 6.3 The Bill addresses the need to regulate ‘energy smart appliances’ as they become more common. Examples include heat pumps and electric vehicles, which are able to time their consumption of electricity, and in the case of vehicles, put electricity back on to the system. There is potential for significant flexibility as a result. The benefits of this are savings across the energy system and consumers.

#### What is an energy smart appliance?

- 6.4 An ‘energy smart appliance’ is an appliance which is capable of adjusting its immediate or future use, discharge or storage of electricity in response to a load control signal. A ‘load control signal’ is a digital communication sent to that appliance in order to signal that the energy input or output of that appliance should be adjusted.
- 6.5 These appliances allow consumers to shift their electricity usage to times when it is less costly for the energy system – i.e. in response to price signals.
- 6.6 The UK Government views energy smart appliances as a crucial step in transitioning to a more flexible energy system which will in turn help accomplish the goals of improving energy security, reducing consumer bills, enabling innovation and hitting net-zero targets.

#### Product regulation

- 6.7 The Bill provides that the Secretary of State may create regulations governing the use of energy smart appliances used for refrigeration, cleaning, battery storage, electrical heating and air conditioning or ventilation.
- 6.8 One objective of the regulations is to help ensure security of supply. Another objective is cyber-security. There are long-standing concerns about the cyber-security implications of energy smart appliances. A further objective is common standards, to, for example, ensure that consumers are able to change their load controller.
- 6.9 The regulations may apply to any person, including those importing, distributing and selling appliances. The regulations can provide for an enforcement system, with information gathering powers and the ability to apply to the courts for remedies in a case of breach of the regulations.

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<sup>6</sup> Energy Security Bill Factsheet: Default Tariff (Price Cap). BEIS July 2022 [Link](#)

- 6.10 All of this reflects the need to ensure that the products placed onto market are fit for purpose and do not create significant risks to the energy system.

“Utility” regulation.

- 6.11 The other element of the Bill’s proposals is ensuring that the provision of load control services can be regulated under the Electricity Act 1989 regime. The SoS may:
- 6.11.1 Modify existing Electricity Act 1989 and Gas Act 1986 licences;
  - 6.11.2 Modify standard conditions of those licences; and
  - 6.11.3 Create a new licensable activity to cover load control related activities.
- 6.12 These reforms are designed to ensure that Ofgem can regulate participants in the electricity market that are likely to become more important in the future.

## **7. Heat (Part 3 and Part 7)**

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- 7.1 The decarbonisation of heating is one of Great Britain’s most significant challenges, and the importance of this challenge is increased by the need to minimise the use of gas, which has highly volatile pricing. The three potential solutions are as follows.
- 7.1.1 Switching from natural gas to hydrogen. A final decision on this is expected in 2026. There is, presently, no guarantee that this provides a solution to achieving net zero – there is a range of technology and cost challenges. We discuss hydrogen in a separate briefing paper [\[link\]](#).
  - 7.1.2 Electric heat pumps. This is a proven technology with significant deployment in parts of Europe but not the UK.
  - 7.1.3 Heat networks. The Bill puts in place a framework for regulating heat networks. There is extensive deployment elsewhere in Europe but not in the UK. A framework is needed to give investors and consumers confidence in heat networks.

### **Low Carbon Heat Schemes (Part 3 – Chapter 1)**

- 7.2 The Low Carbon Heat Schemes will be designed to encourage a significant scaling up of heat pump manufacturing and installation to a target of over 600,000 installations per year by 2028. The BEIS “Energy Security Bill” overarching factsheet<sup>7</sup> explains that objective as follows.

*“Scale up heat pump manufacturing and installation, and a new white goods industry in the UK. We will establish a market-based mechanism for the low-carbon heat industry to step up investment and lower the cost of electric heat pumps, through economies of scale and innovation.”*

- 7.3 There is limited detail about how the scheme will actually work in the Bill, which provides for the SoS to set out the detail in regulations.
- 7.4 The ‘Energy Security Bill’ factsheet on the low-carbon heat scheme<sup>8</sup> provides further detail, and explains that the initial proposals are that manufacturers will be placed under an obligation to increase the proportion of heat pumps sold as compared to fossil fuel heating appliances, with the ability to buy credits from other manufacturers. At a conceptual level, this is similar to the “Renewables Obligation” scheme.
- 7.5 The Government aims to introduce the scheme in 2024.

### **Regulation of heat networks (Part 7)**

- 7.6 Heat networks could play a critical role in decarbonising heat. The Committee on Climate Change say they are a critical part of the infrastructure required and could contribute up to 18% of heat by 2050, up from around 2% today.

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<sup>7</sup> Energy Security Bill Factsheet Overarching. BEIS July 2022. [Link](#)

<sup>8</sup> Energy Security Bill Factsheet Low Carbon Heat Scheme. BEIS July 2022. [Link](#)

- 7.7 One of the reasons they have not developed as hoped is the lack of a clear regulatory framework, in particular to ensure that investors are given certainty, (to reduce the cost of capital) and consumer interests are protected. This was the subject of a detailed CMA report in July 2018.
- 7.8 The Bill makes provision for the appointment of Ofgem as the regulator in Great Britain and NIAUR in Northern Ireland.
- 7.9 The SoS is given powers to develop a detailed regulatory framework, the scope of which is described in detail in Schedule 15 of the Bill. This contemplates a very detailed regime and it is clear that the SoS will have considerable powers to make secondary legislation in this regard. As an example, heat network undertakers may be given powers to install pipes in roads, regulate charges payable by consumers, technical standards and security of supply.
- 7.10 This regulatory framework will need to be developed carefully in respect of Scotland as there is already a significant element of regulation under the Heat Networks (Scotland) Act 2021.
- 7.11 Care will also be needed to ensure that any framework is not overly complex. There is an obvious temptation to draw on the current regulatory frameworks for electricity and gas. However, these frameworks are now very complex, and risk becoming more so. Complexity increases costs and can lead to delays.

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