Portland energy recovery facility

Energy need statement

September 2020

Powerfuel

Powerfuel Portland

Energy Need Statement

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1 Introduction

1.1.1 This Energy Statement has been prepared to inform the submission of the Powerfuel Portland planning application for an Energy Recovery Facility (ERF) at Portland Port. The fuel for the ERF, known as 'refuse derived fuel', is to be derived from waste arisings. This Energy Statement does not seek to address matters associated with the planning case for the project, nor does it address waste matters in detail. Rather, the focus of this report is on the applicability of energy policy and commentary on future forecast energy demand, matters associated with security of supply (and the role of ERF in that supply) and low cost tariff arrangements under consideration by Powerfuel at this time. The report is structured as follows:

1.1.2 Chapter 2 covers the National and Local Policy context for the UK and West Dorset area. The policies set out how the UK, and Dorset, propose to achieve stated decarbonisation targets through various measures, including renewable energy strategies;

1.1.3 This is backed up by Chapter 3 which outlines context around rising emissions which are driving the need for decarbonisation in the UK and thus putting an increasing emphasis on the need for renewable energy;

1.1.4 Chapter 4 details the predicted future energy demand of the UK which, after initially reducing due to energy efficiency, is expected to rise as more sectors rely on electricity for power to reduce their emissions;

1.1.5 Chapter 5 examines how this rise in energy demand will increase the need for security of supply, both in terms of actual supply and security for stakeholders, which can be met by renewable energy sources, including ERF;

1.1.6 Chapter 6 highlights the business model for ERFs, including the benefits for suppliers of sending waste to ERFs rather than to landfill.

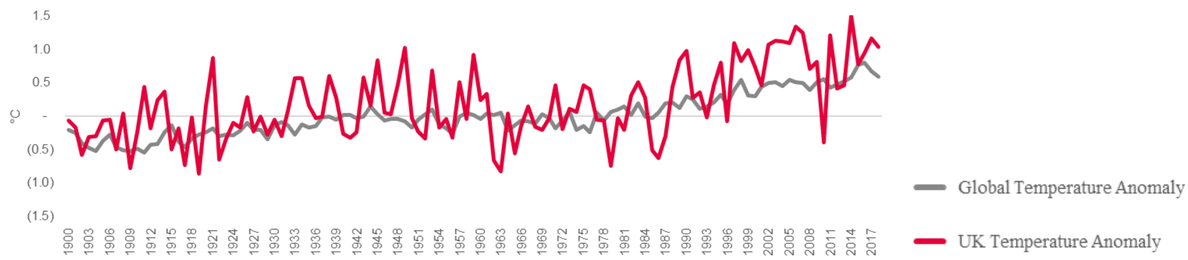
1.1.7 Chapter 7 outlines the potential the Powerfuel Portland scheme could have to provide lower cost tariffs to selected beneficiaries, such as key workers and the local community, with evidence of a precedent for the proposal.

1.1.8 Finally, Chapter 8 provides a summary and the conclusions of the report.

2 National & Local Policy Context

2.1.1 The Paris Agreement, which the UK signed in 2016, alongside 195 other countries, sets a long-term goal to keep the increase in the global average temperature below 60˚C, and to pursue efforts to limit the increase to 1.5˚C. These temperature goals were set to reduce the risks and impacts of climate change driven by carbon emissions.

Figure 1 Global and UK temperature anomaly: 1900-2017 (°C), base 1961-1990[1]



2.1.2 The majority of countries which signed up to The Paris Agreement are currently adhering to it. However, 10 countries have not yet ratified it, and the US decided to withdraw from the agreement in 2017, leaving officially in November 2020, and joining Syria and Nicaragua as the only other nations that are not part of the agreement.

2.1.3 The Paris Agreement is based on three foundational tenets:

- Differentiation: developed countries are required to continue to ‘take the lead’ in the reduction of emissions and are encouraged to ‘enhance their efforts’.
- Finance: developed (‘rich’) countries must provide $100 billion from 2020 as a ‘minimum floor’, with the amount to be updated by 2025, which is used to support developing countries to build clean and climate-resilient futures.
- Review Mechanism: a revision of the Nationally Determined Contributions will take place in 2020. A world review will be held every five years, starting in 2023.

2.1.4 In addition to the UK being a signatory to The Paris Accord, in June 2019 the UK parliament passed legislation[2] requiring the Government to reduce the UK's net emissions of greenhouse gases by 100%, relative to 1990 levels, by 2050. This superseded the Climate Change Act 2008[3], which had committed the UK to an 80% reduction in greenhouse gases compared to 1990. In achieving a 100% reduction, the UK would become a 'net zero' emitter. This commitment requires a fundamental re-think in energy generation, with lower carbon alternatives required to displace more carbon intensive forms of generation over time.

2.2 National Policy

2.2.1 The National Policy for Energy Infrastructure in Great Britain is outlined in the Overarching National Policy Statement (NPS) for Energy (EN-1[4]) which is one of a suite of NPSs issued by the Secretary of State for Energy and Climate Change to set out the Government's policy for the delivery of Nationally Significant Infrastructure Projects (NSIPs)[5]. Of the five technology-specific NPSs, NPS EN-3[6] for renewable energy infrastructure and NPS EN-5[7] for electricity networks, are relevant to renewable and low carbon energy infrastructure projects at the major infrastructure scale.

2.2.2 These NPSs drive the process by which the Planning Inspectorate examine NSIPs and make recommendations for decisions by the relevant Secretary of State for applications for energy developments within their scope. NPS EN-1 states that:

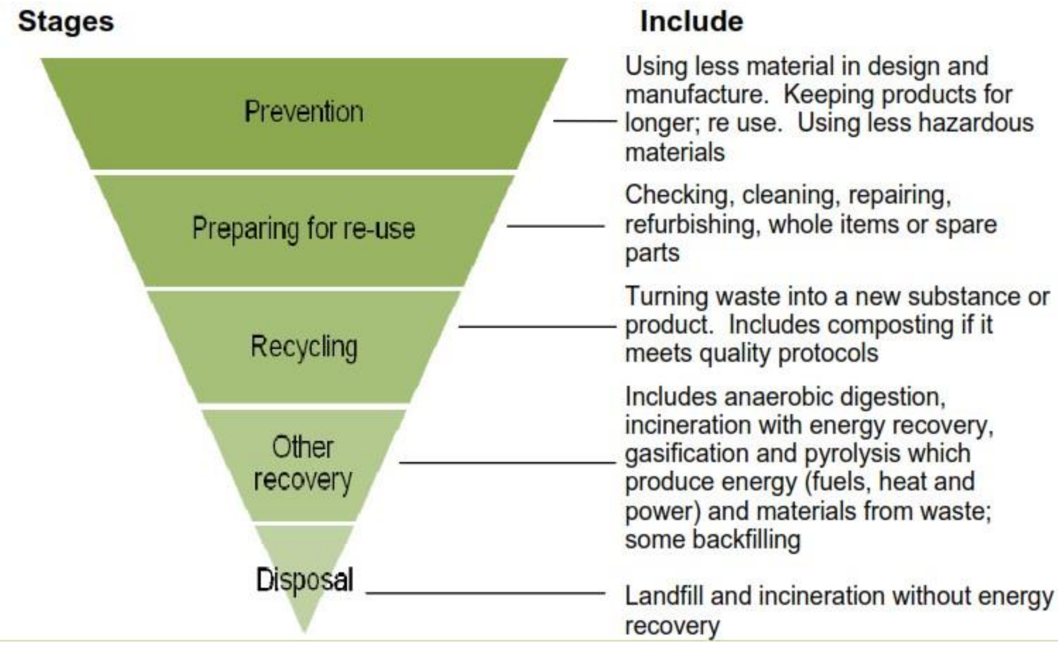
'The [Secretary of State] should consider that the need for any given proposed new connection or reinforcement has been demonstrated if it represents an efficient and economical means of connecting a new generating station to the transmission or distribution network.'[8] [Para 3.7.10]

2.2.3 In addition to these two NPSs, NPS EN-1 is also expected to influence local planning authorities' (LPAs) Local Development Plans.

2.2.4 NPS EN-1 (in conjunction with EN-3 and EN-5) sets out the case and immediate need for renewable and low carbon energy infrastructure to be consented and built with a view to supporting the Government's policies on sustainable development, including mitigating and adapting to climate change, transitioning to a low carbon economy, minimising fuel poverty and contributing to a secure, diverse and affordable energy supply. In this context paragraph 2.1.1 Section 10 of the Overarching NPS is relevant, namely that: *moving to a secure, low carbon energy system is challenging, but achievable. It requires major investment in new technologies…., prioritisation of sustainable bioenergy and cleaner power generation.*

2.2.5 In line with helping the UK to achieve 15% of its total energy supply from renewable sources by 2020, NPS EN-1 outlines the importance of Energy from Waste (EfW) or Energy Recovery Facilities (ERF) infrastructure as a crucial part of the energy supply transition (3.4.3). In keeping with the Waste Hierarchy[9] (see Figure 2), ERFs reduce the amount of waste going to landfill by recovering energy from the waste, through combustion, for electricity or heat. The NPS states that only waste that cannot be re-used or recycled should be used in this way, as the need to reduce waste cannot be ignored. Biomass waste, which can make up a percentage of the total waste, is renewable.

Figure 2 The Waste Hierarchy



2.2.6 At 15MW, Powerfuel Portland's proposed Energy Recovery Facility (ERF) does not qualify as an NSIP as outlined in EN-1 (1.4.2). However, it would be one of the biggest baseload generators in the county and, as outlined in the Local Policy sections below, the project would make a significant contribution to the security of supply and decarbonisation targets of the local authority area. At present, as discussed later in this report, the county of Dorset does not generate enough energy to create a security of supply for the local area. In order to guarantee this, much more investment into renewable energy infrastructure is required which will allow local security of supply to be assured, as well as supporting local and national decarbonisation targets.

2.2.7 The National Planning Policy Framework (NPPF)[10] in consolidating Planning Policy Statements (PPS) and Planning Policy Guidance provides for the Government's planning policies for England and their application (noting the above framework of NPSs). The NPPF sets important commitments for the planning system to contribute to the achievement of sustainable development and a presumption in favour of sustainable development. Section 14 of NPPF is particularly relevant in the commitment to transition to a low carbon future. This section (148) confirms that the planning system should:*…encourage the reuse of existing resources,…and support renewable and low carbon energy and associated infrastructure*. Moreover, plans should: *identify opportunities for development to draw…energy supply from decentralised, renewable or low carbon energy systems*.

2.2.8 Historically, the government has subsidised renewable technologies to enable them to be developed and deployed, initially experimentally and then more widely. A number of different forms of incentives were created to support ERF type technologies, largely in the form of tax credits. However, with the technology now well developed and shown to be cost efficient on a large scale, ERF no longer attract subsidies and the Portland Powerfuel project will consequently be subsidy free.

Political Interest

2.2.9 In the run up to the UK general election in 2019, all three main parties placed significant emphasis on climate change and renewables[11]. All parties had targets for reaching net zero (ranging from a significant majority of carbon emissions reduction by 2030 by Labour to net zero by 2050 by the Conservatives) and all wanted to increase the percentages of onshore and offshore renewable energy generation. All parties also focussed on the need to enhance the existing grid infrastructure.

2.2.10 Following the announcement of the 'Green Recovery' designed to boost the economy post Covid-19, the environment has been pushed to the front of the political agenda and displayed as a tool through which economic, social and environmental aims can be combined and achieved. Environment Secretary George Eustice was quoted as saying:

'Our ambitious green recovery package will deliver a steady stream of shovel-ready environmental projects, protecting nature at the same time as creating and retaining thousands of new jobs.'

2.2.11 Renewable energy projects, like the Portland Powerfuel development, will play a crucial part in the implementation of the 'Green Recovery'.

2.3 Local Policy / Strategy

2.3.1 This section sets out applicable local policy and strategic aims within the local context for the Portland ERF including reference to renewable energy targets and achievement of those targets where data exists.

West Dorset and Weymouth Portland Local Development Plan (LDP)[12]

2.3.2 The West Dorset and Weymouth Portland LDP states that locally generated renewable energy projects will need to generate 7.5% of all energy demand by 2020. When added to national scale energy projects across the country, this 7.5% contribution will enable the national renewable energy target of 15% to be reached by 2020. It should be noted that the latest available data is for the period 2015 / 2016 (see section 0) with projections inferring more renewable energy capacity would be required at that time.

2.3.3 The LDP outlines the importance of taking up new development opportunities for generating renewable energy and low carbon energy.

This is consistent with the aims and objectives set out in the NPPF. It states that some of these installations will need to be of a larger scale, in order to meet the target, and carefully planned to ensure they do not negatively affect the high quality of the surrounding environment. The Dorset Local Enterprise Partnership (LEP) has also identified enabling sectors, including energy, as priority areas where growth proposed through investment can make contributions.

2.3.4 Portland Town Council[13] and Dorset Council[14] declared climate emergencies earlier in 2020. As part of the climate emergency plan, Dorset Council highlighted the importance of reducing the county's carbon footprint through investment in sustainable energy production, alongside electric vehicles and more efficient and sustainable buildings.

2.3.5 Though pre-dating the declaration of the climate emergency, Policy COM11[15] in West Dorset and Weymouth Portland LDP is closely aligned as it relates to all forms of renewable energy development (except wind energy). The Portland Powerfuel ERF project clearly falls within this definition of renewable energy development. The Policy states:

'Proposals for generating heat or electricity from renewable energy sources (other than wind energy) will be allowed wherever possible providing that the benefits of the development, such as the contribution towards renewable energy targets, significantly outweigh any harm. In addition, permission will only be granted provided:

- *Any adverse impacts on the local landscape, townscape or areas of historical interest can be satisfactorily assimilated;*
- *The proposal minimises harm to residential amenity by virtue of noise, vibration, overshadowing, flicker, or other detrimental emissions, during construction, its operation and decommissioning;*
- *Adverse impacts upon designated wildlife sites, nature conservation interests, and biodiversity are satisfactorily mitigated.'*

2.3.6 The Portland ERF planning application is supported by an Environmental Impact Assessment (EIA)[16], documented in an Environmental Statement. If the findings of the EIA are such that these matters can be addressed then the ERF is in accordance with Policy COM11 above.

2.3.7 Moreover, the Digest of UK Energy Statistics (DUKES) 2020 report[17] includes ERF in its discussion of renewable energy sources in the UK, stating that the generation of energy by ERF increased by 9.1% in 2020 to 3.8TWh and further underlining the importance of ERF in renewable energy generation.

Bournemouth, Dorset and Poole Renewable Energy Strategy to 2020[18]

2.3.8 The Strategy outlines that, as part of the European Renewable Energy Directive which requires the UK to adhere to a legally binding target to generate 15% of the country's total energy needs from renewable sources by 2020, the UK government expects local authority areas to make a fair contribution towards this target.

2.3.9 In 2013, for which data exists, energy generation in Dorset was estimated at 146GWh, or 0.95% of the total energy demand. Recent calculations, based on data from LG Inform[19], indicate renewable sources generate approximately 0.02% of the total energy demand in 2020. Clearly, major changes are required in the County if it is to become self-sufficient in its energy generation and achieve security of supply for the area. This can be achieved through a combination of the development of new renewable energy infrastructure, including ERF, increased energy efficiency measures and behaviour change.

2.3.10 The Strategy proposes a target of at least 15% of Dorset, Bournemouth and Poole's energy needs to be met by renewable sources by 2020 (noting a need for contemporary data to be released to track progress). However, the Strategy states that it will focus on a secondary target of 7.5% of energy needs, or 1200 GWh per annum, to be met by local renewable energy sources (as the other 7.5% will be met by national renewable energy sources. It identifies six priority areas associated with this:

- Priority 1: Supporting the development of community renewable energy;
- Priority 2: Maximising the local economic benefits of renewable energy generation;
- Priority 3: Creating a more supportive planning system for renewable energy;
- Priority 4: Developing locally appropriate technologies;
- Priority 5: Delivering leadership and partnerships that support renewable energy;
- Priority 6: Improving renewable energy communications and learning.

2.3.11 However, areas of concern were raised about how this should be achieved, in particular:

- The potential effects of large scale renewable energy development (particularly wind) on the local environment and Dorset's unique landscape;
- The potential international impacts of importing biofuels for large scale power stations;

- The need to ensure maximum local economic and community benefit.

2.3.12 These understandable concerns are not relevant to the ERF at Portland. In fact, Powerfuel is committed to exploring opportunities to secure local and economic and community benefits as a key tenet of the proposals (see section 0 and 7 of this report in particular). The Portland Powerfuel project is therefore in accord with this policy.

Bournemouth, Dorset and Poole Energy Efficiency Strategy and Action Plan, 2009[20]

2.3.13 The Strategy outlines the target for Bournemouth, Dorset and Poole to achieve a 30% reduction in CO_2 emissions by 2020, relative to 2005, in line with national targets.

2.3.14 In addition, the strategy has two fuel poverty targets. The first, based on national targets, represents an aspiration but is difficult to measure, and so it is supplemented by the second, measurable two-part target:

1. To seek to eliminate fuel poverty in Bournemouth, Dorset and Poole by 2016.
2. A) To work in partnership to achieve an average Standard Assessment Procedure (SAP) rating of 65-70 in the housing stock by 2016.
2. B) To ensure that there will be no dwelling with an SAP rating of 35 or less in Bournemouth, Dorset and Poole by 2016.

2.3.15 As detailed later in this Energy Statement, the Portland Powerfuel project is in accord with the targets outlined in this policy. This Energy Statement sets out highly relevant commitments as part of the ERF proposals at Portland within section 7. Powerfuel is prepared to commit to this through an appropriate planning obligation to explore with local representatives how local and community benefits through local energy supply could be achieved.

Portland Neighbourhood Plan 2017-2031 (Referendum Version)[21]

2.3.16 The Neighbourhood Plan (referendum version[1]) outlines support for renewable energy in the local area within its strategic objectives, including:

[1] Dorset Council as the planning authority have confirmed that the Plan could proceed to a local Referendum. However emergency regulations resultant from the Coronavirus Act 2020 state that no elections or referendums can take place until 6 May 2021, meaning that neighbourhood plans may come into force later than they would have done. In recognition of the frustration caused to communities that have dedicated significant time and effort to the neighbourhood planning process and who naturally want their plans to come into force as soon as possible, the Government have

SO1 Business Transformation: To support the growth and development of a vibrant business community focusing interventions on those growing and opportunity sectors, including the maritime, advanced engineering and renewable energy, capable of delivering higher skilled, higher waged jobs; [and]

SO3 Low Carbon Economy: Capitalising on its natural resources and advantages, support the development of a low carbon economy, specifically renewable.

2.3.17 Moreover, the aim to *'protect the special and unique character of Portland's environment'* includes an objective to *'identify opportunities to increase renewable and sustainable energy production'.*

2.3.18 The Plan recognises the suitability of the Portland area for the siting of renewable energy developments and emphasises the potential for local community benefits (see Section 7 for details on the potential for favourable tariffs for target groups within the local community).

2.3.19 Policy No. Port/EN2 for Renewable Energy Development further outlines the aspirations of the area for renewable energy development:

Development proposals for energy generating infrastructure using renewable or low carbon energy sources, including wind and tidal power, will be supported provided there will be no unacceptable effects on the:

i. visual impact in the immediate locality and the wider area

ii. amenity of nearby dwellings

iii. landscape, countryside and shore

iv. highway safety and traffic generation

v. migratory bird routes vi. sites of ecological, geological and archaeological importance.

Proposals for installations will need to include specific assessments related to these criteria and assessments of the planning considerations relating to specific renewable technologies set out in national guidance.

2.3.20 The Portland Powerfuel ERF, as a renewable energy project, supports all the above objectives in the Neighbourhood Plan.

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issued revised guidance. This guidance sets out that neighbourhood plans awaiting referendums can be given significant weight in decision-making, so far as the plan is material to the application.

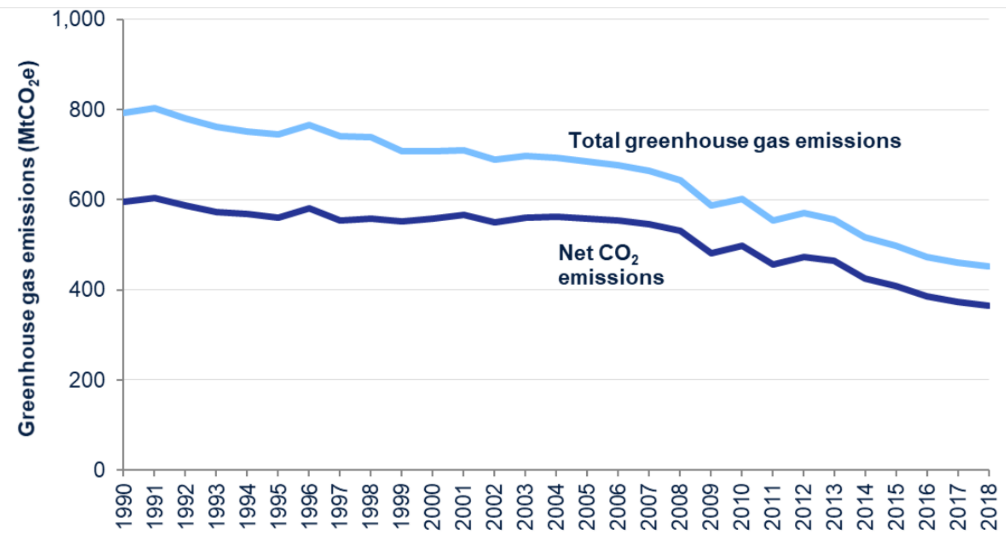
3 Need for decarbonisation in the UK

3.1.1 The Overarching National Policy Statement for Energy[4] states:

'Moving to a secure, low carbon energy system is challenging, but achievable. It requires major investment in new technologies to renovate our buildings, the electrification of much of our heating, industry and transport, prioritisation of sustainable bioenergy and cleaner power generation. [10, Para 2.1.1].'

3.1.2 In signing the Paris Accord, the UK committed itself to reducing the UK's carbon emissions by 100% by 2050 compared to 1990 levels (see Figure 3). The UK Low Carbon Transition Plan[22], which contains some of the policy measures outlined in the Accord, states that, 'by 2020, around 40% of our electricity will come from low carbon sources' with 30% of this from renewable sources.

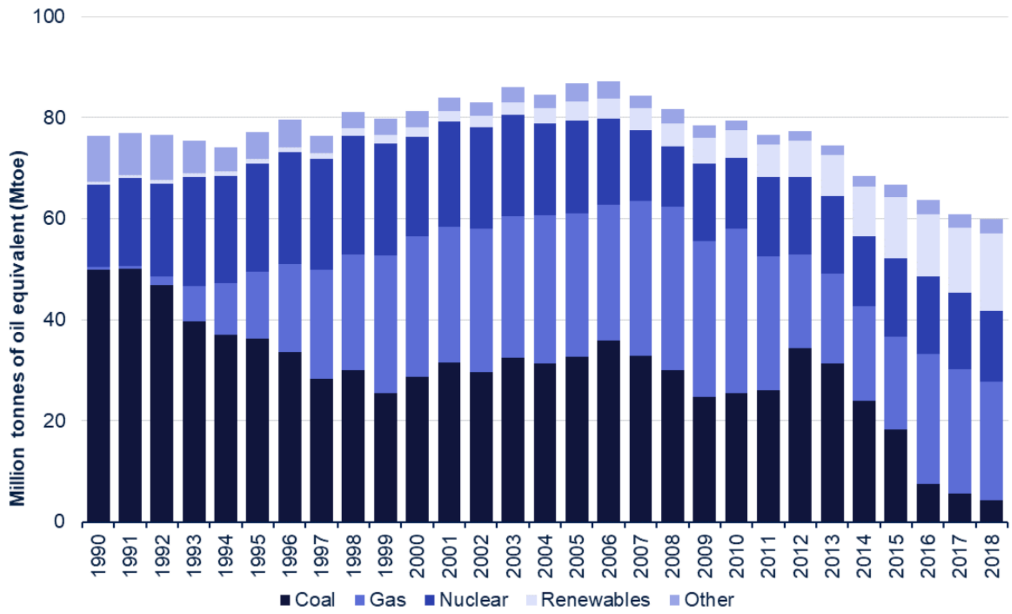
Figure 3 Total UK greenhouse gas emissions, 1990-2018 (MtCO2e)[23]



Source: Table 1, Final UK greenhouse gas emissions national statistics 1990-2018 Excel data tables

3.1.3 In the most recent Annual Statement of Emissions (2018)[24] published by the UK government, UK emissions were down 43% compared to the base year[25]. Decarbonisation of the UK's electricity generation has been a significant contributor to this reduction. The Digest of UK Energy Statistics (DUKES): renewable sources of energy[26] states that 37% of the UK's energy is now generated from renewable and low carbon sources, including energy from waste facilities (see Figure 4). In 2020, "*energy from waste generation increased by 9.1 per cent to 3.8 TWh [and] capacity increased by 16 per cent to 1.3 GW*"[27] (6.31). This continuing transition would be supported by the Powerfuel proposals for the Portland ERF.

Figure 4 Fuel used for UK electricity generation, UK 1990-2018 (Million tonnes of oil equivalent (Mtoe))[28]



Source: Digest of United Kingdom Energy Statistics, Table 5.1.1 Fuel input for electricity generation, 1970 to 2018
https://www.gov.uk/government/statistics/electricity-chapter-5-digest-of-united-kingdom-energy-statistics-dukes

3.1.4 Although UK carbon emissions from power have reduced by 68% compared to 1990 levels, largely due to the removal of coal-fired power stations, the 2020 Progress to Parliament report presented by the Committee on Climate Change[29] states that there is more to be done on power decarbonisation if the UK is going to reach its target of net zero emissions by 2050.

3.1.5 All areas of industry have a part to play in reducing the UK's emissions, including the electrification of sectors currently relying on fossil fuels, such as heating and transport. As technology has developed, so too have the possibilities for how far this potential can be stretched with fields like battery storage technology fast becoming a reality.

3.1.6 In fact, the Portland Powerfuel ERF plant will be carbon neutral. This is achieved as at least 50% of the waste is from biogenic[2] sources, despite around a tonne of carbon dioxide being released to the atmosphere from each tonne of waste burnt. Generating electricity from waste also avoids the need to burn fossil fuels instead, giving a carbon offset of about a fifth of a tonne of carbon dioxide per tonne of waste. The use of landfill and the generation of methane gas through landfill is also avoided. Therefore, the remaining 50% of carbon dioxide is more than offset meaning the plant will lead to a net reduction in greenhouse gas emissions.

3.1.7 As the baseline is dynamic and will change over time (as the nation achieves net zero), the balance of carbon positive and negative will also change. See the Leapfrog report for details on how this will be

[2] From renewable sources such as plants and trees.

calculated over the life of the project and the steps that will be taken, including the purchasing of external carbon offsetting entities, to ensure the project remains carbon neutral.

3.1.8 The Powerfuel Portland ERF represents a strong example of a technology which can assist in displacing more carbon intensive forms of energy generation, combined with local commitments in delivering secure supply (see section 7).

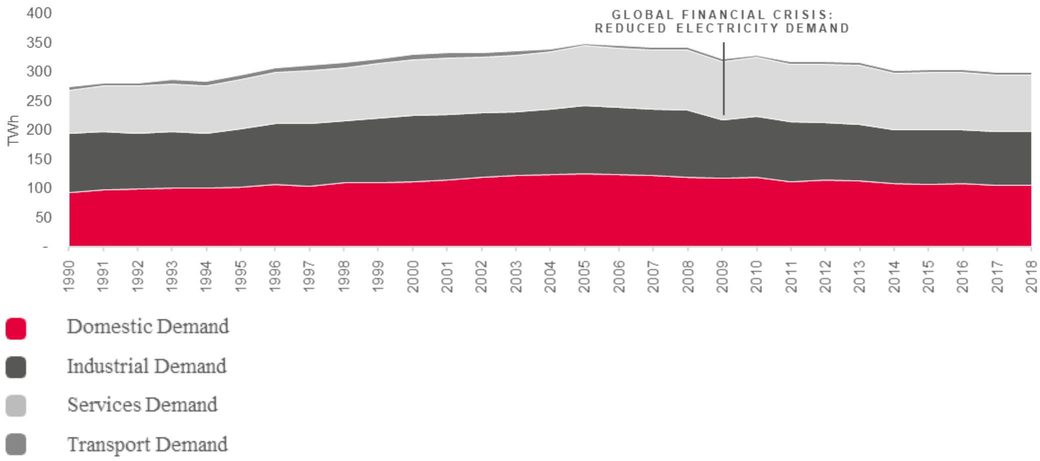
4 Future energy demand in the UK

4.1.1 Over the past decade, the UK's electricity demand has declined slightly, primarily due to efficiency gains and a shift away from energy-intensive economic activity.

4.1.2 Until 2005, electricity demand demonstrated annual growth, driven by an expanding population and economic growth. However, over the past decade, electricity demand has been in decline in the UK, and indeed in other advanced economies. According to the National Grid Future Energy Scenarios (2019)[30] paper, a total of 1089 TWh of combined gas and electricity was required by the UK in 2018. 26% of this was electricity and 74% was gas.

4.1.3 There are several drivers of this change in demand patterns, but the major force behind the decline is improved energy efficiency, which has outpaced the growth in demand caused by increased electrification. While the UK's population has grown by 10%, and GDP by 19%, between 2005 and 2018, electricity demand has declined by 14% over the same period. Energy efficiencies in industrial processes, buildings, and residential processes are the main cause for this, allowing more activity to be powered with less electricity.

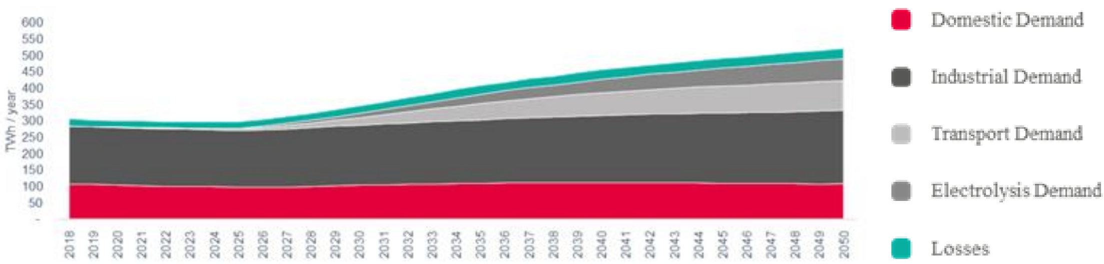
Figure 5 UK electricity demand, 1990-2018[31]



4.1.4 Other factors also drive the direction of electricity demand. In Figure 5, historical electricity demand from the domestic, industrial, services, and transport sectors are shown for almost the past three decades. In 2005, demand peaked, and afterwards began to decline until the present day. In 2008-2009, a pronounced trough can be seen in both industrial and services electricity demand, which was the result of economic decline caused by the Global Financial Crisis (GFC).

4.1.5 To achieve Net Zero emissions by 2050, many previously carbon-intensive activities will need to be electrified, leading to an increase in electricity demand between now and 2050. Sources differ as to the extent of this increase. As a result of electrification, the total electricity demand and peak demand are expected to increase by 70% and 93% respectively, between 2018 and 2050, due to increased efforts for decarbonisation with; greater electrification of heat, more EVs, and an increase in the production and use of hydrogen as a substitute for natural gas. Transition from higher carbon intensity forms of energy generation to those with lower carbon intensity and supporting security of supply, as is the case for the Powerfuel Portland ERF is an important contributor to meet this future demand profile.

Figure 6 UK electricity demand by sector, 2018-2050 (TWh)[32]



Domestic Demand

4.1.6 Annual residential demand for electricity is expected to remain relatively constant from 2018 to 2050. While there will be an increase in demand driven by the electrification of residential heat, this is expected to be tempered by improvements in energy efficiency. By 2050, annual residential demand for electricity is estimated to have reached c. 109 TWh per year, less than 2 TWh greater than in 2018, despite the estimated c. 15 million more electricity-powered residential heating units that would have been installed by 2050 than in 2018. National Grid has projected that more than half of residential heating units installed in 2050 will be at least partially powered by electricity (with another 45% heated by hydrogen generated via steam methane reforming) compared to less than 1% of residential heating units installed being electricity-powered in 2018. This additional demand is tempered by advancements in the energy efficiency of homes, e.g., heat storage and smart heating, and household appliances, e.g., smart appliances. National Grid has projected that an average home in 2050 would use 36% less energy for heating than a typical home today.

Industrial & Commercial Demand

4.1.7 Annual industrial and commercial (I&C) demand for electricity is expected to grow moderately between 2018 and 2050, again driven by the electrification of heat. National Grid ESO has projected that the majority of industrial and commercial heat would be electrified by 2050 under a Net Zero scenario. If c. 75% of I&C heating was to be electrified, I&C demand for electricity would reach c. 225 TWh per year by 2050, c. 47 TWh per year greater than in 2018. The I&C sector would also have to be powered by hydrogen and carbon-abated gas, as some industrial processes would be difficult to electrify.

Transport Demand

4.1.8 A major driver of increased electricity demand in a Net Zero future would come from road transport. Annual transport demand for electricity is expected to increase by more than 20,000% between 2018 and 2050, driven by the electrification of vehicles, reaching c. 90 TWh per year by 2050. Under this Net Zero scenario, no internal-combustion engine vehicles would be sold by 2035 and no conventional or hybrid vehicles would be on the road by 2050. This significant demand increase for electricity will have to be supported by investment in the national electric charging infrastructure, including the installation of public and workplace charge points to shift demand away from an evening peak created by domestic charging.

Shore Power

4.1.9 A specific element of the above discussion around future demand is that associated with the potential for the Powerfuel Portland development to provide shore power to docked cruise ships and Royal Fleet Auxiliary ships in the port. In the longer term, this may also apply to commercial vessels but, on the whole, the commercial shipping market has been much slower to take up environmental interventions compared to the cruise market, which faces increasing pressure from its customers to do so.

4.1.10 Figures provided by the Cruise Lines International Association (CLIA) indicate that, as of last year, some 30% of ships (by tonnage) were already fitted with shore power, 17% are planned for retrofitting with shore power (i.e. together, nearly half the fleet), and an additional 39% are configured so that they could be fitted with shore power capacity in future. This leaves less than 15% of the fleet that are not already using shore power or configured for its future use and have no plans to be fitted with it or configured for it in future.

4.1.11 Of the new build ships, 33% are being built with it pre-installed and a further 55% of tonnage is to be configured for future installation of shore power. In particular, Royal Fleet Auxiliary Vessels have been quick to follow ‘greening government’ policy drivers and are now all fitted for shore power. The direction of travel appears fairly clear, and as the average age of the CLIA fleet (on 1 January 2019) was 14.1 years, the timescale to get there appears medium rather than long term. In addition, developing technology means the shore power may soon be used, not only for power on the ship, but to charge batteries which can then be used for propulsion once out at sea.

4.1.12 There are several obstacles towards implementing shore power. A recent report by the British Ports Association on Shore Power 'Examining the Barriers to Shore Power'[33] identified the principal challenges as follows:

- High capital costs, both within the port and associated with energy network upgrades;
- High electricity prices making it difficult to compete with relatively cheap marine fuel;
- A lack of consistent demand from shipping, although the report notes that may be starting to turn for some parts of some sectors.

4.1.13 According to the CLIA (2019) 'Environmental Technologies and Practices Report'[34] there are currently only 16 ports '*visited by CLIA ocean going ships*' which '*have at least one berth fitted with shore side electricity for cruise ships*'. UK Policy Document Maritime 2050 (p165) states that currently the ports of Portsmouth [Ministry of Defence], Fraserburgh [fishing port] and Brodick [ferry terminal, Isle of Arran] are the only ports in the UK to offer shore-side electricity facilities. However, this number is expected to increase significantly in the near future as stated in Maritime 2050 (p.166)[35]:

'Our overarching aim is for the UK to be seen in 2050 as a role model in the field of zero emission shipping, having moved faster than other countries, and having captured a significant share of the economic benefits of the transition.'

4.1.14 Thus, all ports will have to consider the addition of shore power to stay competitive in the future market.

4.1.15 Without the provision of shore power at Portland, cruise numbers are forecast to fall to just 10 per season by 2034, and ultimately to zero by 2045[36]. According to data provided by the port, in 2019 and 2018 some 79% of total cruise-related visitor spend was made within Dorset, so the majority of this expenditure is destined for local businesses. The provision of shore power will therefore become a major factor in the competitiveness of the port as a destination for cruise ships in the future.

4.1.16 Aside from the previous planning application for the production of fuel from waste cooking oil in 2010, and additionally waste tyres in 2013, no other projects have been seriously considered as a viable option for the generation of shore power in this location. Though it would be technically feasible to build a grid connection to provide shore power, the high capital costs of this significant infrastructure, likely to be in the region of £20 million, would outweigh any environmental or economic benefits meaning it would be more cost effective to continue burning diesel for fuel. A standalone project, like the Portland Powerfuel ERF, is therefore the only commercially viable way in which shore power can be achieved and Dorset supported towards its decarbonisation target.

Hydrogen (Electrolysis) Demand

4.1.17 Annual electricity demand for hydrogen production is expected to dramatically increase between 2018 and 2050. While current demand is negligible, it is predicted to reach c. 68 TWh per year by 2050. This demand is driven by the production of hydrogen for transport, which must be done via electrolysis to attain the required level of purity. In a Net Zero future, bar the development of any alternative technology, all heavy goods vehicles would be electrified or powered by hydrogen, leading to a major increase in the demand for electricity to power hydrogen production. Hydrogen would also be in demand for heating purposes, but this would be produced via steam methane reforming instead of electrolysis.

5 Improving security of supply

5.1 Security of supply

5.1.1 Ensuring security of supply is a crucial element of the Overarching National Policy Statement for Energy[37] as:

'The Government needs to ensure sufficient electricity generating capacity is available to meet maximum peak demand, with a safety margin or spare capacity to accommodate unexpectedly high demand and to mitigate risks such as unexpected plant closures and extreme weather events.' [10, Para 3.3.2]

5.1.2 There are two elements to this:

- The electricity generation capacity must be sufficient to meet demand; and
- The quality of the electricity must adhere to a quality standard during all reasonably predictable operating situations (and must be resilient when occasionally straying from this quality standard due to rare situations).

5.2 The evolution of the UK's electricity supply

5.2.1 Over the past decade, the UK's electricity generation mix has undergone a profound change (see figures below). The reduction in coal and increase in renewables has resulted in a decline in emissions; however, these have been offset to some extent by increased reliance on imported natural gas, some of which is sourced from regions experiencing instability. Consequently, more needs to be done to ensure GHG reduction targets are achieved, whilst also ensuring energy demand is met to avoid driving energy prices higher.

Figure 7 UK installed electricity generation capacity, 2000-2019 (MW)[38]

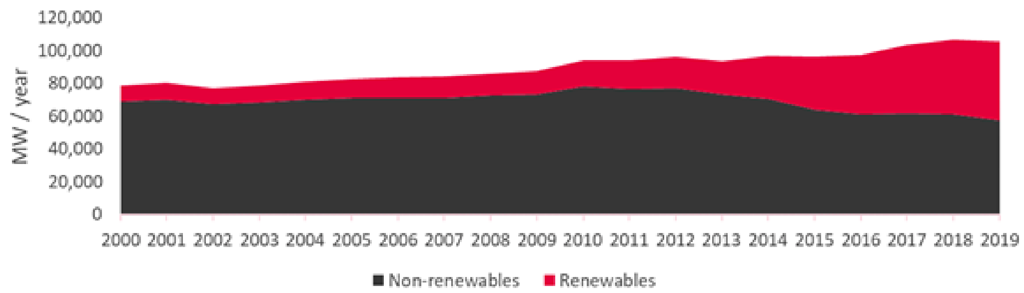


Figure 8 UK electricity generation, 2000-2019 (TWh)[39]

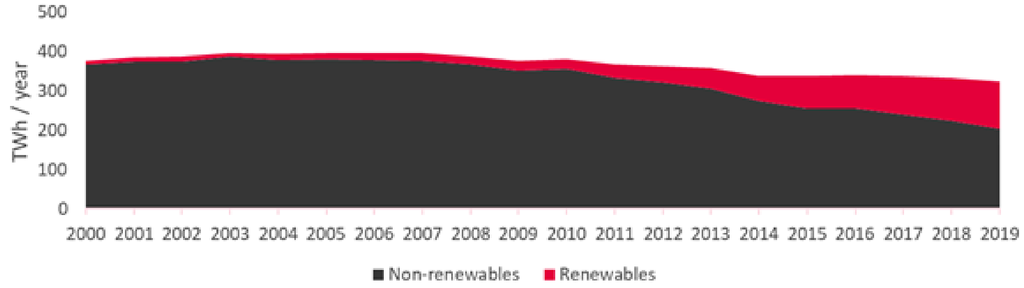
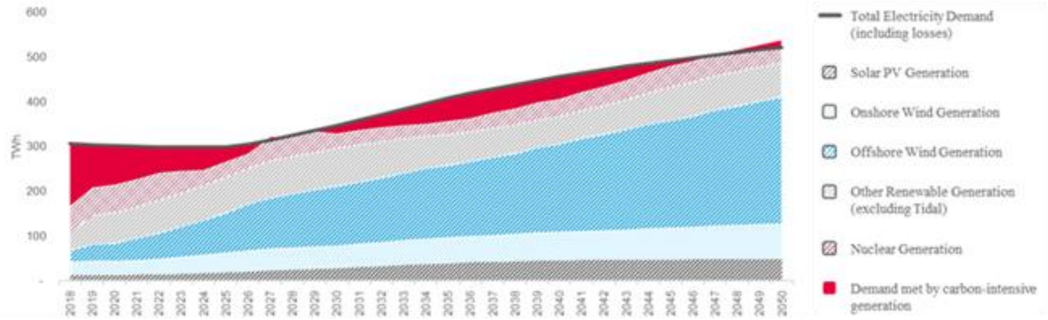


Figure 9 Figure 9 Generation vs. total demand, 2018-2050 (TWh)



Rise of low carbon incentive mechanisms

5.2.2 It is anticipated that policy, technology evolution and cost drivers will give rise to an even more diverse generation mix going forward, which could comprise a mixture of renewables and low-carbon technology supported by energy storage and Carbon Capture & Storage (CCS). The exact mix of technologies to deliver a net zero carbon future is uncertain with a number of projections in the public domain, however, it is clear is that renewables will play a significant role. This will directly influence the wholesale cost of power and ultimately the cost to consumers. The installed capacity of renewable generation in the UK more than quadrupled from between 2010 and 2018, supported by 3 key low carbon incentive mechanisms:

- Renewables Obligation (RO) - closed as of 2019;
- Feed-in-Tariff (FiT) - closed as of 2019; and
- Contracts for Difference (CfD).

5.2.3 With the both the RO and FiT routes closed, the CfD mechanism is the only open route for subsidy supported deployment of renewable technologies. The CfD mechanism is organised to support ‘less established’ technologies such as: Advanced Conversion Technologies (ACTs), Offshore Wind, Dedicated Biomass with CHP, Geothermal, Remote Island Wind, Tidal Stream and Wave projects and ‘established’ renewables technologies such as: Onshore Wind and Solar Photovoltaic (PV), Energy from Waste with CHP, Hydro, Landfill gas and Sewage gas through auctions.

5.2.4 The CfD reopens to established renewable technologies in 2021, including Energy from Waste plants, after being temporarily closed to established technologies since 2017. The Portland Powerfuel project will be subsidy free due to the nature of the technology (see 6.1.2).

5.2.5 Whilst subsidies have been key in driving down the costs of renewables, going forward the hope is that the subsidy burden will be reduced and the deployment of both established and less established renewable technologies, can be brought to market through demand for clean energy from businesses or municipal authorities through Power Purchase Agreements (PPAs).

Power Purchase Agreements reduce uncertainty

5.2.6 PPAs are long-term agreements whereby an organisation purchases power directly from a generator. For the organisation, if this power is purchased from a renewable generator, the PPA helps the organisation deliver on its sustainability commitments and offers price certainty. The generator benefits from revenue certainty, which for developmental projects improves bankability, helping to secure the required financing for development.

5.2.7 PPAs are not restricted to private corporations. An increasing number of municipal organisations are being attracted by the idea of the 'municipalisation of energy', described by APSE as the deeper engagement of councils in the energy agenda within their area including through energy services, the generation of income and the reduction of fuel poverty and improvements in air quality[40]. Examples of councils who have embraced this model of energy engagement are detailed below.

Enfield Council

5.2.8 Energetik is a local energy company created and wholly owned, by Enfield Council[34]. The company was established to produce good value, reliable and sustainable energy through heat networks for the local area. The energy will be generated by the North London Waste Authority (NLWA), based in Enfield, which is building a new ERF to manage waste from seven London boroughs. Energetik will use the heat generated by the ERF as the main low-carbon heat source for the Meridian Water heat network. The company will supply 15,000 customers across North London.

Warrington Borough Council

5.2.9 Warrington Borough Council recently entered into two PPA agreements for solar farms, one with battery storage attached. These will generate all the Council's electricity, a first for a council in the UK, with the remainder being sold on the open market[41]. The projects are expected to generate over a hundred million pounds of operating surplus fees over 30 years which will be invested into essential services in the local area.

Plymouth City Council

5.2.10 Plymouth City Council have also entered into a PPA with an ERF built as a combined heat and power (CHP) plant which provides electricity and heat to the naval base in Plymouth, as well as selling surplus to the grid[42].

Energy from waste supports security of supply through diversification of renewable generation sources

5.2.11 Onshore and offshore wind, solar PV and nuclear power alone cannot fulfil the UK’s power demand. A portfolio approach (including other renewable and low carbon sources) with a diverse generation mix is crucial for ensuring security of supply. Future increase in demand will only exacerbate the need for diversity.

5.2.12 The Weymouth and Portland area currently has no ERF plants, with the majority of its 3.32MW of low carbon and renewable energy provided by solar PV (3.23 MW) with some onshore wind (0.06MW) and hydro (0.03)[43]. In the wider West Dorset area, the portfolio is more diverse with anaerobic digestion and landfill gas in addition to solar PV, onshore wind and hydro making a total of 48.02MW (51.24MW including Weymouth and Portland) per annum from renewable and low carbon sources, though solar PV is still heavily relied upon making up 39.91MW of the total.

Powerfuel Portland ERF will support security of supply

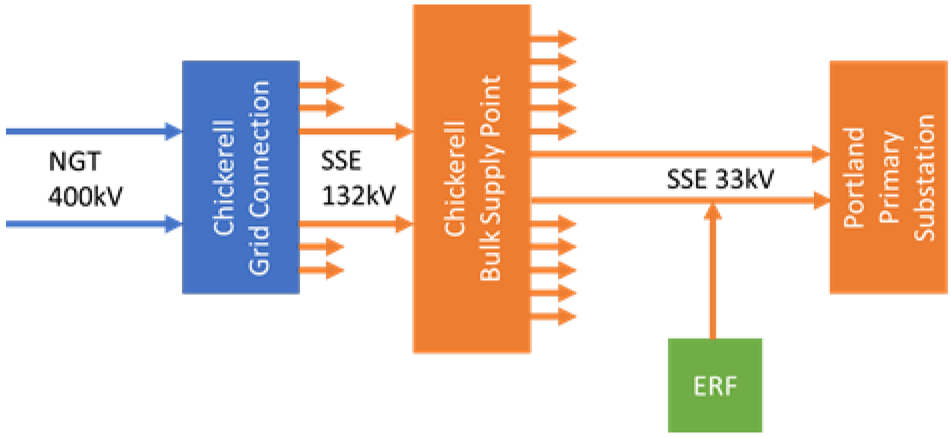
5.2.13 The ERF at Portland Port will produce, net of its own parasitic demand, up to 15.2MW of electricity. It is expected to operate 8,000 hours per annum and generate some 122GWh. In addition, the plant will have a solar photo voltaic (PV) installation of 500kW, which will produce some 0.76GWh per year. Where there is demand from shipping for shore power, shipping will be served from the plant and the remaining generation will be exported to grid.

5.2.14 It is normal for a plant of this scale to be connected to the public distribution network rather than the national grid. The distribution network operator (DNO) in this area is Scottish and Southern Electric (SSE). Powerfuel has applied to SSE for a connection for 15.2MW export and 5MW import and accepted the offer made by SSE. Through the application process SSE has assessed the impact of the generation on its ability to operate a reliable distribution network and included the modification necessary to upgrade its network for the plant.

5.2.15 SSE’s offer is for connection to its 33kV ring circuit (see Figure 10) with feeds the primary substations on Portland. The ring is fed from Chickerell Bulk Supply Point, where it is converted from 132kV to 33kV; which is in turn fed from Chickerell Grid Connection point where National Grids 400kV transmission network is converted to

132kV.SSE will be confident that connection of the ERF will have no impact upon its ability to provide supplies to its customer which is regulated by Ofgem.

Figure 10 SSE 33kV ring circuit model



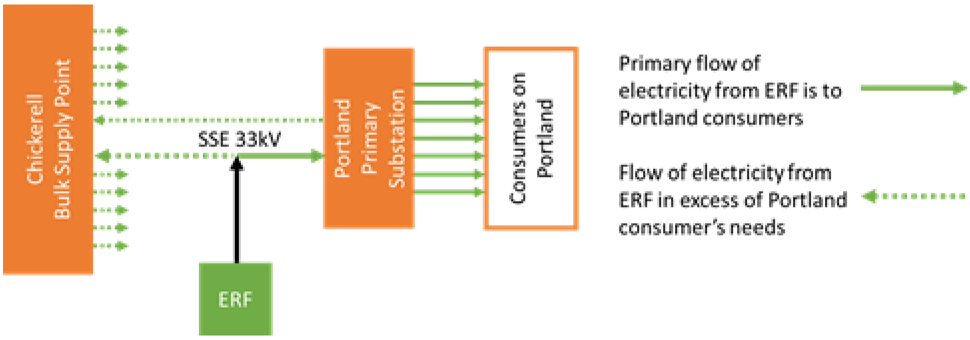
5.2.16 SSE will be confident that connection of the ERF will have no impact upon its ability to provide supplies to its customers which is regulated by Ofgem.

5.2.17 Since April 2019, generation plants of this scale connected to public distribution networks have been required to assist DNOs in protecting the network in the event of a fault condition. The ERF will meet this obligation through the application of the required G99 protection equipment. SSE will not make the connection until it is confident that the required G99 equipment is operating correctly.

5.2.18 The UK grid network has increasingly become susceptible to fluctuation in demand and generation. Large demands or large generators switching on or off can cause network disturbances which can lead to fluctuations in voltage and frequency which can cause outages. System faults can also have this impact. The ERF is particularly effective at providing support to the DNO in coping with the impacts of such events. Since the generator will be driven by a steam turbine and therefore have a high degree of inertia it will provide additional stability to the grid which will reduce the level of disturbance and reduce the likelihood of an outage.

5.2.19 The electricity generated at the ERF and exported onto the grid will, due to its location on the electrical network, provide electricity to consumers in the vicinity. This will displace electricity flowing from the National Grid and will reduce losses in the electrical system. As such it will provide a benefit for all consumers. The ERF has the capacity to meet the maximum demand for electricity from Portland's Primary Substation. The excess will feed to Chickerell Bulk Supply Point and be distributed to Weymouth and other local Primary Substations (see Figure 11).

Figure 11 Portland Powerfuel ERF potential circuit



6 Business model of ERF / EfW

6.1.1 Early waste incinerators were disposal-only plants, which simply burned waste to reduce its volume. ERF plants are now designed to meet strict emissions standards, as set out in BREF guidelines outlining Best Available Techniques (BAT), which support clean air by controlling; nitrous oxides, sulphur dioxide and particulate matter as well as providing valuable low carbon energy.

6.1.2 For ERFs, subsidy was previously available for incineration projects which were CHP ‘ready’, however, the route to subsidy has been closed to incineration projects in recent years. Subsidies at present are only open to ERF through Advanced Thermal Treatments (ATT) such as gasification and pyrolysis via the CfD mechanism, none of which are applicable to the Portland Powerfuel project which will therefore be subsidy free.

6.1.3 In the absence of access to renewable subsidy for incineration ERF, business models are largely built around revenues received from Local Authorities (LAs) and/or business to dispose of municipal or commercial waste, this revenue is referred to as ‘gate fees’. The introduction of landfill diversion targets in the mid-1990s helped drive a new generation of ERF plants, as part of this strategy a tax was introduced. To dispose of waste via landfill, LAs and businesses must pay the Landfill Tax, 94.35 £/tonne (from April 2020 onwards) for waste which is not inert or inactive. In addition, LAs and businesses would incur a cost of approx. 30 £/tonne to dispose of waste at landfill, in addition to the costs required for transporting the waste, taking the total cost to around 124 £/tonne. It therefore makes more financial sense for LAs and businesses to pay owners of ERF plants to take the waste, rather than send it to landfill, as long as the gate fee they would pay is below the 124 £/tonne that would be incurred to send it the landfill.

6.1.4 In addition to gate fees, ERF plant owners also obtain revenues from;

- **The GB Wholesale Electricity Market:** by agreeing to sell the electricity, the ERF generates into the market via a PPA with a Supplier or another market participant.
- **Heat sales:** ERF plants producing heat in addition to electricity and therefore operating as CHPs can sell heat to a heat network owner/operator as long as a physical connection into the heat network exists.
- **The Capacity Market:** supporting security of supply/system resilience of the GB power system by agreeing to deliver active power in the event of system stress event through a Capacity Market agreement. Success in the 4 year ahead Capacity Market auction could provide a revenue stream for the ERF plant for up to 15 years.

7 Potential for tariffs (economic and social good)

7.1.1 Powerfuel is keen to explore ways that the power generated by the ERF could be directed to local use. The following section looks at whether there may be a way to work with local or national partners, in the case of a local supplier opportunity, to supply a proportion of the ERF's generation for local consumption and explore opportunities for a reduced price tariff for those locals in need, such as key workers and those suffering from fuel poverty. If found to be viable, Powerfuel would be prepared to agree to a section 106 obligation to further proactively explore these opportunities with groups who wish to do so, including the opportunity for Dorset Council to look at a sleeved arrangement to be supplied with some of its energy needs by this route from its county waste supply.

The UK Energy Market

7.1.2 The energy market is regulated by the Office of Gas and Electricity Markets (Ofgem) and further overseen by the Competition and Markets Authority (CMA). Ofgem and the CMA's main focus has been to ensure adequate competition in the retail energy market, evidenced by the degree of switching which takes place in the domestic energy retail segment of the market, despite significant market concentration. Figures 12 and 13 below show the evolution of market share of the main domestic energy suppliers. The 'Big 6' Energy Suppliers of British Gas, EDF, E.ON, Npower, Scottish Power, Scottish & Southern Energy (SSE), have ceded market share as new entrant challenger suppliers have entered. British Gas in particular has lost a 17 percentage point share in the domestic gas supply.

Figure 12 GB domestic gas supply by company, 2009-2019[44]

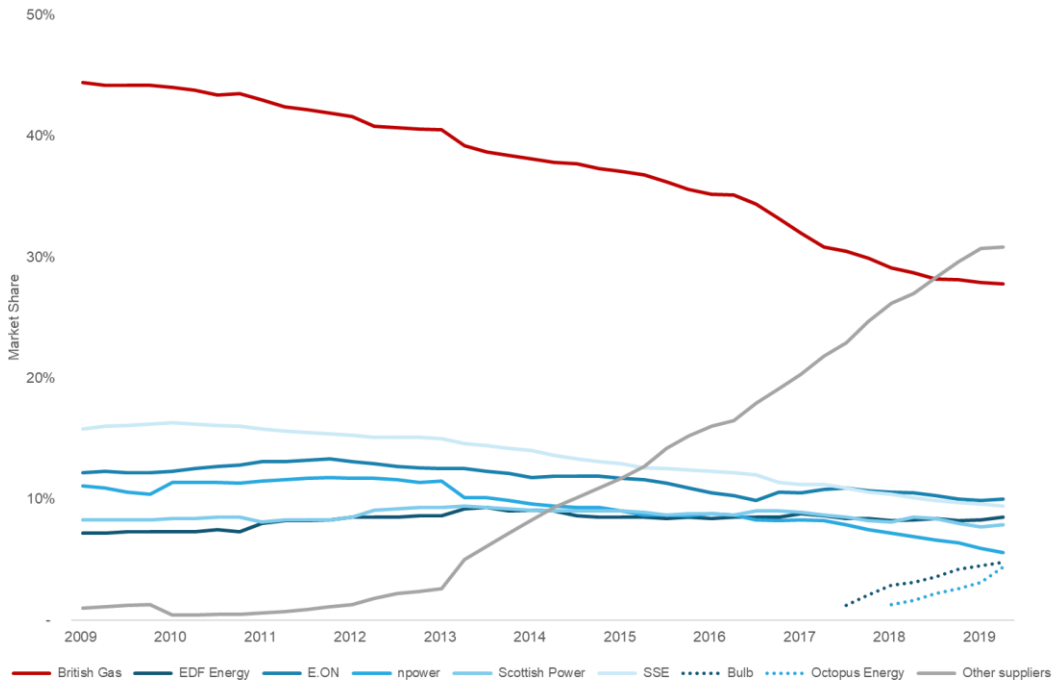
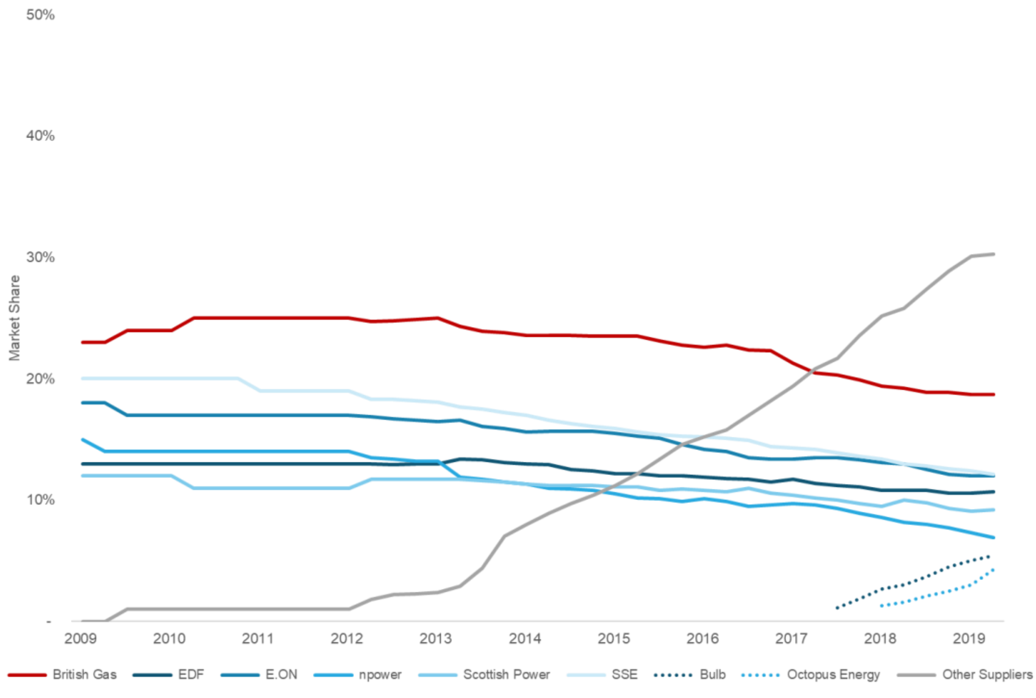


Figure 13 GB domestic electricity supply by company, 2009-2019[45]

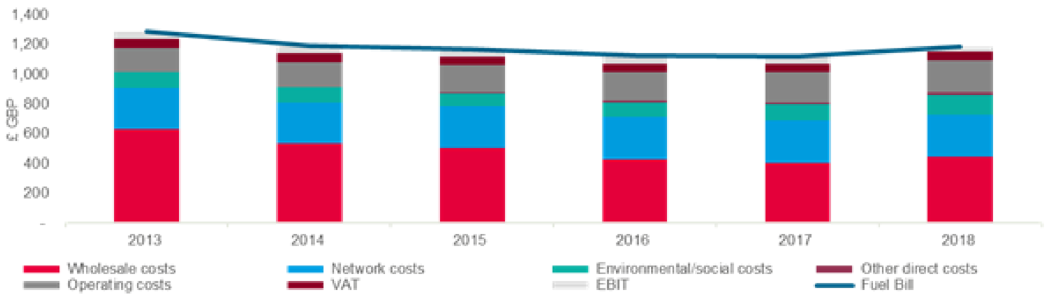


7.1.3 Following the completion of mergers and acquisitions in 2019, with E.ON acquiring npower and OVO Energy acquiring SSE, the Big 6 is no more and instead the domestic retail market is dominated by the Big 5 Energy Suppliers of: British Gas, EDF, E.ON, Scottish Power and OVO Energy. The market share of smaller suppliers, each with market shares less than or equal to 5% has grown to 40% in domestic gas and 30% in domestic electricity.

7.1.4 The role of an Electricity Supplier is defined in The Electricity Act with the last significant revision being in 1989. The Electricity Act makes it unlawful to receive supply of electricity apart from via a licenced Supplier. Electricity can be traded between market participants, including suppliers, but the final trade, the point at which the electricity is to leave the wholesale electricity market and is sold to an end user who will consume the electricity, must be facilitated by a licenced supplier.

7.1.5 Energy tariffs are used by Suppliers to recoup the costs associated with the energy they supply to end users, whether these end users/customers are; domestic, municipal, commercial or industrial. The chart below shows how the average large supplier domestic dual fuel bill has evolved over time as well as how the bill is broken down.

Figure 14 GB average large supplier domestic dual fuel bill[46]



7.1.6 One of the clear trends witnessed in domestic dual fuel bills, in line for domestic electricity bills, is the reducing share that Wholesale costs make up as part of the total bill. In 2019 this was recorded at 37.6%, down from 48.8% in 2013 (and down from 56.7% in 2009). The share that other 'non-energy costs', such as network and environmental/social costs, form of the total bill has increased over time. Further increases in these 'non-energy costs' are anticipated as we broach the clean energy transition towards Net Zero by 2050.

7.1.7 From the summer of 2017, Ofgem put in place a prepayment price cap to protect domestic customers on prepayment meters and ensure they are not charged excessively relative to domestic customers who pay in advance (credit). In addition to this Prepayment Price Cap, from the winter of 2018/19, Ofgem introduced a Default Tariff Price Cap which limits the amount suppliers can charge domestic dual fuel customers who are on default tariffs.

7.1.8 Suppliers can offer several different tariffs to domestic customers. For a time, between 2015 and 2016, there had been a limit to the number of tariffs offered into the open market up to a maximum of four core tariffs. This restriction was subsequently lifted, as recommended by the CMA, in order to remedy what they believed was a restriction on consumer choice.

7.1.9 The ERF that is being developed by Powerfuel Portland could, via a licenced supplier, facilitate a special discounted tariff available, for example, to key workers or targeted local residents experiencing hardship in respect to fuel poverty. Whilst at present no such energy tariff is available in the market, the Covid-19 pandemic has reminded the nation of the need to support those providing essential services. A discounted tariff available to, for example, local residents suffering from fuel poverty or key workers may go a little way towards showing support, in a practical sense, to key workers instrumental in the fight against Covid-19.

7.1.10 In order for a supplier to offer a tariff with a discount, which is not based on a dual fuel discount or related to online account management, the supplier requires a derogation to Standard Licence Condition (SLC) 22B to be granted by Ofgem.

7.1.11 Standard Licence Condition (SLC) 22B prohibits licensees from using any discount, other than those of a type expressly excluded from the prohibition (Dual Fuel Discounts and Online Account Management Discounts), which is:

a) pounds sterling or any currency of any other country;
b) capable of being directly redeemed for pounds sterling or any currency of any other country;
c) in any way applied to a Unit Rate or Standing Charge; or
d) in any way capable of being applied to a Unit Rate or Standing Charge by a Domestic Customer.

7.1.12 In the case study below, it can been seen how Good Energy – a licensed supplier of electricity which also owns and supports generation infrastructure - , through a derogation to SLC 22B, was able to offer a Local Tariff.

A precedent for favourable tariffs exists

7.1.13 For customers who live within two kilometres of Good Energy's 9.2MW Delabole wind farm in north Cornwall, around 170 local households benefit from 100% renewable electricity at a special rate, set at 20% less than the standard Good Energy electricity tariff. The Local Tariff will save the average Good Energy customer in the area around £100 over a year. The discount was available to existing and new customers from early 2013. The tariff also pays out a 'windfall' credit of up to £50 per household every year that the turbines exceed their expected performance.

7.1.14 Ofgem granted Good Energy an enduring derogation from paragraph 36 of SLC 22B of its electricity supply licence in respect of its Delabole Local Tariff. This derogation will enable Good Energy to continue offering windfall payments to its eligible customers if the Delabole Wind Farm generation site exceeds forecasted output.

7.1.15 Favourable electricity archetypes

Local generation

7.1.16 Involves a local generation asset or portfolio which is delivered for the benefit of local consumers. Such projects can be financed by the local community (wholly or in part). In terms of management and ownership, the asset can be actively managed or passively owned by the community, generating revenues for local use. Examples of these approaches include:

- *Brixton Energy*; revenues from three operational roof-top solar farms totalling 134 kWp across blocks of flats in the London Borough of Lambeth, supporting community energy activities and generating local shareholders' dividends;
- *Rumbling Bridge Hydro*; a Scottish community-owned hydro scheme operational since 2016, where revenues support a community benefit fund to enhance local economic outcomes;
- *Awel Coop (aka Mynydd y Gwrhyd);* a community-owned 4.7 MW windfarm to the north of Swansea, operational since 2017 and with revenues going towards reducing local fuel poverty and supporting renewables projects.

Local supply

7.1.17 Involves models aimed at supplying local communities with affordable / low carbon energy. These models can be described as either; direct supply (licensed and exempt) or retail / commercial models (white labels / sleeving / tariffs). Examples of these include:

- *OVO Communities*; launched in 2014 by OVO, these are white label tariffs provided through local authorities (including Peterborough and Southend);
- *GLA*; in 2017, Greater London Authority was granted a Licence Lite (exemption to Standard Licence Condition 11) supply arrangement by Ofgem. *Arup was instrumental in supporting the GLA in gaining their Licence Lite supply agreement;*
- *Greener for Life Energy (now Ixora Energy)*; Anaerobic Digestion (AD) plants supplying electricity through a private wire;
- *Robin Hood Energy*; founded in 2014 as a national supplier, owned by Nottingham City Council, offering local discounted tariffs.

Other electricity archetypes

- *Micro-grid*; decentralised grid(s) which operate on private wires in parallel to or independent of the national grid.
- *Virtual private networks (VPNs)*; operate on the distribution network, typically offsetting generation and demand (local

balancing) through commercial arrangements. Projects in this archetype are not widespread, often in concept design or trial phase, and vary in scale. They range from very localised peer-to-peer approaches to multi-party arrangements and others exploring Distribution Network Operator (DNO) level market arrangements.

Different ways to access customers

7.1.18 There are several routes to bring the electricity generated to end users / customers which are summarised below.

7.1.19 Direct routes:

- *Licenced supply*; this route has been explored through conversations between Powerfuel and a number of suppliers;
- *Licence Lite supplier*; developed by Ofgem as a route to market for distributed generators that operates within the licensed rather than exempt framework. It helps new suppliers reduce the high-cost, high-competency barriers of establishing and operating a supply business by partnering with an existing licensed supplier to deliver some of the more costly and technically challenging parts of a licence. Powerfuel Portland could operate as a Licence Lite supplier in partnership with an existing licensed supplier.
- *Exempt supplier*; this is the route which has been explored in section 7.1.1.

7.1.20 Indirect routes:

- *White label*; branded tariffs offered through partnership between licensed supplier and third party.
- *Sleeving*; this is the standard PPA approach used to allow generators to sell their electricity directly to end users through a licenced supplier. The licenced supplier would still expect to pass through costs related with network costs, environmental/social costs, other direct costs and operating costs. We have explored how PPAs can be used to support the deployment of non-subsidised renewable/low carbon projects in section 5.1.2.

8 Summary and support of the case for an Energy Recovery Facility in Portland

8.1.1 This report has demonstrated that there is a clear demand for an increased renewables and low carbon offering in the Dorset area which the Powerfuel Portland project can help to provide. The main summary points are as follows:

1. The requirement for an increased offering of renewable and low carbon energy generation options is supported by national and local policy.
2. All areas of industry, including energy generation, have a part to play in meeting the UK’s decarbonisation target of net zero emissions by 2050.
3. Future energy demand in the UK is predicted to increase, across all sectors, and needs to be met largely by renewable and low carbon solutions in order to fulfil national decarbonisation targets.
4. The Powerfuel Portland project, in addition to mains power, also provides the potential for shore power, supporting the viability of Portland as an attractive cruise and commercial vessel port destination.
5. The rise of Corporate PPAs offer a low carbon incentive and support network and will enable renewable and low carbon technologies, like ERFs, to obtain the required financing for development.
6. The Powerfuel Portland ERF supports security of supply through a diversification of renewable and low carbon energy generation offerings.
7. Security of supply is further supported by the location of the Powerfuel Portland ERF, which has the potential to meet and exceed the maximum demand for electricity from Portland’s Primary Substation, thus supplying significant MW of electricity to the surrounding area.
8. The Powerfuel Portland ERF has the potential to offer favourable domestic tariffs, if approved by Ofgem, to those considered to be most in need.

8.1.2 In conclusion, the Powerfuel Portland ERF will provide a significant boost to Dorset’s renewable and low carbon energy generation offerings, enabling the County to work towards its decarbonisation targets and achieving security of supply.

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