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Planning Benefit and Need Analysis Deal Farm Appeal

13 June 2023

Q230173

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Annex 1: Extracts from EN-1: Overarching National Policy Statement for Energy

Annex 2: Extracts from Draft National Policy Statement for Energy Infrastructure

1 Overview

Energy security is now nationally important, whilst climate change is the single most important issue facing the planet. The scale and urgency of the challenge to the UK in meeting our zero carbon commitment is unparalleled. Renewable energy has an increasingly important role to play, and biomethane and biogas methods combined could displace up to 10% of UK gas demand¹.

- 1.1 NPS EN-1 acknowledges (paragraph 2.2.1) that cutting greenhouse gas emissions and meeting government targets requires, amongst other methods, the prioritisation of sustainable bioenergy and cleaner power generation. Furthermore, paragraph 3.8.16 raises biogas as an opportunity for additional gas supply. This is needed to ensure that the UK can continue to have a stable supply of energy.
- 1.2 The Appeal Scheme is therefore considered to provide an important opportunity to secure an underutilised form of renewable energy, which is both consistent with and directly supported by Government policy.
- 1.3 The Appeal Scheme comprises the construction of a biomass fuelled anaerobic digestion facility, which would:
 - 1.3.1 convert locally sourced biomass to create biogas (biomethane);
 - 1.3.2 capture of carbon from the process and liquefy it for use in the food, drink and cement industry; and
 - 1.3.3 create organic biofertilizer.
- 1.4 The description of development of the Appeal Scheme is as follows:

“construction of an Anaerobic Digestion facility (part retrospective), comprising: 1 no. digester tank and 1 no. secondary digester/digestate storage tank, silage clamps; liquid and dry feed system; digestate separation, handling and pasteurization; biogas upgrading and mains gas-grid connection; carbon capture; CHP; agricultural building; office buildings; weighbridge; 2 no. covered digestate storage lagoons; and associated plant, vehicular accesses, roads and landscaping (including earth bunds)”

Reasons for refusal

- 1.5 As required by article 35 of the Town and Country Planning (Development Management Procedure) (England) Order 2015, the Decision Notice specifies all policies with which SDC allege conflict. They are as follows:

¹ The Committee on Climate Change: The Sixth Carbon Budget (December 2020)

The highway network serving the site is considered to be inadequate to serve the development proposed, by reasons of its poor alignment, restricted width, lack of passing provision, substandard construction and restricted forward visibility. The proposal, if permitted, would be likely to give rise to conditions detrimental to highway safety contrary to policy DM3.11 of the Local Plan. Furthermore, the development would not accord with paragraph 110 of the NPPF as a safe and suitable access to the site cannot be achieved for all users, and paragraph 111 as there would be an unacceptable impact on highway safety. ("Reason 1")

The application is not supported by sufficient transport information to demonstrate that the proposed development will not be prejudicial to the satisfactory functioning of the highway and highway safety also contrary to policy DM3.11 of the Local Plan. ("Reason 2")

The proposed development would result in significant adverse impacts on the distinctive landscape characteristics of the area as even after the proposed mitigation planting has matured the digestion plant domes will still be a detracting feature on longer distance views and are of a scale and shape that are atypical of the architectural built form qualities that emphasise the largely rural character of the landscape whilst the West Lagoon will appear as an engineered landscape feature in the landscape which will be accentuated by the proposed mitigation measures. As a consequence the proposed development will be contrary to policy DM4.5 of the Local Plan. ("Reason 3")

As a consequence it is considered that the development would result in significant adverse effects that outweigh the benefits of the renewable energy generated by the development and therefore the development does not comply with policy DM4.1 of the Local Plan ("Reason 4")

- 1.6 It is submitted that the Reasons for Refusal can be summarised as unacceptable highway impacts (Reason 1 and Reason 2), unacceptable landscape impact (Reason 3) and insufficient planning benefits to outweigh the identified harms (Reason 4).

2 Policy & Legislative Context

- 2.1 This section sets out the planning policy context which supports the proposed development and is relevant to the Appeal Scheme. The Statement of Case and the draft **SoCG** provides further detail on the relevant planning policies relevant to the Application.

Legislation

- 2.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004, read together with section 70(2) of the Town and Country Planning Act 1990, requires that applications be determined in accordance with the Development Plan unless material considerations indicate otherwise.

Development Plan

- 2.3 The relevant adopted Development Plan comprises:

- 2.3.1 the Joint Core Strategy (January 2014);
- 2.3.2 the South Norfolk Local Plan Development Management Policies (October 2015);
- 2.3.3 the Norfolk Minerals and Waste Core Strategy (2011); and
- 2.3.4 Development Management Policies DPD (2011).

- 2.4 The weight to be given to development plan policies depends upon their degree of consistency with the NPPF. The Statement of Case sets out a full summary of the relevant Development Plan policies, but those most relevant to the need and benefit case for the Appeal Scheme are as follows:

- 2.4.1 **DM1.1: Ensuring Development Management contributes to achieving sustainable development in South Norfolk:** *'The Council will grant permission unless material considerations indicate otherwise – taking account of whether any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits when assessed against: i. The policies in the National Planning Policy Framework taken as a whole or ii. Other national planning policy guidance...'*
- 2.4.2 **DM1.3: The sustainable location of new development** *'The sustainable location of new development: 2) Permission for development in the Countryside outside of the defined development boundaries of Settlements will only be granted if: ...d) Otherwise demonstrates overriding benefits in terms of economic, social and environment dimensions as addressed in Policy 1.1.'*
- 2.4.3 **DM4.1: Renewable energy:** *'Proposals for renewable energy generating development requiring planning permission ...will be supported and considered (taking account of the impact of relevant ancillary equipment) in the context of sustainable development and climate change on the wider environmental, social and economic benefits of maximising use of renewable energy... Permission will be granted where there are no*

significant adverse effects or where any adverse effects are outweighed by the benefits...

Relevant Material Considerations: Legislation

The Climate Change Act 2008 (2050 Target Amendment) Order 2019

- 2.5 The Climate Change Act 2008 introduced a legally binding climate change mitigation target for the UK to reduce its greenhouse gas emissions by 80% by 2050, compared to 1990 levels. On 27 June 2019, the Climate Change Act 2008 was amended to introduce a target for at least a 100% reduction in greenhouse gas emissions (compared to 1990 levels) in the UK by 2050. This 'net zero' target led to a series of Government renewable and low carbon energy targets and strategies and created a more positive policy environment for energy storage and management.

The Committee on Climate Change: The Sixth Carbon Budget (December 2020)

- 2.6 The main recommendations are set out in *The UK's Path to Net Zero* report, which sets out a recommended pathway requiring a 78% reduction in UK territorial emissions between 1990 and 2035, bringing forward the UK's previous 80% target by nearly 15 years. These recommendations are a clear indication of the increased ambition required to achieve the Government's net zero target.
- 2.7 The 78% reduction in emissions from 1990 to 2035 recommendation was then introduced by the Government in April 2021.
- 2.8 The report highlights that no single technology can deliver all the generation that is needed to meet new electricity demands. The report includes bioenergy with carbon capture as an essential method of the net zero pathway. Biomethane and biogas produced from anaerobic digestion of food waste, sewage sludge and animal manures is one means of bioenergy raised. The report states that biomethane and biogas methods combined could displace up to 10% of UK gas demand.

Relevant Material Considerations: National Planning Policy and Guidance

NPPF (July 2021)

- 2.9 The NPPF actively supports renewable and low carbon energy development, with the environmental objective supporting "*moving to a low carbon economy*" (Paragraph 8).
- 2.10 Multiple references are made in the NPPF in support of renewable energy infrastructure proposals and summarised below:
- 2.10.1 The Framework supports economic growth in rural areas including the sustainable growth and expansion of all types of business and the development and diversification of agriculture (Paragraph 28).
- 2.10.2 The planning system should support the transition to a low carbon future in a changing climate, improve resilience and support renewable and low carbon energy and associated infrastructure (Paragraph 152).

2.10.3 Plans should identify suitable areas for renewable and low carbon energy sources and supporting infrastructure to increase the supply of renewable and low carbon energy (Paragraph 155).

2.10.4 Applicants for renewable or low carbon energy development should not be required to demonstrate the overall need for renewable or low carbon energy and applications should be approved if the impacts are (or can be made) “*acceptable*” (Paragraph 158).

2.11 Paragraphs 174 to 208 emphasise the importance of preservation and enhancement of the built and natural environment. They set out detailed policy in respect of the assessment of the impact on landscape value, agricultural land, ground conditions, biodiversity and habitats, and the historic environment. These requirements were considered throughout the relevant assessments accompanying the Application.

EN-1: Overarching National Policy Statement for Energy (July 2011)

2.12 In the overarching Energy NPS the Government set out commitments to sourcing 15% of energy from renewable sources by 2020. It explains that to hit this target, and to largely decarbonise the power sector by 2030, it is necessary to bring forward new renewable electricity generating projects as soon as possible, stating that the need for new renewable electricity generation projects is urgent (Paragraph 3.4.5).

2.13 The NPS for Renewable Energy (EN-3) places further importance on renewable energy generation in a low-carbon economy.

2.14 Section 1.2.1 of NPS EN-1 and EN-3 makes it clear that these NPSs are likely to be material considerations in decision making on applications that fall under the Town and Country Planning Act 1990.

2.15 NPS EN-1 acknowledges (paragraph 2.2.1) that cutting greenhouse gas emissions and meeting government targets requires, amongst other methods, the prioritisation of sustainable bioenergy and cleaner power generation. Furthermore, paragraph 3.8.16 raises biogas as an opportunity for additional gas supply.

Draft National Policy Statement for Energy Infrastructure (“Draft NPS EN-1”) March 2023

2.16 The Draft NPS EN-1 states that different types of electricity infrastructure are needed to deliver the national energy objectives, including storage. New generating plants can deliver a low carbon and reliable system, but the increased flexibility provided by new storage and interconnectors is required to reduce costs in support of an affordable supply.

2.17 Paragraph 1.2.1 of Draft NPS EN-1 makes it clear that these NPSs are likely to be material considerations in decision making on applications that fall under the Town and Country Planning Act 1990.

2.18 There is an emphasis in paragraph 3.3.19 that there is a need for a diverse mix of electricity infrastructure. Paragraph 3.4.22 states:

“As of January 2021, biomethane is the only green gas commercially produced in the UK, and can be injected into the gas grid, following suitable upgrading processes, for use as a lower

carbon substitute for natural gas... The reasons for this small uptake include the high capital required for biomethane plants, access to gas injection points and lack of feedstock availability.”

National Planning Practice Guidance (“NPPG”) (March 2014 and updated thereafter)

- 2.19 The NPPG provides guidance on planning practice and advises that planning has an important role in the delivery of new renewable and low carbon energy infrastructure in locations where the local environmental impact is acceptable (Reference ID: 5-001-20140306).
- 2.20 Furthermore, in preparing local plans, local planning authorities should consider the potential to help meet the UK’s legal commitments to cut greenhouse gases and meet increased energy demand from renewable sources. (Reference ID: 5-003-20140306).

Relevant Material Considerations: National Energy Policy and related documents

Committee on Climate Change Net Zero Publications (May 2019)

Net Zero – The UK’s Contribution to Stopping Global Warming (May 2019)

- 2.21 In May 2019 the Committee on Climate Change published Net Zero – The UK’s Contribution to Stopping Global Warming. The report recommends a new target of net zero greenhouse gas emissions by 2050. This was passed into law in June 2019.
- 2.22 The report highlights the falling cost of key renewable technologies and advises that flexibility in the energy supply should be encouraged by policy and regulatory frameworks (page 46).

Net Zero - Opportunities for the power sector (March 2020)

- 2.23 The report was prepared by the National Infrastructure Commission to advise the Government. It explains that due to planned fossil fuel plant retirements in the 2020s there will be a gap in electricity generating capacity that needs to be filled. It emphasises that low carbon generation must fill this gap. Given their short lead times, renewables are ideally placed to do this.

Reducing UK Emissions: 2020 Progress Report to Parliament (June 2020)

- 2.24 Following assessment of a wide range of measures, the Climate Change Committee identified strengthening energy networks as one of five clear investment priorities.
- 2.25 It states that for anaerobic digestion, priority should be given to injection of biomethane into the gas grid, in line with BEIS recent 'Future Support for Low Carbon Heat' proposals.
- 2.26 Additionally, in response to the need to recover in economic terms following COVID 19, the report suggests there should be early support for local authorities to invest in waste collection, re-use and recycling infrastructure is required, including diverting food and garden waste to anaerobic digestion and composting facilities.
- 2.27 The report states in regard to delivering low-carbon land use and reducing waste by strengthening the Agriculture and Environment Bills that local authorities and private waste management firms need to urgently invest in collection infrastructure and new recycling, composting and anaerobic digestion facilities. There must be sufficient treatment capacity

made available before the landfill ban for biodegradable wastes comes into force, so that increases in incineration or exports are avoided.

Ten Point Plan for a Green Industrial Revolution (November 2020)

- 2.28 The Government set out a 10 point plan to lay the foundations to meet its legal obligation to reach net zero greenhouse emissions by 2050 and encourage a Green Industrial Revolution. A key focus of this plan is to invest in clean technologies.

National Infrastructure Strategy: Fairer, Faster, Greener (November 2020)

- 2.29 This provides the latest Government infrastructure strategy and prioritises decarbonising the economy as one of the key principles of the strategy.
- 2.30 It makes reference to the new Green Gas Support Scheme to support the production and injection of green gas (biomethane) into the grid, funded through a Green Gas Levy.
- 2.31 Additionally, it states that to meet the UK climate goals, amongst other strategies, this will require repurposing the grid to green gases (biomethane or hydrogen). It does state it is not yet clear which of these strategies will be best, and it is possible that a variety of solutions will be required for different properties, or in different areas of the country.

Energy White Paper (EWP) (December 2020)

- 2.32 Following on from the Ten Point Plan and the National Infrastructure Strategy, the EWP reiterates the need to act now to achieve the 2050 net zero emissions target.
- 2.33 The paper refers to Green Gas Support Scheme (GGSS) which launched in autumn 2021 and runs for four years. This supports continued deployment of anaerobic digestion biomethane plants in order to increase the proportion of green gas in the grid. This scheme will be designed to minimise any associated negative environmental impacts from the anaerobic digestion process, such as ammonia emissions.

Industrial Decarbonisation Strategy (March 2021)

- 2.34 The Government strategy seeks to show how the UK can have a thriving industrial sector aligned with the net zero target and how the Government will act to facilitate this through support and investment in low carbon technologies.
- 2.35 It states that biogas to fuel direct combustion or combined heat and power projects are supported where the site is based off the gas grid, and injection of the fuel into the grid would not be feasible.

Upgrading our Energy System: Transitioning to a Net Zero Energy System: Smart Systems and Flexibility Plan (July 2021)

- 2.36 The Department for BEIS published the 'Smart Systems and Flexibility Plan 2021' in conjunction with Ofgem to set out a vision for delivering flexible electricity systems underpinning energy security and the transition to a net zero 2050. On page 5 it states that around 30 GW of total low carbon flexible capacity in 2030, and 60 GW in 2050, may be needed to maintain energy security and cost-effectively integrate high levels of renewable generation.

The Development Plan and Other Material Considerations

- 2.37 The Development Plan comprises Local Plan documents adopted between 2011 and 2015 and includes clear and direct support for renewable energy projects. The Development Plan is more than 5 years old, meaning that due weight should be given to relevant policies in existing plans according to their consistency with the National Planning Policy Framework.
- 2.38 Since this time, the need for renewable energy has increased significantly, which is clear from the documents referred to above. The proposal would be of clear benefit economically and in terms of renewable energy production and those considerations carry very substantial weight in favour of the proposal, which is positively supported by both the NPPF and Draft EN-1.
- 2.39 The weight to be applied to both the policies of the Development Plan and other material considerations is a matter for the decision maker, however there are a number of appeal precedents that support that substantial weight should be given to the renewable energy benefits of a scheme. An appeal against the refusal of Park Farm, Market Weighton Road, Holme-upon-Spalding Moor (Ref: APP/E2001/W/19/3223211) to grant planning permission for the construction and operation of an anaerobic digestion plant notes that:
- “The proposed development would have public benefit in providing a source of renewable energy and this is supported in national and local policy. Furthermore, it would provide economic and environmental benefits consistent with sustainable development objectives set out in the Framework. These are significant material considerations to which I give substantial weight. However, the Framework is clear that all renewable energy and low carbon schemes are not to be supported regardless of any harm that they may cause. Therefore, it is necessary to ensure that the impact of the proposal is acceptable in all respects.”*
- 2.40 Since this appeal, the Draft EN-1 has been published in March 2023, which, amongst other things is responding to the energy crisis in the UK. Draft EN-3 has confirmed (paragraph 3.1.1) that the ‘government sees a need for significant amounts of new large-scale energy infrastructure to meet its energy objectives and why the government considers that the need for such infrastructure is urgent’. This would indicate that the benefits of renewable energy project would be very significant, which should now be afforded very substantial weight in the determination process.

3 Overview of the Appeal Scheme

Pre-application engagement

- 3.1 The Appellant is aware that pre-application engagement and frontloading of consultation is strongly encouraged by the NPPF (Paras 39 to 46). Throughout the evolution of the project, the Appellant has sought to engage with SNC, statutory and other consultees, and local residents to help shape the proposals and to address concerns that have been raised. In fact, the changes made to the scheme between 2015 and 2022 are a direct result of the Appellant's ongoing approach to engagement.
- 3.2 Pre-application engagement was undertaken between the Appellant and SNC, statutory and other consultees, and local residents prior to the submission of the 2015 Planning Permission, which has then influenced the proposal set out in this Appeal Scheme.
- 3.3 The process comprised the following methods of engagement:
- Pre-application consultation with SNC and statutory stakeholders before the 2015 Planning Application was submitted;
 - Consultation with local households informing local residents and businesses about the proposals; and
 - Formal consultation during the determination periods of the 2015 planning permission, along with the 2022 Refused Scheme.
- 3.4 Since the refusal of the Appeal Scheme, the appellant has continued to work with the Council to work through outstanding areas of disagreement.

Summary of the 2015 Planning Permission

- 3.5 The Council granted planning permission for "*Construction of a farm agricultural anaerobic digestion facility*" at the Site on 22 October 2015 under reference 2015/0595 ("**2015 Permission**").
- 3.6 The 2015 Planning permission relates to a 2.6ha site that comprised:
- 3.6.1 two domed storage tanks, around 6m high from ground level (13m to the top of the dome), and approximately 31m in diameter;
 - 3.6.2 a digester tank, approximately 7m from ground level (13m to the top of the dome), and 29m in diameter
 - 3.6.3 a liquid storage tank, approximately 9.7m in diameter and 3m high above ground level
 - 3.6.4 a feed stock hopper 4.5 metres in height,
 - 3.6.5 a CHP unit, pump room, flare 10 metres from ground level, upgrading containers, a solid separator 5.5 m in height and four tapered silage clamps with 5m high walls.

3.6.6 new access site to the development off Common Road to the east of the site.

Refused Scheme

3.7 Whilst it is maintained that the 2015 Planning Permission has been commenced and is capable of being implemented, the Appeal Scheme was promoted to enhance and optimise the development. These enhancements include:

3.7.1 A secondary containment area to reflect changes in guidance issued by the Environment Agency, which would provide enhanced protection to the environment;

3.7.2 An additional lagoon, to address requirements issued in the Farming Rules for Water (2018)²;

3.7.3 CO₂ recovery and storage equipment added in response to shortages in the supply of CO₂ in the UK;

3.7.4 A revised layout to locate the domed storage tanks on a lower part of the site and to reflect additional site investigation work undertaken since 2015

3.7.5 Additional landscape screening to help better screen the development;

3.8 The Appeal Scheme was validated by the Council on 23 June 2022 and given reference 2022/1108. The Application sought permission for:

“construction of an Anaerobic Digestion facility (part retrospective), comprising: 1 no. digester tank and 1 no. secondary digester/digestate storage tank, silage clamps; liquid and dry feed system; digestate separation, handling and pasteurization; biogas upgrading and mains gas-grid connection; carbon capture; CHP; agricultural building; office buildings; weighbridge; 2 no. covered digestate storage lagoons; and associated plant, vehicular accesses, roads and landscaping (including earth bunds)”

3.9 The Appeal Scheme can be summarised as follows:

3.9.1 two main domed tanks (digester tank and secondary digester/digestate tank), set into the ground³.

- Digester: 35.6m external diameter; maximum wall height of 6.6m above relative ground level; 10.89m (AGL) dome height, or 14.9m (AGL) maximum inflatable dome height.
- Secondary Digester/Digestate Store: 35.6m external diameter; maximum wall height of 6.7m above relative ground level; 10.67m to the top of the dome

² The Guidance document and the Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018.

³ Ground level in this area is approximately 1.5m lower than the location defined by the 2015 Planning Permission.

(above relative ground level), with a maximum (inflatable) dome height of 15.2m.

- 3.9.2 Containerised equipment for the natural gas CHP, gas upgrading and grid entry equipment;
- 3.9.3 The silage clamp area has been reduced from 9,225m² (2015 Planning Permission) to 7,140m²;
- 3.9.4 Addition of a manure storage building;
- 3.9.5 Addition of CO₂ Recovery and Storage equipment;
- 3.9.6 Addition of a fire water lagoon (triangular shape). This will also form part of the site's drainage, with site rainwater harvested and recycled for use on site where possible;
- 3.9.7 Additional surface water drainage (swale);
- 3.9.8 Additional landscaping/bunds;
- 3.9.9 Approved vehicular access from Common Road for operational purposes.

Comparison between the 2015 Planning Permission and the Refused Scheme

- 3.10 A principal goal of both the 2015 permission and this Appeal Scheme is to enable the provision of an anaerobic digestion facility, which could produce up to 39,000MWh of renewable energy (biomethane), which could serve approximately 3,250 homes. The Committee Report of the 2015 Planning Permission (paragraph 5.2) concluded that:

'The benefits of exploiting a renewable resource in the national interest are not outweighed by demonstrable harm to the locality. The proposal will not cause a hazard or inconvenience to users of the public highway. Subject to the conditions the proposal will not have an adverse impact on the character, appearance or amenity of the area and is therefore recommended for approval'

- 3.11 The same Committee Report also noted that at the time of determination, the development plan did not provide a positive strategy that dealt with renewable energy projects. In the period since the 2015 Planning Permission was approved, there have been significant changes to the planning policy framework, establishing a clear and urgent need for new renewable energy, as set out in Section 2 of this note.
- 3.12 Energy security is now nationally important, whilst climate change is the single most important issue facing the planet. The scale and urgency of the challenge to the UK in meeting our zero carbon commitment is unparalleled. Renewable energy has an increasingly important role to play, and biomethane and biogas methods combined could displace up to 10% of UK gas demand⁴. It is therefore clear that since the 2015 Planning Permission, the planning policy

⁴ The Committee on Climate Change: The Sixth Carbon Budget (December 2020)

position in respect of the proposed development has become stronger and now benefits from direct support at both national and local levels.

3.13 In broad terms, the physical aspects of the two schemes are comparable, with the key changes as follows:

3.13.1 The number of domes has reduced from three to two, but maintaining a similar total footprint;

3.13.2 The height of the domes has remained similar, with the 2015 PP including a 12m maximum dome height and the Refused Scheme having heights of 10.89m and 10.67m AGL, or 14.9m or 15.2m when fully inflated. The maximum AOD heights are broadly the same, as the Appeal Scheme located the domes on ground that is approximately 1.5m lower than where the 2015 PP would locate the three structures.

3.13.3 The Appeal Scheme includes CO₂ recovery and storage equipment.

3.13.4 Additional landscape, bunds, secondary containment area, storage lagoon, surface water drainage and a fire lagoon have been included.

3.13.5 The site area has increased from 2.6ha to 5.7ha, to take account of the additional landscape works, lagoons and CO₂ recovery and storage equipment. Whilst the site area has increased, the overall proportion of the site that would remain open and free of buildings or structures would remain comparable to the 2015 Planning Permission.

4 Planning Benefit

- 4.1 Draft NPS EN1 states in paragraph 3.4.19 that smaller anaerobic digestion (AD) facilities in rural areas feeding their biomethane into a single injection point on the gas grid can be a way to overcome current barriers to the potential role of biomethane. This is needed to ensure that the UK can continue to have a stable supply of energy. Supporting biogas, a form of renewable energy that has significant potential in contributing to the UK's energy mix, is therefore both consistent with and supported by up to date government policy.
- 4.2 The Appeal Scheme is therefore considered to provide an important opportunity to secure an underutilised form of renewable energy, which is both consistent with and directly supported by Government policy.

Renewable Energy:

- 4.3 The Government has set a legally binding target for at least a 100% reduction in greenhouse gas emissions (compared to 1990 levels) in the UK by 2050. This is known as 'net zero'.
- 4.4 Section 1.6.1 of Draft NPS EN-1 makes it clear that any emerging draft NPSs are capable of being important and relevant considerations in the decision-making process. Section 1.2.1 of Draft NPS EN-1 and EN-5 makes it clear that these NPSs are likely to be material considerations in decision making on applications that fall under the Town and Country Planning Act 1990.
- 4.5 There is an emphasis in paragraph 3.3.8 that there is a need for a diverse mix of electricity infrastructure.
- 4.6 Draft NPS EN1 states in paragraph 3.4.22 biomethane is the only green gas commercially produced in the UK. Anaerobic digestion (AD) facilities feeding biomethane into a single injection point on the gas grid can therefore be a way to overcome current barriers to the deployment of biomethane.
- 4.7 The Appeal Scheme would make an important contribution to the UK's energy needs, helping to diversify. The Appeal Scheme would provide the following benefits:
 - 4.7.1 **Biogas:** Anaerobic digester facility would produce up to 39,000MWh of renewable energy (biomethane), which is enough energy to serve approximately 3,250 homes.
 - 4.7.2 **Carbon reductions from biogas:** As set out in the Planning Balance notes (October 2022), the proposed development is expected to save at least 4,835,000kg of CO₂ per annum (based upon a CO₂ output from burning gas of 0.185kg/kWh)⁵, which is the equivalent of removing 9,500,000 road car miles per year.

⁵ Note that the potential saving quoted in the Committee Report and the Design and Access / Planning Statement was 7,215,000kg of CO₂ per annum, which was not correct.

4.7.3 **Reduction in diffuse pollution:** the proposed development would replace open field storage and spreading of manure, which is the largest contributor to diffuse pollution in the UK.

4.8 These benefits are considered to amount to very significant benefits that would only come about if the Appeal Scheme is allowed. The benefits are both consistent with and positively promoted by both the Development Plan, NPPF and Draft EN-1 and are therefore considered to carry very substantial weight in the determination of the Appeal Scheme.

Economic and Employment

4.9 As set out in paragraph 81 of the NPPF, significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.

4.10 If allowed, the Appeal Scheme would lead to a range of significant economic growth and employment benefits. These include:

4.10.1 Support the diversification of agricultural, as supported by paragraph 28 of the NPPF, which will maintain the number of jobs the site currently supports;

4.10.2 Create 3 new full time jobs, along with a number of additional indirect jobs that will be associated with the maintenance of the plant and equipment on site;

4.10.3 Reduce costs of haulage for local farms by reducing road miles, as materials are currently sent longer distances; and

4.10.4 Production of biomethane, a form of biogas, will reduce the UK's reliance on imported oil and gas and make sustainable economic use of an underutilised form of renewable energy, and make a contribution towards reducing energy cost inflation.

4.11 The Appeal Scheme also includes CO₂ recovery and storage equipment, which could supply UK food, beverage and medical sector with CO₂. As reported in the media in 2022⁶, food and drink industry bodies have recently reported concerns over shortages of supply, due to import and production issues. New, UK based CO₂ production in the form of the Appeal Scheme would therefore provide an important benefit to the local economy, and the UK.

Landscape and biodiversity:

4.12 Policy DM4.1 states that 'Permission will be granted where there are no significant adverse effects or where any adverse effects are outweighed by the benefits'.

4.13 The appeal scheme is not a Schedule I EIA development and falls below the thresholds indicated by Schedule 2 (Column 1, Part 3: Energy Industry), and therefore unlikely that the project would result in the potential for significant adverse environmental effects. The

⁶ <https://www.theguardian.com/business/2022/aug/25/co2-producers-meet-food-needs-halt-production-energy-prices>

Committee Report for the 2015 Planning Permission (paragraph 4.38) confirmed that the development was not expected to lead to significant environmental effects. Given the similarities of the Appeal Scheme to the 2015 Planning Permission, it is unlikely that the Appeal Scheme would lead to any significant environmental effects.

4.14 The LVIA demonstrates that the proposed development is acceptable given that the long-term landscape impacts are judged to range between low and beneficial, and the long-term visual impacts are judged to range between medium-low and beneficial. It is therefore considered that there are no unacceptable landscape or visual impacts associated with the proposed development.

4.15 In fact, the Appeal Scheme is expected to lead to a number of wider benefits, such as:

4.15.1 **Biodiversity Net Gain:** As set out in the submitted biodiversity metric 3.0 calculation tool⁷, the proposed development will secure at least 34% BNG. A revised landscape scheme would be secured by planning condition, which is expected to lead to a BNG that is substantially greater than 34%.

4.15.2 **Landscape and biodiversity enhancements:** 1.5km of new hedgerows, 50 new trees and a landscaped bund.

Highways and Traffic

4.16 Policy DM3.11 provides:

On all sites development will not be permitted that endangers highway safety or the satisfactory function of the highway network.

Planning permission will be granted for development involving the formation or intensified use of a direct access onto a Corridor of Movement providing it would not:

Prejudice the safe and free flow of traffic or planned proposals for sustainable transport initiatives along the Corridor of Movement;

Be practical to gain access from the site to the Corridor of Movement via a secondary road; and

Facilitate the use of the Corridor of Movement for short local journeys.”

Policy 6 of the JSC provides for “protection of the function of strategic transport routes (corridors of movement)”.

4.17 The Statement of Case sets out the traffic and highway issues considered in the Appeal Scheme. The Transport Assessment Addendum (Table 3.8) clearly demonstrates that there

⁷ Biodiversity metric 3.0 calculation tool: https://info.south-norfolk.gov.uk/online-applications/files/F42BAF2B6A613C94CFE3BD1EAFF3203/2022_1108-BIODIVERSITY_METRIC_3.0_CALCULATION_TOOL-7321465.xlsm

would be a substantial net reduction in total two-way vehicle movements, which would provide a demonstrable benefit associated with the Appeal Scheme.

- 4.18 The existing application site is estimated to generate 5,125 two way trips per annum, with the proposed development would generate 4,141 two way trips, a net reduction of 984 two way trips per annum.
- 4.19 The TA Addendum notes that two-way heavy commercial vehicle (HCV) movements per annum would increase from 636 HCV movements to 778 HCV movements, a net increase of 142 two way trips. On the basis of some 305 receiving days at the site per annum, this increase in HCVs equates to a minor increase on average of 0.4 additional HCV movements per operating day.
- 4.20 These figures do not take account of the additional consequential reductions in traffic movements that are indirectly linked to the proposed development. For example, the use of digestate generated by the AD plant would reduce the quantum of fertilizers imported to the farm overall. The increase in grass yield at the farm for the AD plant would necessarily require a reduction in the yield of sugar beet. As sugar beet is exported by commercial vehicles as a food crop, it can be reasonably assumed that there would be a further proportionate reduction in commercial vehicles associated with the change in cropping.
- 4.21 The Appeal Site benefits from well-established links to the A1066 and the B1077. In response to concerns raised by local residents in relation to road safety, a package of measures are proposed to improve highway safety associated with heavy commercial vehicles (HCV) to and from the site. These measures include:
- 4.21.1 **Dedicated Site Access:** A site access to Common Road (granted planning permission by the 2015 Scheme) would provide the main site access. Internal access is then for vehicles transferring material between the farm and the proposed development.
- 4.21.2 **HCV Routes:** A defined HCV route that routes north of the A1066 via Halford Lane to The Valley. The route avoids the main settlement, the proposed haul route minimises impacts on the local community by routing away from the village centre and local school. These routes would be secured through a Traffic Monitoring and Management Plan, or suitably worded planning condition.
- 4.21.3 **Passing Places:** A suite of passing places and associated works is proposed along the haul route to improve the going along the route for all vehicles, as well as to appropriately accommodate the HCV traffic associated with the AD plant. Plans detailing the proposals were presented in Appendix F of the Transport Statement Addendum. These measures are anticipated to be secured by planning condition and delivered pursuant to a S.278 agreement, where such works are within the boundary of the public highway.
- 4.22 Paragraph 111 of the NPPF make it clear that development should only be refused 'on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

4.23 It is clear that the development is not expected to lead to any unacceptable traffic impacts. In fact, the transport enhancement measures, set out above and the offsite highway improvements, would secure robust and enforceable controls that will ensure that the proposed traffic routes to the Site are adequate and the level of traffic generated by the development would not prejudice the satisfactory function of the highway, or highway safety.

5 Conclusion

- 5.1 This appeal is against the refusal of the 2022 Planning Application for an anaerobic digestion facility, which would provide urgently needed forms of renewable energy generation, along with the associated CO2 production.
- 5.2 Energy security is now nationally important, whilst climate change is the single most important issue facing the planet. The scale and urgency of the challenge to the UK in meet our zero carbon commitment is unparalleled. Renewable energy has an increasingly important role to play, and biomethane and biogas methods combined could displace up to 10% of UK gas demand⁸.
- 5.3 Draft NPS EN1 states in paragraph 3.4.22 biomethane is the only green gas commercially produced in the UK. Anaerobic digestion (AD) facilities feeding biomethane into a single injection point on the gas grid can therefore be a way to overcome current barriers to the deployment of biomethane. This is needed to ensure that the UK can continue to have a stable supply of energy.
- 5.4 The Appeal Scheme is therefore considered to provide an important opportunity to secure an underutilised form of renewable energy, which is both consistent with and directly supported by Government policy.
- 5.5 The proposed development comprises the construction of a biomass fuelled anaerobic digestion facility, which would:
 - 5.5.1 convert locally sourced biomass to create biomethane;
 - 5.5.2 capture of carbon from the process and liquify it for use in the food, drink and cement industry; and
 - 5.5.3 create organic biofertilizer.
- 5.6 This Statement of Case provides an assessment of the Proposed Development against the Development Plan, concluding that it accords with the Development Plan, read as a whole, and is further supported by other material considerations including the NPPF and Government and Local policy supporting the transition to a low carbon electricity network.
- 5.7 SNC granted planning permission for the 2015 Planning Permission, however, the Appeal Scheme, which is similar, was then refused planning permission due to unacceptable highway impacts (Reason 1 and Reason 2), unacceptable landscape impact (Reason 3) and insufficient planning benefits to outweigh the identified harms (Reason 4)..
- 5.8 In terms of impacts on landscape, the landscape effects are considered acceptable, with impacts limited due to the existing and proposed screening and topography immediately

⁸ The Committee on Climate Change: The Sixth Carbon Budget (December 2020)

adjacent to the Appeal Site. The Appeal Scheme has been designed and laid out to respond to and minimise impacts to the wider landscape character.

5.9 In summary, the Appeal Scheme would directly secure the following potent benefits:

5.9.1 **Biogas:** Anaerobic digester facility would produce up to 39,000MWh of renewable energy (biomethane), which is enough energy to serve approximately 3,250 homes.

5.9.2 **Carbon reductions from biogas:** As set out in the Planning Balance notes (October 2022), the proposed development is expected to save at least 4,835,000kg of CO₂ per annum (based upon a CO₂ output from burning gas of 0.185kg/kWh), which is the equivalent of removing 9,500,000 road car miles per year.

5.9.3 **Economic benefits:** including the creation of 3 new full time jobs, along with a number of additional indirect jobs, along with making economic use of an underutilised form of renewable energy, and make a contribution towards reducing energy cost inflation.

5.9.4 **CO₂ recovery and storage equipment:** would supply UK food, beverage and medical sector with CO₂, which would therefore provide an important benefit to the local economy, and the UK.

5.9.5 **Reduction in the use of chemical fertilisers:** a pasteurised, odourless, organic biofertilizer (dry and liquid digestate fractions) will be produced from the anaerobic digestion process to replace imported chemical fertilisers.

5.9.6 **Reduction in diffuse pollution:** the proposed development would replace open field storage and spreading of manure, which is the largest contributor to diffuse pollution in the UK.

5.9.7 **Biodiversity Net Gain:** As set out in the submitted biodiversity metric 3.0 calculation tool, the proposed development will secure at least 34% BNG, which would be secured by planning condition.

5.9.8 **Landscape Enhancements:** 1.5km of new hedgerows, 50 new trees and a landscaped bund.

5.9.9 **Highway improvements:** the package of highway measures, such as the suite of passing places, would help reduce highway safety concerns current users may experience.

5.9.10 **Traffic reductions:** a net reduction of 984 two way trips per annum, with further reductions anticipated associated with the in the quantum of fertilizers imported to the farm overall.

5.10 All planning policies cited by SNC, in so far as they relate to the reasons for refusal, are considered to have been addressed and complied with. Section 4 of this note considers that the project is not expected to give rise to unacceptable highway or landscape impacts.

- 5.11 In light of the urgent need for new sources of renewable energy, the planning benefits of the Proposed Development are considered to be very significant and should be given very substantial weight in the overall planning balance. As recognised when SNC granted planning permission for the 2015 Scheme, the Proposed Development would deliver national benefits associated with the delivery of new renewable energy for the UK, which would more than outweigh any localised impact that the project may give rise to.
- 5.12 Therefore, the Proposed Development should be granted planning permission in accordance with the statutory presumption as set out in Section 38(6) of the Planning and Compulsory Purchase Act 2004.



Quod

Annex 1

**NPS EN-1
Extract**

Deal Farm

Overarching National Policy Statement for Energy (EN-1)

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Part 1 Introduction

1.1 Background

- 1.1.1 This National Policy Statement (NPS) sets out national policy for the energy infrastructure defined in Section 1.3 below. It has effect, in combination with the relevant technology-specific NPS (see paragraph 1.4.1), on the decisions by the Infrastructure Planning Commission (IPC) on applications for energy developments that fall within the scope of the NPSs. For such applications this NPS, when combined with the relevant technology-specific energy NPS, provides the primary basis for decisions by the IPC. Under the Planning Act 2008¹ the IPC must also have regard to any local impact report submitted by a relevant local authority, any relevant matters prescribed in regulations, the Marine Policy Statement (MPS) and any applicable Marine Plan, and any other matters which the IPC thinks are both important and relevant to its decision.
- 1.1.2 The Planning Act 2008 also requires that the IPC must decide an application for energy infrastructure in accordance with the relevant NPSs except to the extent it is satisfied that to do so would:
- lead to the UK being in breach of its international obligations;
 - be in breach of any statutory duty that applies to the IPC;
 - be unlawful;
 - result in adverse impacts from the development outweighing the benefits; or
 - be contrary to regulations about how its decisions are to be taken.
- 1.1.3 Applicants should therefore ensure that their applications, and any accompanying supporting documents, are consistent with the instructions and guidance in this NPS, the relevant technology-specific NPS and any other NPSs that are relevant to the application in question.

1.2 Role of this NPS in the planning system

- 1.2.1 This NPS, and in particular the policy and guidance on generic impacts in Part 5, may be helpful to local planning authorities (LPAs) in preparing their local impact reports. In England and Wales this NPS is likely to be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended). Whether, and to what extent, this NPS is a material consideration will be judged on a case by case basis.
- 1.2.2 Under the Marine and Coastal Access Act 2009, the Marine Management Organisation (MMO), will determine applications under s.36 and s.36A of the

¹ Section 104(2) Planning Act 2008.

Electricity Act 1989 where they relate to a generating station in waters adjacent to England and Wales or in a Renewable Energy Zone (except any part in relation to which Scottish Ministers have functions) provided that the application does not exceed the capacity threshold set out in the Planning Act 2008. The MMO will determine applications in accordance with the Marine Policy Statement (MPS) and any applicable marine plans, unless relevant considerations indicate otherwise. This NPS, in combination with the relevant technology-specific NPSs, may be a relevant consideration for the MMO when it is determining such applications. They may also be a relevant consideration in the preparation of relevant marine plans. The role of the MPS in relation to IPC decisions is set out at paragraph 4.1.6.

- 1.2.3 Further information on the relationship between NPSs and the town and country planning system, as well as information on the role of NPSs is set out in paragraphs 13 to 19 of the Annex to the letter to Chief Planning Officers issued by the Department for Communities and Local Government (CLG) on 9 November 2009².

1.3 Future planning reform

- 1.3.1 Aside from cases where the Secretary of State intervenes, or where the application is not covered by a designated NPS, the Planning Act 2008, as it is in force at the date on which this NPS was designated, provides that all applications for development consent will be both examined and determined by the IPC. However, the enactment and entry into force of the provisions of the Localism Bill (introduced into Parliament in December 2010) relating to the Planning Act would abolish the IPC. The functions of examining applications would be taken on by a new Major Infrastructure Planning Unit ("MIPU") within the Planning Inspectorate and the function of determining applications on major energy infrastructure projects by the Secretary of State (who would receive a report and recommendation on each such application from MIPU). In the case of energy projects, this function would be carried out by the Secretary of State for Energy and Climate Change.
- 1.3.2 If the Localism Bill is enacted and these changes take effect, references in this NPS to the IPC should be read as follows from the date when the changes take effect. Any statement about the IPC in its capacity as an examining body should be taken to refer to MIPU. Any statement about the IPC in its capacity as a decision-maker determining applications should be taken to refer to the Secretary of State for Energy and Climate Change in his capacity as decision-maker. MIPU would have regard to such statements in framing its reports and recommendations to the Secretary of State.

1.4 Scope of the Overarching National Policy Statement for Energy

- 1.4.1 This Overarching National Policy Statement for Energy (EN-1) is part of a suite of NPSs issued by the Secretary of State for Energy and Climate Change. It sets out the Government's policy for delivery of major energy infrastructure. A further five technology-specific NPSs for the energy sector

2 <http://www.communities.gov.uk/publications/planningandbuilding/letternpsconsultation>

cover: fossil fuel electricity generation (EN-2); renewable electricity generation (both onshore and offshore) (EN-3); gas supply infrastructure and gas and oil pipelines (EN-4); the electricity transmission and distribution network (EN-5); and nuclear electricity generation (EN-6). These should be read in conjunction with this NPS where they are relevant to an application.

- 1.4.2 The Planning Act 2008³ sets out the thresholds for nationally significant infrastructure projects (NSIPs) in the energy sector. The Act empowers the IPC to examine applications and make decisions on the following nationally significant energy infrastructure projects:
- electricity generating stations generating more than 50 megawatts onshore and 100 megawatts offshore. This includes generation from fossil fuels, wind, biomass, waste and nuclear. For these types of infrastructure, the Overarching NPS (EN-1) in conjunction with the relevant technology-specific NPSs (EN-2 on fossil fuel generating stations, EN-3 on renewable energy infrastructure or EN-6 on nuclear power generation as appropriate) will be the primary basis for IPC decision making;
 - electricity lines at or above 132kV. For this infrastructure, EN-1 in conjunction with the Electricity Networks NPS (EN-5) will be the primary basis for IPC decision making;
 - large gas reception and liquefied natural gas (LNG) facilities and underground gas storage facilities (meeting the thresholds set out in the Planning Act 2008, and explained in detail in Section 1.7 of the gas supply infrastructure and gas and oil pipelines NPS (EN-4)). For this infrastructure EN-1 in conjunction with EN-4 will be the primary basis for IPC decision making; and
 - cross-country gas and oil pipelines and Gas Transporter pipelines (meeting the thresholds and conditions set out in the Planning Act 2008 and Section 1.7 of EN-4). For this infrastructure EN-1 in conjunction with EN-4 will be the primary basis for IPC decision making.
- 1.4.3 The Planning Act 2008 enables the IPC to issue a development consent order including consent for development which is associated with the energy infrastructure listed above (subject to certain geographical and other restrictions set out in Section 115 of the Act). The Secretary of State has issued guidance to which the IPC must have regard in deciding whether development is associated development. EN-1, in conjunction with the relevant technology-specific NPS, will be the primary basis for IPC decision making on associated development. The IPC will not consent associated development in Wales, with the exception of certain development associated with underground gas storage facilities for the storage of gas in natural porous strata by a gas transporter (as set out in more detail in EN-4).
- 1.4.4 The Planning Act 2008 enables the IPC to issue a development consent order that can make provision relating to, or to matters ancillary to, the development of the energy infrastructure listed above. This may include, for example, the granting of wayleaves, the authorisation of tree lopping and the compulsory purchase of land. EN-1 in conjunction with the relevant

³ Part 3 Planning Act 2008.

Environmental Assessment (SEA) Directive (2001/42/EC). The AoSs for EN-1 to EN-5 have been revised substantially to take account of comments made in response to the consultation which took place between November 2009 and February 2010. The purposes and methods of the AoSs are explained in the revised draft of the AoS for EN-1. Their primary function is to inform consultation on the draft NPSs by providing an analysis of the environmental, social and economic impacts of implementing the energy NPSs by granting development consents for large-scale energy infrastructure projects in accordance with them. A non-technical summary of each AoS has also been published for the benefit of non-specialist readers.

1.7.2 Some key points from the AoS for EN-1 are set out below.

- The energy NPSs should speed up the transition to a low carbon economy and thus help to realise UK climate change commitments sooner than continuation under the current planning system. However there is also some uncertainty as it is difficult to predict the mix of technology that will be delivered by the market against the framework set by the Government.
- The energy NPSs are likely to contribute positively towards improving the vitality and competitiveness of the UK energy market by providing greater clarity for developers which should improve the UK's security of supply and, less directly, have positive effects for health and well-being in the medium to longer term through helping to secure affordable supplies of energy and minimising fuel poverty; positive medium and long term effects are also likely for equalities.
- The development of new energy infrastructure, at the scale and speed required to meet the current and future need, is likely to have some negative effects on biodiversity, landscape/visual amenity and cultural heritage. However the significance of these effects and the effectiveness of mitigation possibilities is uncertain at the strategic and non-locally specific level at which EN-1 to EN-5 are pitched. Short-term construction impacts are also likely through an increased use of raw materials and resources and negative effects on the economy due to impacts on existing land and sea uses. In general, it should be possible to mitigate satisfactorily the most significant potential negative effects of new energy infrastructure consented in accordance with the energy NPSs, and they explain ways in which this can be done; however, the impacts on landscape/visual amenity in particular will sometimes be hard to mitigate.

1.7.3 There may also be cumulative negative effects on water quality, water resources, flood risk, coastal change and health at the regional or sub-regional levels depending upon location and the extent of clustering of new energy and other infrastructure. Proposed energy developments will still be subject to project level assessments, including Environmental Impact Assessment, and this will address locally specific effects. The energy NPSs set out mitigation for cumulative negative effects by requiring the IPC to consider accumulation of effects as a whole in their decision-making on individual applications for development consent.

- 1.7.4 The conclusions of the AoS for the nuclear power NPS (EN-6), which contains more detailed analysis of impacts because EN-6 designates sites potentially suitable for development, are set out in EN-6.
- 1.7.5 As required by the SEA Directive, Part 3 of the AoS of EN-1 also includes an assessment of reasonable alternatives to the policies set out in EN-1 at a strategic level. In particular, this involved a generic assessment of alternatives which placed more emphasis on three key drivers of policy which are highly relevant to the planning context: securing low cost energy (Alternative A1); reducing greenhouse gas emissions (Alternative A3); and reducing other environmental impacts of energy infrastructure development (Alternative A4). There are many different possible changes which could be made to the individual planning policies set out in EN-1 to EN-5, and very large numbers of possible combinations of those different possible policies. However, any change which was consistent with the overall aims of the energy policies that the consenting of new infrastructure in accordance with the energy NPSs is intended to help achieve, would be motivated by the desire to do more in one or more of the areas represented by Alternatives A1, A3 or A4.
- 1.7.6 Alternative A1 – placing more emphasis on a low cost of energy – would:
- be likely to have an adverse effect on security of supply if it resulted in greater reliance on imports of fossil fuel or reduced the diversity of energy types;
 - indirectly increase carbon emissions if lower energy costs stimulated activity in the wider economy;
 - have beneficial effects on the economy and indirectly on human health and well-being because of the stimulus of lower energy costs;
 - be likely to have adverse effects on features of the built and natural environment that are not protected by statutory designations.
- Although these effects will be local, their cumulative effect over a programme of energy development might be significant.
- 1.7.7 Alternative A1 compares unfavourably with EN-1 in relation to those aspects of sustainable development which are particularly relevant to achievement of underlying energy policy objectives. It has therefore been rejected.
- 1.7.8 Alternative A3, placing more emphasis on a reduction in CO₂ emissions would, by definition be beneficial from a climate change point of view. There is also the possibility that it may compare favourably with EN-1 from a human health and well-being and economic perspective.
- 1.7.9 However it is not clear that it would be possible to give practical effect to such an alternative through the planning system in the next ten years or so without risking negative impacts on security of supply. Equally the planning policies in the energy NPSs as drafted do not put any unjustified barriers in the way of the development of low carbon energy infrastructure (or the networks infrastructure needed to support it). Accordingly, Alternative A3 has not been preferred to EN-1 at this stage, but Government is actively considering other ways in which to encourage industry to accelerate

progress towards a low carbon economy, particularly through the Electricity Market Reform project (see Section 2.2 of this NPS).

- 1.7.10 Alternative A4, placing more emphasis on reducing other environmental impacts, would:
- be beneficial for the natural and built environment;
 - present risks to energy security because more stringent environmental requirements could delay the approval and development of new energy projects.
- 1.7.11 As noted above, the principal area in which consenting new energy infrastructure in accordance with the energy NPSs is likely to lead to adverse effects which cannot always be satisfactorily mitigated is in respect of landscape and visual effects. EN-1 already contains policies which severely limit the prospects for development of large-scale energy infrastructure in the most attractive landscapes and townscape. Tightening the development consent policies in EN-1 to make it harder for energy infrastructure to be consented which would have adverse landscape or townscape effects would be likely to make it significantly more difficult to gain consent for a range of large-scale energy infrastructure projects. Alternative A4 is not to be preferred to EN-1, at least until such time as it becomes clear that levels of need for new large-scale energy infrastructure are very much lower than Government anticipates that they will be for the foreseeable future.
- 1.7.12 Because all the alternatives are assessed as performing less well than EN-1 against one or more of the criteria for climate change or security of energy supply that are fundamental objectives of the plan, the Government's preferred option is to take forward the energy NPS EN-1 and the technology-specific NPSs EN-2 to EN-6. (Further assessment of technology-specific policy alternatives is set out in the AoSs for EN-2 to EN-6.)
- 1.7.13 Habitats Regulation Assessments (HRA) have been carried out and published for the non-locationally specific NPSs EN-1 to EN-5 and for EN-6 which does specify sites suitable for development. As EN-1 to EN-5 do not specify locations for energy infrastructure, the HRA is a high-level strategic overview. Although the lack of spatial information within the EN-1 to EN-5 made it impossible to reach certainty on the effect of the plan on the integrity of any European Site, the potential for proposed energy infrastructure projects of the kind contemplated by EN-1 to EN-5 to have adverse effects on the integrity of such sites cannot be ruled out. The HRA explains why the Government considers that EN-1 to EN-5 are, nevertheless, justified by imperative reasons of overriding public interest, while noting that its conclusions are only applicable at the NPS level and are without prejudice to any project-level HRA, which may result in the refusal of consent for a particular application. Section 1.7 of EN-6 sets out details of the nuclear HRA.

Part 2 Government policy on energy and energy infrastructure development

2.1 Introduction

- 2.1.1 This Part outlines the policy context for the development of nationally significant energy infrastructure. It reflects the commitment in the Coalition Programme for Government to take forward the energy NPSs and the policies outlined in the first Annual Energy Statement made to Parliament in July 2010⁴. The Annual Energy Statement presented a clear statement of Government objectives, crucial to meeting key goals on carbon emission reductions, energy security and affordability.
- 2.1.2 As explained in Part 3, energy is vital to economic prosperity and social well-being and so it is important to ensure that the UK has secure and affordable energy. Producing the energy the UK requires and getting it to where it is needed necessitates a significant amount of infrastructure, both large and small scale. The energy NPSs consider the large scale infrastructure that play a vital role in ensuring we have the secure energy supplies we need.

2.2 The road to 2050

- 2.2.1 We are committed to meeting our legally binding target to cut greenhouse gas emissions by at least 80% by 2050, compared to 1990 levels⁵. Analysis done on possible 2050 pathways⁶ shows that 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. And it requires major changes in the way energy is used by individuals, by industry, and by the public sector.
- 2.2.2 Delivering this change is a major challenge not least for energy providers, and the Government is working to ensure their efforts produce the major,

4 <http://www.decc.gov.uk/assets/decc/what%20we%20do/uk%20energy%20supply/237-annual-energy-statement-2010.pdf>

5 http://www.decc.gov.uk/en/content/cms/legislation/cc_act_08/cc_act_08.aspx

6 2050 Pathways Analysis, HM Government, 2010 <http://www.decc.gov.uk/assets/decc/What%20we%20do/A%20low%20carbon%20UK/2050/216-2050-pathways-analysis-report.pdf>

rapid change the UK needs. Within a market-based system⁷ and with severe constraints on public expenditure in the near-term, the focus of Government activity in this transformation is clear. It should be on developing a clear, long-term policy framework which facilitates investment in the necessary new infrastructure (by the private sector) and in energy efficiency.

2.2.3 The 2010 Annual Energy Statement outlined DECC's programme in four key areas to support the transition to a secure, safe, low carbon, affordable energy system in the UK:

- saving energy (through the Green Deal⁸) and supporting vulnerable consumers;
- delivering secure energy on the way to a low carbon energy future;
- managing our energy legacy responsibly and cost-effectively; and
- driving ambitious action on climate change at home and abroad.

2.2.4 Not all aspects of Government energy and climate change policy will be relevant to IPC decisions or planning decisions by local authorities, and the planning system is only one of a number of vehicles that helps to deliver Government energy and climate change policy. The role of the planning system is to provide a framework which permits the construction of whatever Government – and players in the market responding to rules, incentives or signals from Government – have identified as the types of infrastructure we need in the places where it is acceptable in planning terms. It is important that, in doing this, the planning system ensures that development consent decisions take account of the views of affected communities and respect the principles of sustainable development.

The transition to a low carbon economy

2.2.5 The UK economy is reliant on fossil fuels, and they are likely to play a significant role for some time to come. Most of our power stations are fuelled by coal and gas. The majority of homes have gas central heating, and on our roads, in the air and on the sea, our transport is almost wholly dependent on oil.

2.2.6 However, the UK needs to wean itself off such a high carbon energy mix: to reduce greenhouse gas emissions, and to improve the security, availability and affordability of energy through diversification. Under some of the illustrative 2050 pathways, electricity generation would need to be virtually emission-free, given that we would expect some emissions from industrial and agricultural processes, transport and waste to persist. By 2050, we can

⁷ The essential characteristics of the market-based policy approach which successive administrations have taken to the GB electricity market since 1990 are summarised in paragraphs 2 to 10 of Chapter 2 of Electricity Market Reform: Consultation Document (December 2010, available at:

<http://www.decc.gov.uk/en/content/cms/consultations/emr/emr.aspx>).

Paragraph 11 of that Chapter briefly describes some of the ways in which Government has intervened subsequently to influence market structure or the behaviour of participants. See also paragraph 2.2.18 below.

⁸ Set out in the Annual Energy Statement http://www.decc.gov.uk/en/content/cms/what_we_do/consumers/green_deal/green_deal.aspx

expect that fossil fuels will be scarcer, but will still be in demand, and that prices will therefore be far higher. Further, the UK's own oil and gas resources will be depleting and, worldwide, the costs and risks of extracting oil in particular will increase.

- 2.2.7 Continuation of global emissions, including greenhouse gases like carbon dioxide, at current levels could lead average global temperatures to rise by up to 6°C by the end of this century⁹. This would make extreme weather events like floods and droughts more frequent and increase global instability, conflict, public health-related deaths and migration of people to levels beyond any recent experience. Heat waves, droughts, and floods would affect the UK.
- 2.2.8 To avoid the most dangerous impacts of climate change, the increase in average global temperatures must be kept to no more than 2°C, and that means global emissions must start falling as a matter of urgency. To drive the transition needed the Government has put in place the world's first ever legally binding framework to cut emissions by at least 80% by 2050, that will deliver emission reductions through a system of five year carbon budgets that will set a trajectory to 2050.
- 2.2.9 To prepare for the impacts of climate change, the Climate Change Act 2008 also sets out a statutory framework for adapting to climate change, with the Government committed to producing a statutory climate change adaptation programme in 2012 (which will be updated on five-yearly cycles). To lead and co-ordinate work in preparation for this, the Government has established the Adapting to Climate Change Programme¹⁰, which includes:
- undertaking a UK Climate Change Risk Assessment; and
 - using the "Adaptation Reporting Power" to require certain public bodies and statutory undertakers to set out the risks to their work from a changing climate and what they are doing to manage these risks.
- 2.2.10 Alongside this, the Government is committed to ensuring that adaptation needs are built into planning and risk management now to ensure the continued and improved success of businesses and new energy NSIPs. Section 4.8 of this NPS sets out how applicants and the IPC should take the effects of climate change into account when developing and consenting infrastructure.
- 2.2.11 This NPS also sets out how the energy sector can help deliver the Government's climate change objectives by clearly setting out the need for new low carbon energy infrastructure to contribute to climate change mitigation.

9 Climate model projections summarized in the latest Intergovernmental Panel on Climate Change (IPCC) report, the 2007 Fourth Assessment Report, indicate that the global surface temperature is likely to rise a further 1.1 to 6.4 °C (2.0 to 11.5 °F) during the 21st century. IPCC, 2007. Climate Change 2007: Synthesis Report. An Assessment of the Intergovernmental Panel on Climate Change (page 45).

10 http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf
<http://www.defra.gov.uk/environment/climate/adapting/>

3.4 The role of renewable electricity generation

- 3.4.1 The UK has committed to sourcing 15% of its total energy (across the sectors of transport, electricity and heat) from renewable sources by 2020⁴⁰ and new projects need to continue to come forward urgently to ensure that we meet this target. Projections⁴¹ suggest that by 2020 about 30% or more of our electricity generation – both centralised and small-scale – could come from renewable sources, compared to 6.7% in 2009⁴². The Committee on Climate Change in Phase 1 of its advice to Government in September 2010 agreed that the UK 2020 target was appropriate, and should not be increased. Phase 2 was published in May 2011 and provided recommendations on the post 2020 ambition for renewables in the UK, and possible pathways to maximise their contribution to the 2050 carbon reduction targets.
- 3.4.2 Large scale deployment of renewables will help the UK to tackle climate change, reducing the UK's emissions of carbon dioxide by over 750 million tonnes by 2030. It will also deliver up to half a million jobs by 2020 in the renewables sector⁴³. Renewable electricity generation is currently supported in the UK through the Renewables Obligation (RO), which is a market-based support mechanism to encourage investment. Renewables have potential to improve security of supply by reducing reliance on the use of coal, oil and gas supplies to keep the lights on and power our businesses. Meeting the 15% renewables target could reduce fossil fuel demand by around 10% and gas imports by 20-30%. We are committed to meeting 2020 targets and have further ambitions for renewables post-2020. The Committee on Climate Change's May 2011 report ⁴⁴ included advice on moving to 30% renewable energy capacity by 2030 and a central scenario of 40% renewable electricity.
- 3.4.3 The UK has substantial renewable energy resources, for example the British Isles have 40% of Europe's wind and some of the highest tidal reaches in the world. Unlike other technologies, the cost of renewables is in the construction and maintenance alone as the resource itself is usually free, so it helps protect consumers against the volatile but generally increasing cost of fossil fuels. Future large-scale renewable energy generation is likely to come from the following sources:
- *Onshore Wind* – onshore wind is the most well-established and currently the most economically viable source of renewable electricity available for future large-scale deployment in the UK;
 - *Offshore Wind* – offshore wind is expected to provide the largest single contribution towards the 2020 renewable energy generation targets;

40 DECC (2009): The UK Renewable Energy Strategy (p.30)
http://www.decc.gov.uk/assets/decc/what%20we%20do/uk%20energy%20supply/energy%20mix/renewable%20energy/renewable%20energy%20strategy/1_20090717120647_e_@@_theukrenewableenergystategy2009.pdf

41 It is important to recognise that we may reach our renewable energy goals in different ways, depending on how the drivers to investment, supply chain and non-financial barriers evolve. As a result, the lead scenario presented in the Renewable Energy Strategy should not be seen as a sector or technology target.

42 DUKES 2010 (p.184)

43 Innovas, Low Carbon and Environmental Goods and Services: an industry analysis, 2009

44 CCC (May 2011) "The Renewable Energy Review".

- *Biomass* – biomass is a significant source of renewable and low carbon energy. It involves the combustion of fuel, such as wood, which is renewable because, through replanting and regrowth, the biomass can be replaced in a matter of decades and this cycle can be continuously repeated. Whilst energy is required to grow, harvest and transport it, biomass is considered to be low carbon, providing that the biomass has been cultivated, processed and transported with due consideration of sustainability. Its combustion also displaces emissions of carbon dioxide ordinarily released using fossil fuels;
- *Energy from Waste (EfW)* – the principal purpose of the combustion of waste, or similar processes (for example pyrolysis or gasification) is to reduce the amount of waste going to landfill in accordance with the Waste Hierarchy⁴⁵ and to recover energy from that waste as electricity or heat. Only waste that cannot be re-used or recycled with less environmental impact and would otherwise go to landfill should be used for energy recovery. The energy produced from the biomass fraction of waste is renewable and is in some circumstances eligible for Renewables Obligation Certificates, although the arrangements vary from plant to plant; and
- *Wave and Tidal* – the UK has the potential for wave and tidal energy and there are now full scale prototypes working towards array scale and pre-commercial deployment. However many of the technologies for making use of the wave resource and tidal currents are still developing. Proven technology exists for tidal range generation but proposed projects are still some time from commencement. Paragraph 1.4.5 explains how this NPS relates to wave and tidal generation.

3.4.4 Biomass and EfW can be used to generate ‘dispatchable’ power, providing peak load and base load electricity on demand. As more intermittent renewable electricity comes onto the UK grid, the ability of biomass and EfW to deliver predictable, controllable electricity is increasingly important in ensuring the security of UK supplies.

The urgency of need for new renewable electricity generation

3.4.5 Paragraph 3.4.1 above sets out the UK commitments to sourcing 15% of energy from renewable sources by 2020. To hit this target, and to largely decarbonise the power sector by 2030, it is necessary to bring forward new renewable electricity generating projects as soon as possible. The need for new renewable electricity generation projects is therefore urgent.

3.5 The role of nuclear electricity generation

3.5.1 For the UK to meet its energy and climate change objectives, the Government believes that there is an urgent need for new electricity generation plant, including new nuclear power. Nuclear power generation is a low carbon, proven technology, which is anticipated to play an increasingly

⁴⁵ Waste Hierarchy as set out in Article 4 of the revised Waste Framework Directive and the Waste (England and Wales) Regulations 2011.

Glossary

| | |
|------------------------|--|
| AoS | Appraisal of Sustainability |
| Associated development | Development associated with the NSIP as defined in Section 115 of the Planning Act 2008 |
| BAT | Best Available Technique; should normally be used and, if not, reasons for not using BAT given. |
| Biomass | Material of recent biological origin derived from plant or animal matter |
| Birds Directive | Council Directive 2009/147/EC on the conservation of wild birds |
| CCGT | Combined Cycle Gas Turbine |
| CHP | Combined Heat and Power |
| CCS | Carbon Capture and Storage |
| CCR | Carbon Capture Readiness |
| CLG | Department for Communities and Local Government |
| Co-firing | Use of two fuel types (e.g. coal and biomass) in a thermal generating station (qv) |
| COMAH | Control of Major Accident Hazards |
| DECC | Department of Energy and Climate Change |
| Defra | Department of Environment, Food and Rural Affairs |
| DfT | Department for Transport |
| “Dispatchable” power | Sources of electricity that can be supplied (turned on or off) by operators at the request of power grid operators, in contrast to intermittent power sources that cannot be similarly controlled. |
| DNO | Distribution Network Operator. |
| EfW | Energy from Waste – combustion of waste material to provide electricity and/or heat. |
| EIA | Environmental Impact Assessment. |
| ES | Environmental Statement. |
| FEPA | Food and Environmental Protection Act 1985: licences for operations in England or waters adjacent to England are issued under this Act, although they will be replaced by marine licences under the Marine and Coastal Access Act 2008 |

| | |
|----------------------------------|---|
| Generic Impacts | Potential impacts of any energy infrastructure projects, the general policy for consideration of which is set out in Part 5 of EN-1 |
| Habitats Directive | The European Directive (92/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna |
| Habitats And Species Regulations | The Conservation of Habitats and Species Regulations 2010(SI2010/490), which implement the Habitats Directive and relevant parts of the Birds Directive |
| HRA | Habitats Regulations Assessment |
| LCPD | Large Combustion Plant Directive: sets emission limits of certain pollutants from industrial combustion plants with a thermal input equal to or greater than 50 MW |
| Nameplate capacity | The rated output of the unit/station at the generator, and therefore includes station own use (parasitic power), and any other consumption/loss prior to despatch to the grid, local network, industrial site or similar transmission system |
| MMO | Marine Maritime Organisation: set up under the Marine and Coastal Access Act 2008 |
| MW | Megawatt = one million watts |
| NETSO | National Electricity System Operator |
| NSIP | Nationally significant infrastructure project |
| OHL | Overhead electricity line carried on poles or pylons |
| pfa | Pulverised fuel ash; fine ash from the use of finely crushed coal in fossil fuel generating stations |
| PPG/PPs | Planning Policy Guidance/Planning Policy Statement: issued by CLG to inform Local Authorities on planning policy, primarily for application to local development plans. Local Authorities should also have regard to PPSs when considering individual planning applications |
| Substation | An assembly of equipment in an electric power system through which electric energy is passed for transmission, transformation, distribution, or switching |
| Technical feasibility | Whether it is possible to build and operate a proposed development according to its design parameters |
| Thermal Generating Station | Electricity generating station that uses a heat source (combustion of fuel or nuclear) to create steam that drives a generating turbine or which uses gas directly to drive a generating turbine |
| WID | Waste Incineration Directive: sets specific emission limits for waste combustion plant |

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Annex 2

Draft NPS EN-1 Extract

Deal Farm

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- 1.1.7 Part 5 of the Planning Act 2008² sets out the requirements for consultation and publicity of any application for a Development Consent Order before any application is made, including a duty to consult the local community³.

1.2 Role of this NPS in the wider planning system

- 1.2.1 In England this NPS, in combination with any relevant technology specific NPSs, may be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended).
- 1.2.2 Whether the policies in this NPS are material and to what extent, will be judged on a case-by-case basis and will depend upon the extent to which the matters are already covered by applicable planning policy.
- 1.2.3 The Secretary of State may also receive applications for variations to existing consents for energy infrastructure under section 36C of the Electricity Act 1989 for which this NPS, in combination with any relevant technology specific NPSs, may be a relevant consideration.
- 1.2.4 Under the Marine and Coastal Access Act 2009, the Marine Management Organisation (MMO) will determine applications under section 36 and section 36A of the Electricity Act 1989 where they relate to a generating station in English waters provided that the application does not exceed the capacity threshold set out in the Planning Act 2008.
- 1.2.5 The MMO will determine applications in accordance with the MPS and any applicable marine plans, unless relevant considerations indicate otherwise.
- 1.2.6 This NPS, in combination with any relevant technology specific NPSs, may be a relevant consideration for the MMO when it is determining such applications.
- 1.2.7 The MMO may also receive applications for a marine licence for other energy infrastructure that falls outside the scope of the Planning Act 2008 or the Electricity Act 1989 for which the NPSs may be a relevant consideration.
- 1.2.8 They may also be a relevant consideration in the preparation of relevant marine plans.

² <https://www.gov.uk/government/publications/guidance-on-the-pre-application-process-for-major-infrastructure-projects>

³ <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

2 Government policy on energy and energy infrastructure development

2.1 Introduction

- 2.1.1 The Energy White Paper, published in December 2020¹³, outlined a strategy to transform the energy system, tackling emissions while continuing to ensure secure and reliable supply, and affordable bills for households and businesses. This was built on by the Net Zero Strategy¹⁴, published in October 2021, which set out a long-term plan for the economy-wide transition to net zero that will take place over the next three decades. The British Energy Security Strategy¹⁵, published in April 2022, and the Growth Plan of 23 September 2022¹⁶ further reinforced ambitions and the importance of addressing our underlying vulnerability to international oil and gas prices and reducing our dependence on imported oil and gas.
- 2.1.2 To produce enough energy required for the UK and ensure it can be transported to where it is needed, a significant amount of infrastructure is needed at both local and national scale. High quality infrastructure is crucial for economic growth, boosting productivity and competitiveness. Part 3 of this NPS provides further details on the need for and importance of energy to economic prosperity and social well-being.
- 2.1.3 The National Infrastructure Strategy (NIS)¹⁷ committed to boosting growth and productivity across the whole of the UK, levelling up and strengthening the Union through investment in rural areas, towns, and cities, from major national projects to local priorities. It also committed to government putting the UK on the path to meeting its net zero emissions target by 2050 by taking steps to decarbonise the UK's power networks which together account for over two-thirds of the UK emissions – and take steps to adapt to the risks posed by climate change.
- 2.1.4 This energy NPS considers the large-scale infrastructure which will be required to ensure the UK can provide a secure, reliable, and affordable supply of energy, while also meeting our decarbonisation targets.

¹³ See <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>

¹⁴ See <https://www.gov.uk/government/publications/net-zero-strategy>

¹⁵ See <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

¹⁶ See <https://www.gov.uk/government/publications/the-growth-plan-2022-documents>

¹⁷ See <https://www.gov.uk/government/publications/national-infrastructure-strategy>

2.2 Net zero by 2050

- 2.2.1 In June 2019, the UK became the first major economy to legislate for a 2050 net zero Greenhouse Gases ('GHG') emissions target through the Climate Change Act 2008 (2050 Target Amendment) Order 2019.¹⁸ In December 2020, the UK communicated its Nationally Determined Contributions to reduce GHG emissions by at least 68 per cent from 1990 levels by 2030.¹⁹ In April 2021, the government legislated for the sixth carbon budget (CB6), which requires the UK to reduce GHG emissions by 78 per cent by 2035 compared to 1990 levels.²⁰

2.3 Meeting net zero

- 2.3.1 Energy underpins almost every aspect of our way of life. It enables us to heat and light our homes; to produce and transport food; to travel to work and for leisure. Our businesses and jobs rely on the use of energy. Energy is essential for the critical services we rely on – from hospitals to traffic lights and mobile devices. It is difficult to overestimate the extent to which our quality of life is dependent on adequate energy supplies.
- 2.3.2 In October 2021 we published the Net Zero Strategy.²¹ This set out the government's vision for transitioning to a net zero economy and the policies and proposals for decarbonising all sectors of the UK economy to meet our net zero target by 2050, making the most of new growth and employment opportunities across the UK.
- 2.3.3 Our objectives for the energy system are to ensure our supply of energy always remains secure, reliable, affordable, and consistent with meeting our target to cut GHG emissions to net zero by 2050, including through delivery of our carbon budgets and Nationally Determined Contribution. This will require a step change in the decarbonisation of our energy system.
- 2.3.4 Meeting these objectives necessitates a significant amount of energy infrastructure, both large and small-scale. This includes the infrastructure needed to convert primary sources of energy (e.g. wind) into energy carriers (e.g. electricity or hydrogen), and to store and transport these energy carriers into and around the country. It also includes the infrastructure needed to capture, transport and store carbon dioxide. The requirement for new energy infrastructure will present opportunities for the UK and contributes towards our ambition to support jobs in the UK's clean energy industry and local supply chains.

¹⁸ See legislation.gov.uk/ukdsi/2019/9780111187654

¹⁹ See <https://www.gov.uk/government/publications/the-uks-nationally-determined-contribution-communication-to-the-unfccc>

²⁰ See <https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035>

²¹ See <https://www.gov.uk/government/publications/net-zero-strategy>

- 2.3.5 The sources of energy we use will also need to change. Today, our energy system is dominated by fossil fuels. Although representing a record low, fossil fuels still accounted for just over 76 per cent of energy supply in 2020.²² We will need to dramatically increase the volume of energy supplied from low carbon sources and reduce the amount provided by fossil fuels.
- 2.3.6 We need to transform the energy system, tackling emissions while continuing to ensure secure and reliable supply, and affordable bills for households and businesses. This includes increasing our supply of clean energy from renewables, nuclear and hydrogen manufactured using low carbon processes²³ (low carbon hydrogen) and, where we still emit carbon, developing the industry and infrastructure to capture, transport and store it.
- 2.3.7 Decarbonisation means we are likely to become more dependent on some forms of energy compared to others. Using electrification to reduce emissions in large parts of transport, heating and industry could lead to more than half of final energy demand being met by electricity in 2050, up from 17 per cent in 2019, representing a doubling in demand for electricity.²⁴ Low carbon hydrogen is also likely to play an increasingly significant role.
- 2.3.8 This switch will break down the siloes which have traditionally existed between separate heat, transport, and electricity networks. We will need to adapt existing networks or build new ones to integrate low carbon hydrogen into the system and enable the transport and storage of carbon dioxide.
- 2.3.9 To ensure that supplies remain reliable and to keep our energy affordable we will also need to reduce the amount of energy we waste, using new and innovative low carbon technologies and more energy efficiency measures.
- 2.3.10 This transformational approach tackles long-term problems to deliver growth that creates high-quality jobs across the UK and makes the most of the strengths of the Union. However, this transformation cannot be instantaneous. The use of unabated natural gas and crude oil fuels for heating, cooking, electricity and transport, and the production of many everyday essentials like medicines, plastics, cosmetics and household appliances, will still be needed during the transition to a net zero economy. This will enable secure, reliable, and affordable supplies of energy as we develop the means to address the carbon dioxide and other greenhouse gases associated with their use, including the development and deployment of low carbon alternatives.

22 From table 1.1.1 of Digest of United Kingdom Energy Statistics (DUKES) 2021: inland consumption of primary fuels and equivalents for energy use, 1970 to 2020, available at

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1094291/DUKES_1.1.1.xlsx

23 This includes production of both green hydrogen (through water electrolysis with low carbon power) and blue hydrogen (through methane reformation with Carbon Capture and Storage)

24 The Impact Assessment for CB6 shows an illustrative range of 610-800TWh in 2050: See <https://www.legislation.gov.uk/ukdsi/2021/9780348222616/impacts>

2.4.10 In addition, the government has other levers to encourage further decarbonisation within the power sector:

- UK Emissions Trading Scheme (UK ETS)
- Carbon Price Support (CPS)
- Emissions Performance Standard (EPS)

2.5 Security of energy supplies

2.5.1 Given the vital role of energy to economic prosperity and social well-being, it is important that our supplies of energy remain secure, reliable and affordable.

2.5.2 We have highly diverse and flexible sources of gas supply and a diverse electricity mix, which ensures that households, businesses and heavy industry get the energy they need.

2.5.3 Great Britain's (GB) gas system has delivered securely to date and is expected to continue to function well, with a diverse range of supply sources and sufficient delivery capacity to more than meet demand.

2.5.4 This diversity in gas supply includes pipelines from the UK and Norway continental shelf (UKCS & NCS), interconnection with the Continent through the Interconnector Ltd and BBL pipelines, and three LNG terminals, providing GB with one of the largest LNG import infrastructures in Europe.

2.5.5 However as global energy costs rise due to demand soaring as the economy reopened after COVID-19 and the Russian invasion of Ukraine, security of supply requires a greater focus on domestic energy production.

2.5.6 The British Energy Security Strategy²⁹ emphasises the importance of addressing our underlying vulnerability to international energy prices by reducing our dependence on imported oil and gas, improving energy efficiency, remaining open minded about our onshore reserves including shale gas, and accelerating deployment of renewables, nuclear, hydrogen, CCUS, and related network infrastructure, so as to ensure a domestic supply of clean, affordable, and secure power as we transition to net zero.

2.5.7 The Capacity Market (CM)³⁰ is at the heart of the government's plans for a secure and reliable electricity system. The CM provides all forms of capacity capable of contributing to security of supply with the right incentives to be on the system and to

²⁹ See <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

³⁰ The Capacity Market is a competitive auction which ensures security of electricity supply by providing a payment for reliable sources of capacity. See <https://www.gov.uk/government/collections/electricity-market-reform-capacity-market>

deliver during periods of electricity system stress, for example during cold, still periods where demand is high and wind generation is low.

- 2.5.8 The CM is technology neutral, meaning it does not seek to procure specific volumes of capacity from particular types of technology. All types of capacity are able to participate – except for Capacity Providers in receipt of other specific categories of government support – but they must demonstrate sufficient technical performance to contribute to security of supply.
- 2.5.9 The CM operates alongside the GB wholesale electricity market and the services the National Electricity Transmission System Operator (NETSO) contracts to provide ancillary services to ensure second-by-second balancing of the electricity system.
- 2.5.10 In July 2019 the government introduced CO₂ emissions limits to the CM.
- 2.5.11 Plants burning fossil fuels that began generating after July 2019 must demonstrate that they emit below 550gCO₂/kWh electricity generated in order to be able to hold Capacity Market agreements.
- 2.5.12 Plants burning fossil fuels that began generating before July 2019 must either demonstrate that they emit below 550gCO₂/kWh electricity generated or must not emit more than 350kgCO₂ per year on average.
- 2.5.13 Plants unable to comply with these requirements are excluded from holding Capacity Market agreements from the Delivery Year 2024 onwards. This ensures that the CM is aligned with broader decarbonisation objectives by preventing the most polluting plants from participating.

2.6 Sustainable development

- 2.6.1 The government's wider objectives for energy infrastructure include contributing to sustainable development³¹ and ensuring that our energy infrastructure is safe.
- 2.6.2 Sustainable development is relevant not just in terms of addressing climate change, but because the way energy infrastructure is deployed affects the well-being of the environment, society and the economy, for both current and future generations. For example, the availability of appropriate infrastructure supports the efficient working of the market so as to ensure competitive prices for consumers. The regulatory framework also encourages the energy industry to protect the more vulnerable.

31 As defined in 1987 by the World Commission on Environment and Development report Our Common Future - See <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>

- 2.6.3 The planning framework set out in this NPS and the suite of energy NPSs takes full account of the objective of contributing to the achievement of sustainable development and this has been tested through the AoS.³²
- 2.6.4 The AoS has examined whether the NPS framework for the development of new energy infrastructure projects is consistent with the objectives for sustainable development, including consideration of other government policies such as those for the environment, economic development, health and transport.
- 2.6.5 Whatever incentives, rules or other signals developers are responding to, the government believes that the NPSs set out planning policies which both respect the principles of sustainable development and can facilitate, for the foreseeable future, the consenting of energy infrastructure on the scale and of the kinds necessary to help us maintain safe, secure, affordable and low carbon supplies of energy.

³² See [\[add hyperlink before publication\]](#)

3 The need for new nationally significant energy infrastructure projects

3.1 Introduction

- 3.1.1 This Part of the NPS explains why the government sees a need for significant amounts of new large-scale energy infrastructure to meet its energy objectives and why the government considers that the need for such infrastructure is urgent.
- 3.1.2 However, as noted in Section 1.7, it will not be possible to develop the necessary amounts of such infrastructure without some significant residual adverse impacts. These effects will be minimised by the application of policy set out in Parts 4 and 5 of this NPS. See also Part 2 of each technology specific NPS.

3.2 Secretary of State decision making

- 3.2.1 The government's objectives for the energy system are to ensure our supply of energy always remains secure, reliable, affordable, and consistent with net zero emissions in 2050 for a wide range of future scenarios, including through delivery of our carbon budgets and NDC.
- 3.2.2 We need a range of different types of energy infrastructure to deliver these objectives. This includes the infrastructure described within this NPS but also more nascent technologies, data, and innovative infrastructure projects consistent with these objectives.
- 3.2.3 New coal or large-scale oil-fired electricity generation is not consistent with the trajectory of our carbon budgets and the transition to net zero and so are not included within this NPS, and the government is taking active steps to phase them out of the energy system.
- 3.2.4 It is for industry to propose new energy infrastructure projects within the strategic framework set by government. With the exception of new coal or large-scale oil-fired electricity generation, the government does not consider it appropriate for planning policy to set limits on different technologies but planning policy can be used to support the government's ambitions in energy policy and other policy areas.
- 3.2.5 **The Secretary of State should assess all applications for development consent for the types of infrastructure covered by this NPS on the basis that the government has demonstrated that there is a need for those types of infrastructure which is urgent, as described for each of them in this Part.**

- where the application is for gas production infrastructure, conventional or unconventional, not covered by sections 15-21 of the Planning Act, the Secretary of State should give substantial weight to the need established at paragraphs 3.4.1 – 3.4.9 of this NPS

3.3 The need for new nationally significant electricity infrastructure

- 3.3.1 Electricity meets a significant proportion of our overall energy needs and our reliance on it will increase as we transition our energy system to deliver our net zero target. We need to ensure that there is sufficient electricity to always meet demand; with a margin to accommodate unexpectedly high demand and to mitigate risks such as unexpected plant closures and extreme weather events.
- 3.3.2 The larger the margin, the more resilient the system will be in dealing with unexpected events, and consequently the lower the risk of a supply interruption. This helps to protect businesses and consumers, including vulnerable households, from volatile prices and, eventually, from physical interruptions to supply that might impact on essential services. But a balance must be struck between a margin which ensures a reliable supply of electricity and building unnecessary additional capacity which increases overall costs of the system.
- 3.3.3 To ensure that there is sufficient electricity to meet demand, new electricity infrastructure will have to be built to replace output from retiring plants and to ensure we can meet increased demand. Our analysis suggests that even with major improvements in overall energy efficiency, and increased flexibility in the energy system, demand for electricity is likely to increase significantly over the coming years and could more than double by 2050 as large parts of transport, heating and industry decarbonise by switching from fossil fuels to low carbon electricity. The Impact Assessment for CB6 shows an illustrative range of 465-515TWh in 2035 and 610-800TWh in 2050.³³

The need for different types of electricity infrastructure

- 3.3.4 There are several different types of electricity infrastructure that are needed to deliver our energy objectives. Additional generating plants, electricity storage, interconnectors and electricity networks all have a role, but none of them will enable us to meet these objectives in isolation.
- 3.3.5 New generating plants can deliver a low carbon and reliable system, but we need the increased flexibility provided by new storage and interconnectors (as well as demand side response, discussed below) to reduce costs in support of an affordable supply.

33 See <https://www.legislation.gov.uk/ukdsi/2021/9780348222616/impacts>

- 3.3.6 Storage and interconnection can provide flexibility, meaning that less of the output of plant is wasted as it can either be stored or exported when there is excess production. They can also supply electricity when domestic demand is higher than generation, supporting security of supply. This means that the total amount of generating plant capacity required to meet peak demand is reduced, bringing significant system savings alongside demand side response (up to £12bn per year by 2050).³⁴ Storage can also reduce the need for new network infrastructure. However, neither of these technologies, as with demand side response, are sufficient to meet the anticipated increase in total demand, and so cannot fully replace the need for new generating capacity.
- 3.3.7 Electricity networks are needed to connect the output of other types of electricity infrastructure with consumers and each other. However, they are a means of transporting electricity rather than generating or storing it, so cannot replace those other types of electricity infrastructure in meeting the substantial increase in demand expected over the coming decades.

Alternatives to new electricity infrastructure

- 3.3.8 The government has considered alternatives to the need for new large-scale electricity infrastructure and concluded that these would be limited to reducing total demand for electricity through efficiency measures or through greater use of low carbon hydrogen in decarbonising the economy; reducing maximum demand through demand side response; and, increasing the contribution of decentralised and smaller-scale electricity infrastructure.
- 3.3.9 Reducing total demand for energy is a key element of the government's strategy for meeting its energy objectives and we expect that increased energy efficiency measures could lead to a reduction in final energy demand from around 1550 TWh in 2019 to around 1000 TWh in 2050. However even with a reduction in final energy demand the share of electricity in the system is likely to increase, potentially more than doubling by 2050 (see paragraph 3.3.3).
- 3.3.10 The precise level of electricity demand during the transition to net zero is uncertain and could be affected by alternative means of decarbonising these sectors, such as the use of low carbon hydrogen, and the pace of that decarbonisation. However, it is prudent to plan on a conservative basis to ensure that there is sufficient supply of electricity to meet demand across a wide range of future scenarios, including where the use of hydrogen is limited.
- 3.3.11 Demand side response, such as the use of thermal stores and smart charging of electric vehicles, can shift electricity demand, reducing the maximum amount of electricity required and therefore reduce the need for additional infrastructure.

32 See section 2.1. in "Modelling 2050: Electricity System Analysis", <https://www.gov.uk/government/publications/modelling-2050-electricity-system-analysis>

whilst meeting a 40-60 per cent increase in electricity demand. This means that the majority of new generating capacity needs to be low carbon.

- 3.3.17 However, new unabated natural gas generating capacity will also be needed as it currently plays a critical role in keeping the electricity system secure and stable. It will continue to be needed during the transition to net zero while we develop and deploy the low carbon alternatives that can replicate its role in the electricity system.
- 3.3.18 Our understanding of what the electricity system will need to deliver during the transition to 2050 and the best way of delivering it will evolve over time. For example, the level of demand it will need to meet will depend on the approach and pace of decarbonisation in other sectors, and the mix of infrastructure and technology that can deliver this in line with our energy and climate objectives will be affected by the different characteristics of existing and new technologies, their relative costs and deliverability. It will also be informed by the costs and availability of GGR technologies, such as Bioenergy with Carbon Capture and Storage (BECCS) and Direct Air Carbon Capture and Storage (DACCS).
- 3.3.19 Given the changing nature of the energy landscape, we need a diverse mix of electricity infrastructure to come forward, so that we can deliver a secure, reliable, affordable, and net zero consistent system during the transition to 2050 for a wide range of demand, decarbonisation, and technology scenarios.

The role of wind and solar

- 3.3.20 Wind and solar are the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation). Our analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar.³⁸
- 3.3.21 As part of delivering this, UK government announced in the British Energy Security Strategy³⁹ an ambition to deliver up to 50GW of offshore wind by 2030, including up to 5GW of floating wind, and the requirement in the Energy White Paper⁴⁰ for sustained growth in the capacity of onshore wind⁴¹ and solar in the next decade.⁴²
- 3.3.22 However, it is recognised that ensuring affordable system reliability, today and in the future, means wind and solar need to be complemented with technologies which

³⁸ See <https://www.gov.uk/government/publications/modelling-2050-electricity-system-analysis>

³⁹ See <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

⁴⁰ See <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>

⁴¹ Applications for onshore wind should be considered by the relevant local planning authority.

⁴² This is a UK government ambition with the Welsh and Scottish Government's having set their own internal ambitions. See <https://gov.wales/sites/default/files/publications/2019-07/future-potential-for-offshore-wind.pdf> and See <https://www.gov.scot/publications/offshore-wind-policy-statement/>

3.3.57 Known generation technologies that are included within the scope of this NPS (and would be classed as an NSIP if above the relevant capacity thresholds set out under the Planning Act 2008) include:

- Offshore Wind (including floating wind),
- Solar PV,
- Wave,
- Tidal Range,
- Tidal Stream,
- Pumped Hydro,
- Energy from Waste (including ACTs) with or without CCS,
- Biomass with or without CCS,
- Natural Gas with or without CCS,
- Low carbon hydrogen,
- Large-scale nuclear, Small Modular Reactors, Advanced Modular Reactors, and fusion power plants,
- Geothermal

3.3.58 The need for all these types of infrastructure is established by this NPS and is urgent.

3.3.59 Government has concluded that there is a critical national priority (CNP) for the provision of nationally significant new offshore wind infrastructure (and supporting onshore and offshore network infrastructure).

3.3.60 As set out in EN-3, subject to any legal requirements, the urgent need for CNP Infrastructure to achieving our energy objectives, together with the national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts not capable of being addressed by application of the mitigation hierarchy. Government strongly supports the delivery of CNP Infrastructure and it should be progressed as quickly as possible.

3.3.61 New coal or large-scale oil-fired electricity generation are not consistent with the trajectory of our carbon budgets and the transition to net zero and so are not included within this NPS, and the government is taking active steps to phase them out of the energy system.

3.3.62 Other novel technologies or processes may emerge during the life of this NPS, which are nationally significant and can help deliver our energy objectives. Where these

3.4 The need for new nationally significant gas infrastructure

- 3.4.1 Gaseous fuels have a key role in the UK energy landscape, accounting for around 30 per cent of UK energy production in 2020, and 40 per cent of demand.⁶³⁶⁴
- 3.4.2 They are used in the domestic sector for heating and cooking, in the industrial sector, as a source of energy and as a feedstock and, in the power generation sector, as a reliable source of flexible generating capacity.
- 3.4.3 In this section gas, unless otherwise specified, includes natural gas, biomethane and hydrogen.
- 3.4.4 We need a diverse mix of gas supply infrastructure including pipelines, storage and reception facilities in order to meet our energy objectives. Our gas infrastructure must, amongst other things, be sufficient to:
- meet ‘peak’ demand for gas. Gas market participants may aim to have some “redundancy” in their supply arrangements, above the minimum amount to meet peaks, to manage the risk that other capacity may not be available (for example, where undergoing maintenance)
 - allow for a sustained delivery of large volumes of gas, for example, demand over a particularly cold winter
 - provide access to the most competitive gas supplies. Because the price of gas sources will vary over time, this leads to some redundancy in gas supply infrastructure. Market participants may therefore see distinct value in having access to gas from different sources – imports by pipeline, imports as LNG, and gas from storage (especially close-to-market)

Meeting ongoing demand for natural gas

- 3.4.5 The Energy White Paper⁶⁵ signals a decisive shift away from unabated natural gas to clean energy. This transformation, as reiterated in the British Energy Security Strategy⁶⁶, cannot be instantaneous without jeopardising a secure, reliable, and affordable energy system.
- 3.4.6 Security of supply is a top priority as the UK moves to decarbonise gas supply. The gas system is expected to continue to function well, as it has done to date, with a

⁶³ UK gas demand decreased 6 per cent in 2020 compared to 2019, following several years of stable demand and was largely a result of restrictions in place to curb the Covid-19 pandemic.

⁶⁴ Digest of UK Energy Statistics: Chapter 4 – Natural Gas See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1060151/DUKES_2021_Chapters_1_to_7.pdf

⁶⁵ See <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>

⁶⁶ See <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

highly diverse range of supply sources and sufficient delivery capacity to more than meet demand. As we decarbonise gas, the UK will consider all options to help us achieve the most climate impact at least cost, while maintaining a secure system.

- 3.4.7 Building on commitments in the North Sea Transition Deal⁶⁷, we will significantly reduce emissions from traditional oil and gas fuel supplies, whilst scaling-up the production of low carbon alternatives such as hydrogen and biofuels. Current gas prices spikes underline the need to move away from hydrocarbons as quickly as possible, but we will manage the transition in a way that protects jobs and investment, uses existing infrastructure, maintains security of supply, and minimises environmental impacts.
- 3.4.8 Assumed energy demand in our pathway is based on government's central assumptions about required technology uptake, with a variation to reflect the outstanding strategic decision on the potential role of hydrogen to heat buildings. We expect both natural gas and oil demand to more than halve by 2037 while overall, energy demand reduces significantly through increased efficiency and fossil fuels are replaced by new sources of energy.
- 3.4.9 We continue to work with the gas industry to seek views which will inform future policies (supported by a call for evidence), on the future of the gas system, with a focus on infrastructure and markets. This will enable us to determine how the gas market will need to evolve to ensure the right market and regulatory signals are in place to offer the necessary level of investment and maintenance throughout the transition. Gathering evidence on the amount of natural gas, biomethane, and hydrogen available and the ongoing role for gas will inform what action we must take.

Delivering affordable decarbonisation

- 3.4.10 Where low carbon alternatives can replace unabated natural gas, we will still need new gas infrastructure. Given the changing nature of the energy landscape, we cannot be certain on the precise role of natural gas, or gas infrastructure, in the future, but the approach we take must remain consistent with our energy objectives.
- 3.4.11 This means retaining the capability for using natural gas for low carbon dispatchable output in power stations equipped with CCS and as a feedstock for low carbon hydrogen production. Natural gas infrastructure might also be repurposed in the future for use by other gases required to deliver a net zero economy, such as low carbon hydrogen or for transportation of carbon dioxide to storage. Therefore, there is an ongoing need for retaining and developing the infrastructure for importing, storing and transporting gas.

⁶⁷ See <https://www.gov.uk/government/publications/north-sea-transition-deal>

The role of biomethane

- 3.4.22 As of January 2021, biomethane is the only green gas commercially produced in the UK, and can be injected into the gas grid, following suitable upgrading processes, for use as a lower carbon substitute for natural gas. As of April 2022, the Renewable Heat Incentive (RHI) had supported the deployment of 163 biomethane plants (143 Full applications and 20 Tariff Guarantee ones, with another 11 Tariff Guarantee applications outstanding) and had supported (paid for) 18,490 GWh of biomethane since the scheme launched in 2011⁷⁷. The reasons for this small uptake include the high capital required for biomethane plants, access to gas injection points and lack of feedstock availability.
- 3.4.23 The government's soon to be launched Green Gas Support Scheme (GGSS)⁷⁸ will also help decarbonise our gas supplies by increasing the proportion of green gas in the grid, through support for biomethane injection. We expect the GGSS will contribute 3.7MtCO_{2e} of carbon savings over Carbon Budgets 4 and 5, and 8.2MtCO_{2e} of carbon savings over its lifetime.
- 3.4.24 Some models are being trialled to overcome these barriers, such as a number of smaller anaerobic digestion (AD) facilities in rural areas feeding their biomethane into a single injection point on the gas grid. However, it is currently not seen as a stand-alone solution for gas decarbonisation.

Alternatives to new gas infrastructure

Heat networks

- 3.4.25 Heat networks are systems of insulated pipes that take heat from a central source and supply it to residential, commercial and public sector buildings to provide hot water, space heating and/or cooling.
- 3.4.26** Heat networks are a crucial technology for decarbonising the UK's heating, particularly in dense urban areas. They are uniquely able to unlock otherwise inaccessible sources of larger scale renewable and recovered heat such as waste heat and heat from waterway and mines. By using recovered heat from industry, geothermal energy and power generation, and accessing sources of ambient heat, heat networks can reduce overall production requirements for gas. In parts of the UK, heat networks will represent a lower cost route to decarbonisation than alternatives such as repurposing the gas network for low carbon hydrogen.
- 3.4.27 However, although heat networks can play a key role in decarbonising heating, they cannot fully replace the need for new gas infrastructure to supply areas without heat

⁷⁷ Non-Domestic and Domestic Renewable Heat Incentive (RHI) monthly deployment data (Great Britain): April 2022, table 1.1, 1.5 and 1.6. [See https://www.gov.uk/government/statistics/rhi-monthly-deployment-data-april-2022](https://www.gov.uk/government/statistics/rhi-monthly-deployment-data-april-2022)

⁷⁸ See <https://www.gov.uk/government/consultations/future-support-for-low-carbon-heat>