

Planning for Net Zero infrastructure through the DCO process

NSIP Forum



The future for the DCO approach

“At DWD our Infrastructure and Energy consenting practice has long-held expertise in the large-scale planning sector, for both traditional and renewable energy.

While originally securing consents for clients under Section 36 of the Electricity Act, we now have unrivalled experience in the Development Consent Order (DCO) process for Energy and Net Zero related Nationally Significant Infrastructure Projects.

We are often instructed at the very start of the process, assisting clients in structuring their teams to successfully deliver NSIP planning, using our experience across a wide range of different projects, and continue to advise throughout the preparation and submission of the application. This ranges from advice on consultation, programme, policy and process to internal governance.

This paper provides an insight into how Net Zero is being delivered through the DCO regime. It is something that the DWD team are seeing first-hand as we continue to work on new DCO projects.”

Sarah Price, Partner DWD



Infrastructure requirements for Net Zero

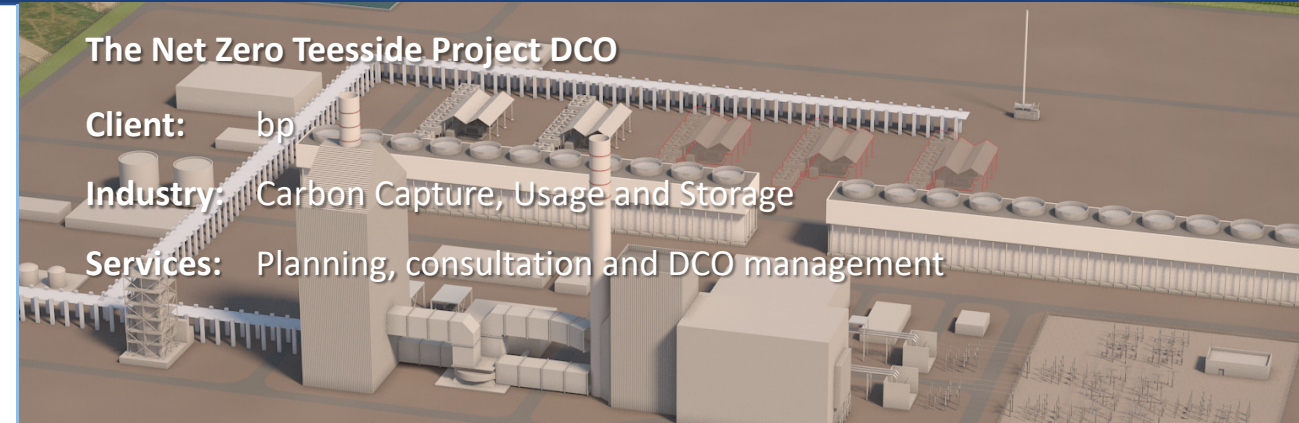


When the Planning Act 2008 regime was established to provide a one-stop process for consenting large scale projects a number of “fields” were defined in the legislation - energy, transport, water, waste water and waste – with types and thresholds specific to each field. Business and commercial projects can also be opted in via section 35(2). National Policy Statements (NPSs) were published for most fields, providing a clear framework against which applications would be consulted on and determined. The fields and the NPSs are two central features of the decision making regime and underpin its effectiveness.

However the general groundswell around concern for the environment and the UK Government’s commitment to Net Zero by 2050 means the energy infrastructure sector has seen some radical changes since 2008.

The threshold of 50MW for onshore generating stations actually originated with coal plants in the 1980s; these are no longer constructed and the last few will be turned off within the next two years. Renewable energy began to contribute to the UK’s energy supply in the mid-1990s through small hydroelectric generating capacity, while wind and solar already represent a very large part of the UK’s electricity supply during the course of a year. Battery storage plants and hydrogen power stations did not exist in 2008 and carbon capture power stations and carbon dioxide pipelines were conceptualised as demonstration projects. Interconnectors were limited in number and capacity.

So, what kinds of infrastructure do we need to deliver Net Zero and how well do the fields in the 2008 Act, and the current and emerging NPSs, support this deployment?



The Net Zero Teesside Project DCO

Client: bp

Industry: Carbon Capture, Usage and Storage

Services: Planning, consultation and DCO management

Net Zero Teesside (NZE) is a Carbon Capture, Usage and Storage (CCUS) project which comprises a number of elements, including a new gas-fired power station, with state-of-the-art carbon capture technology, and a CO₂ pipeline transport network connecting to local industry.

Teesside is a region with a proud industrial heritage and home to a diverse and geographically compact cluster of industrial, power and hydrogen businesses who together account for around 5.6% of all UK emissions. Up to 10 million tonnes of CO₂ each year will be transported to the coast, and onwards to safe, secure offshore storage in the Endurance carbon store in the southern North Sea.

Early in the development of the project DWD obtained a direction from the Secretary of State that categorised the CO₂ gathering network, booster station and transport pipeline as being of national significance. Based on experience promoting projects in Teesside, DWD then designed and implemented an adaptive consultation strategy that provided safe opportunities for communities to engage, deploying the AECOM online exhibition tool and advertising among other methods.

An iterative process followed involving several rounds of consultation and information as the project developed. DWD prepared the Consultation Report, Planning Statement, and Needs Case documents, checked compliance with published guidance, and coordinated the submission of the DCO application.

The direction enabled a comprehensive single application to be made for the project, rather than separate applications to multiple authorities. The iterative consultation process informed scheme development and contributed towards the acceptance of the application by the Planning Inspectorate.

The Energy NSIP regime now covers the full range of renewable energy projects for electricity generation above 50MW (for onshore projects) and 100MW (for offshore projects).

The draft Energy National Policy Statements (NPS) set a significantly different tone to the current EN-1 around fossil fuels, with a large focus on net zero and what this means for the energy sector. While wind remains central, solar energy is covered for the first time in the draft EN-3 with focus on allowing flexibility in design and the ability to accommodate energy storage solutions. This is particularly welcome in an area where the technology continues to evolve at a fast pace and gives applicants comfort that they will be able to make best use of the latest, most efficient products rather than being wedded to a specific set-up.

A range of official policy identifies that the lowest cost option for achieving Net Zero will involve high levels of wind and solar. There is recognition that natural gas, mainly with carbon capture, is still required during this transition phase and at lower running hours to support system stability during low wind speed and low irradiance periods. The Net Zero Strategy: Build Back Greener (HM Government, 2021) expands on key commitments in the Energy White Paper, proposing to deliver “four carbon capture usage and storage (CCUS) clusters, capturing 20-30 MtCO₂ across the economy, including 6 MtCO₂ of industrial emissions, per year by 2030”. It should be kept in mind that this goes beyond energy infrastructure delivery as these constitute subregional scale clusters of both existing and proposed energy and industrial emitters supporting tens of thousands of jobs.

Two DCO projects – Net Zero Teesside which is being advanced by bp, and Keadby 3 Carbon Capture Power Station by SSE and Equinor – along with their equivalent scale Section 36 project in Scotland (Peterhead Carbon Capture Power Station) are currently being progressed and deliver a substantial part of the 20-30 MtCO₂ target.

In addition, hydrogen is seen as important in the net zero transition, as is further highlighted in the UK hydrogen strategy, published in August 2021. Additional nuclear beyond Hinkley Point C may include large-scale nuclear, small modular reactors, advanced modular reactors and even fusion power plants.

“DWD are leading the planning and consenting on three of the main low carbon and CCUS projects currently being advanced in England and Scotland. These projects have a crucial role to play in helping to deliver the UK Government’s commitment to establish four CCUS clusters by 2030, and Net Zero by 2050.

Our involvement on these and other projects means that we are at the forefront of helping to deliver decarbonised power and CCUS infrastructure across the UK.”

Geoff Bullock, Partner DWD

Potential market for Energy NSIPs

DWD

Bradwell B Nuclear Power Station

Client: EDF Energy

Industry: Nuclear Power

Services: Planning

DWD are providing planning advice to EDF Energy and CGN in relation to their proposals for a new nuclear power station at Bradwell in Essex (Bradwell B). Bradwell B is identified in the National Policy Statement for Nuclear Power Generation as a potentially suitable site for a new nuclear power station. The first stage of public consultation on the proposals was carried out in Spring/Summer 2020.

DWD were brought on board at the outset of the project to lead the planning team to develop the proposals and deliver the planning elements of the public consultation, as well as supporting the Environmental Impact Assessment Scoping exercise.

Our role included heading up a team of both in-house and external planning consultants and being the point of contact for engagement with the Planning Inspectorate, Local Authorities and other important statutory consultees.

DWD were approached for this role because of our significant experience of working on energy DCOs, but also specifically in nuclear, through the Hinkley Point C and Wylfa Newydd DCOs.

By using the experience of the DWD team, the client was able to deliver a high quality Stage One consultation and develop meaningful relationships with the Planning Inspectorate and Local Authorities, working with a highly skilled client team. We are looking forward to continuing to work with EDF and CGN as the project progresses.

According to the Secretary of State for Business, Energy, and Industrial Strategy, Kwasi Kwarteng, all our electricity will come from clean sources by 2035. This combined with the retirement of nuclear capacity which contributes 20% of the UK's electricity, means there is not long in which to ensure the relevant wind power, solar, carbon capture and other Net Zero energy infrastructure is firmly in place.

Significant investment is occurring to achieve these Net Zero targets and allow the energy infrastructure to transition. Over £55bn is being invested in new nuclear related schemes; £35bn is being spent on wind power solutions and offshore energy options; and an initial commitment of £500m is being pledged to the hydrogen sector in order to create 9,000 jobs and attract £4bn of subsequent private investment.

To date the SoS has made decisions on 63 energy NSIP projects including Ferrybridge Multifuel 2, Eggborough CCGT, VPI OGCT, Tees CCGT and Humber Bank Energy Centre. There are a further 48 energy NSIP projects applications, including Mallard Pass solar farm.

Many more energy DCO applications will be needed, but it is a well worn path, and the format of the process means that developers have a clear and transparent process to follow. But what could work better?

There are four key considerations when selecting the right site for the NSIP.

1. The geographical location needs to have the available connection into the national grid and fuel and cooling supplies, as well as the right physical attributes to make it attractive, particularly for solar. This may require some up-front investment to ascertain that the site has sufficient exposure to deliver the required energy outputs.
2. The impact of climate change and water levels means energy infrastructure is typically steered towards areas of low flood risk so they can remain operational during times of flooding. Resilience can be built in where other factors weigh in favour of the location.
3. Transport connections - including wharves for the transport of larger structures (abnormal loads) or bulk materials - will be important for the construction of Net Zero energy projects. Once constructed they may have little or no transport impacts.
4. Recognising the level of local awareness and perceptions towards net zero infrastructure. In CCUS cluster locations this may involve working with a range of promoters. Taking the time to develop genuine community engagement not only allows a more meaningful exchange throughout the consultations, it also helps to

inform the community about the significance of each DCO stage. Adopting a best-practice approach will mean consultations and communications are inclusive, clear and easy to access.

Siting considerations vary according to the type of energy infrastructure proposed. The emerging NPSs do not yet reflect the siting considerations for solar projects sufficiently, and there has been no comprehensive exercise by government to define suitable sites for Small Modular Reactors, which are potentially suitable for many other locations besides the locations established in EN-6 for large nuclear. A robust site selection report is central to many of our projects, so it seems anomalous that there is no formal requirement for a site selection report to accompany DCO applications, despite there being requirements in regulations for matters such as grid connection statements.

We consider that the NPSs could act as a springboard for building stronger partnerships with developers so that there is a move towards an integrated approach to siting where multiple NSIPs or related projects are proposed in a region, to provide infrastructure delivery efficiencies and benefit the local community and environment.



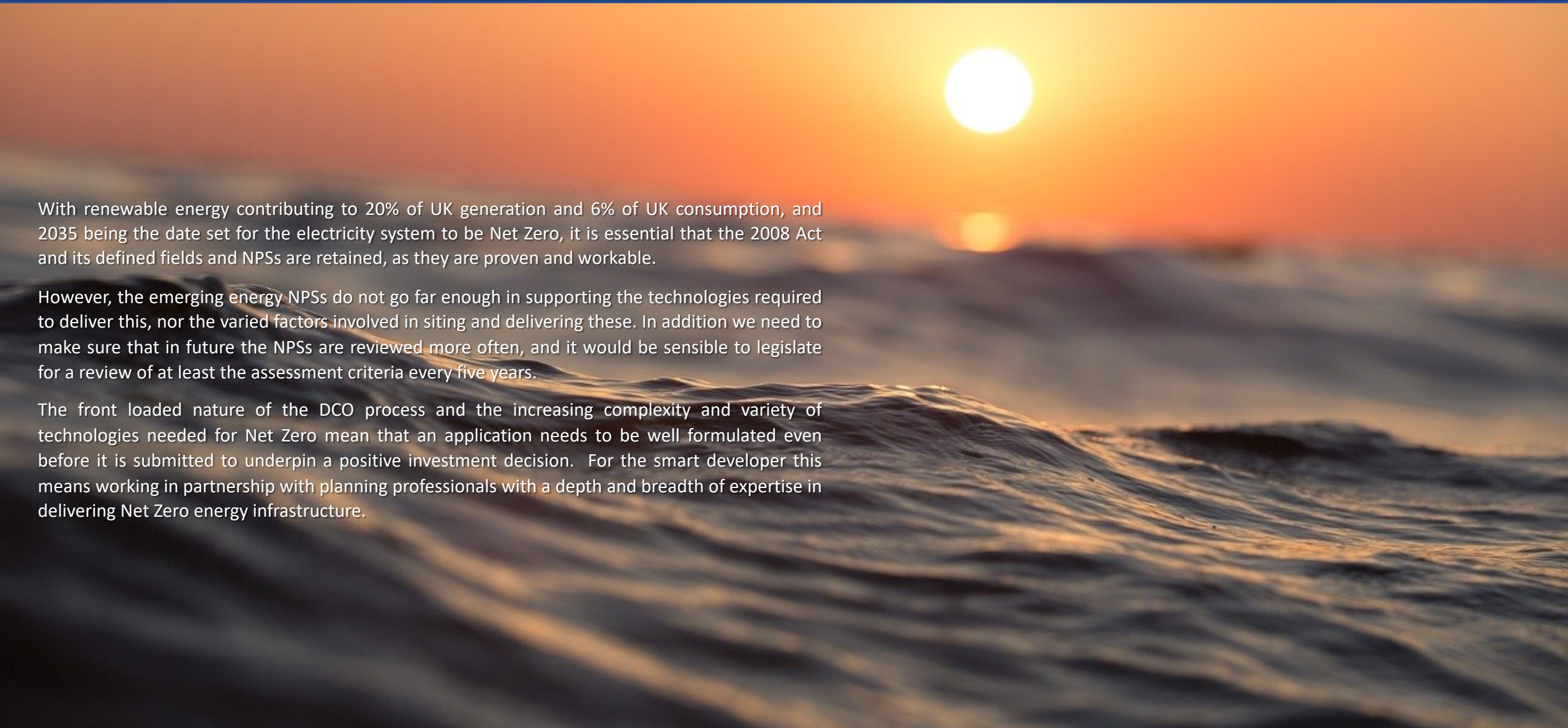
Having a statutory pre-application engagement and a duty to have regard to responses means that developers have clarity on schedules. Developers can therefore work with technology providers pre application if they wish, and submit an application when they are ready. All involved in planning 2008 Act projects will need to become conversant with a greater range of technologies and work with both landowners and licensors.

There is a level of inflexibility around technology choice in the DCO process, in particular the timescales involved in making changes post consent, which can adversely affect projects. An example is the wind sector where technology advances may mean turbine heights vary between design and build.

Some technologies are not covered in the 2011 NPSs and lightly covered in the draft NPSs. Interconnection cable projects do not lie within any of the specified types of energy infrastructure in the 2008 Act, although can be opted in at the Secretary of State's discretion. EN-6 does not consider Small Modular Reactors, though it will be reviewed on a later timescale in order that policy for nuclear concerning deployment beyond 2025 is put on a firmer footing. Hydrogen fuelled power station technology is developing rapidly with Siemens already able to run gas turbines on a fuel mix containing 75% hydrogen. We see that replanting of existing projects will become increasingly important particularly for wind, solar, and gas generation, and makes more efficient use of land, but policy support for this could be stronger.



Credit: Low Carbon

The background of the slide is a photograph of a sunset over the ocean. The sun is a bright, glowing orb in the upper right quadrant, casting a warm orange and yellow light across the sky. The ocean below is dark with gentle, rhythmic waves that catch the light, creating a shimmering effect. The overall mood is serene and hopeful.

With renewable energy contributing to 20% of UK generation and 6% of UK consumption, and 2035 being the date set for the electricity system to be Net Zero, it is essential that the 2008 Act and its defined fields and NPSs are retained, as they are proven and workable.

However, the emerging energy NPSs do not go far enough in supporting the technologies required to deliver this, nor the varied factors involved in siting and delivering these. In addition we need to make sure that in future the NPSs are reviewed more often, and it would be sensible to legislate for a review of at least the assessment criteria every five years.

The front loaded nature of the DCO process and the increasing complexity and variety of technologies needed for Net Zero mean that an application needs to be well formulated even before it is submitted to underpin a positive investment decision. For the smart developer this means working in partnership with planning professionals with a depth and breadth of expertise in delivering Net Zero energy infrastructure.

Dedicated experts

The DWD Planning team has experience of energy DCO projects, including nuclear, multifuel, solar and carbon capture. The Energy and Infrastructure planning team members have a strong working knowledge of the sector and provide advice on many types of NSIP, managing the DCO process from feasibility studies to build out.



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