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Major renewable energy infrastructure

## Chapter 46

# Planning for rural communities and major renewable energy infrastructure

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### Abstract

As renewable energy infrastructure (REI) expands globally, rural planning is faced with a series of challenges involved in the uses of rural land for energy generation purposes and the consequent effects on rural communities, particularly where major or large-scale infrastructure development is involved. While renewable energy may not conform to traditional definitions of ‘extraction’ it nonetheless derives production from rural space, thus contributing to long-standing concerns around the balance of power between urban and rural. Debates around REI decision-making have demonstrated a ‘gap’ between national support for a transition to renewable energy and local resistance to the development of REI. This chapter presents an empirical study of three cases of planning decisions on REI projects in Wales, which were made under the UK’s Nationally Significant Infrastructure Projects regime. It draws on data from official archives to help unpack the challenges of planning both for rural communities in light of major renewable energy infrastructure in a rural context.

### Introduction

This chapter considers the implications of major renewable energy infrastructure (REI) development for rural planning. It takes the view that rural planning should be community-oriented, and that it will involve contested decisions. It must grapple with conflictual issues associated with new developments in rural areas as major renewable energy infrastructure developments, which have proven controversial, become increasingly common. The UK is a particularly useful case to study as it has

witnessed rapid expansion of REI roll-out (Huddleston, 2010). It is the detail of where and how such development is constructed, which will surely be the concern of rural planning and, as discussed below, such matters are opened up through the regulatory processes for ‘Nationally Significant Infrastructure Projects’ or NSIPs. This chapter draws on a recent study<sup>1</sup> of NSIPs in England and Wales, and particularly the data collected from the national infrastructure planning portal (available at <https://infrastructure.planninginspectorate.gov.uk>).

This assessment of NSIPs is rooted in an understanding of ‘the rural’ as a human construct (Marsden et al., 1993), where the uses of land are deeply entwined with societal notions of value. As such it sees rural planning as less oriented towards achieving an end-state as towards fulfilling the need ‘to ensure sustainable and equitable use of resources in the countryside and to optimize the welfare produced from them over time for all stakeholders’ (*ibid.*: 17). It recognises, the deep tension between development of national resources and the protection of local communities, which is writ large across the range of concerns and aspirations around the use of rural land negotiated within planning. The renewable energy infrastructure literature suggests this is most noted in relation to the ‘social gap’ (Bell et al., 2005, 2013) where there is national acceptance of wind farm developments but communities protest the appearance of them in their local countryside.

Given the intrinsic contestation of rural value, it is useful for any instance of planning, and particularly the REI development, to examine who speaks for a locality, how, and to what effect (Marsden et al., 1993). Knowledge claims over landscapes within NSIPs need to be ‘carefully layered’ to provide legal reasoning (Lee, 2017). Mardsen et al. (1993) also suggest local actors both struggle to find representation within networks of power relations and might be ‘mobilised’ to support the purposes of actors outside their locality. For this reason the representations that local rural communities provide on their own behalf, through participation in NSIP processes, as well as the overarching tension manifest within the regulatory stage of major REI, is of particular interest. This chapter therefore first assesses the ‘NSIP regime’ itself and then examines the concerns of rural communities, paying attention to how they are constructed and attributed significance within planning, drawing on the UK

experience. Empirically, the research examined 12 NSIP cases that were complete by September 2015. These are:

- Kentish Offshore Wind Farm Extension;
- Galloper Offshore Wind Farm;
- Burbo Bank Offshore Wind Farm Extension;
- Rampion Offshore Wind Farm;
- Walney Offshore Wind Farm Extension;
- Triton Knoll Offshore Wind Farm;
- Navitus Bay Offshore Wind Farm;
- Brechfa Forest West Wind Farm;
- Clocaenog Forest Wind Farm;
- Swansea Bay Tidal Lagoon;
- North Blyth Biomass Plant; and
- Rookery South Energy from Waste Plant.

The reports from their examinations were revisited selecting those concerns that had been articulated explicitly by local people within rural communities within the NSIP regulation, and tracing their resolution or otherwise within the recommendations for mitigation or refusal of consent (a rare occurrence, only seen in Navitus Bay within the UK study). References from the reports are given with the name of the development and the paragraph number. Findings show the important role of local planning authorities in establishing the importance of rural concerns, particularly in the face of strong policy narratives in favour of major REI. In the concluding section, implications for planning for rural communities are discussed.

## **The NSIP regime**

The NSIP regime provides a strong presumption in favour of consenting major REI through policy, and expediting it through planning control at the national level. It is

doubtful whether major infrastructure developments are in fact brought from inception through to consent any quicker (Marshall and Cowell, 2016), however, the NSIP regime has certainly provided a powerful mechanism for delivering REI consent as set out by the Planning Act 2008 (TSO, 2008). Energy infrastructure proposals are determined ‘NSIP’ according to generating capacity thresholds – this included those with a maximum generating capacity of over 50 MW onshore or 100 MW offshore within England and Wales, although onshore wind farms in England have recently been removed from these provisions and are handled by local planning authorities, and those up to 350MW in Wales by the Welsh Assembly Government., Their ‘promoters’ prepare a draft development consent order as part of their application for consent. Applications must undergo a planning examination, which is conducted in an inquisitorial manner by an examining authority (ExA), either an individual or a panel appointed by the national planning inspectorate, within a six month period. Representations are primarily given in writing, although there are hearings where statutory bodies and local people (including individuals, businesses and groups) who have registered as Interested Parties by the allotted deadline can make representations orally, and site visits where local people can attend. All representations and procedural documentation such as ExA questions and developer application materials are made available online at the planning inspectorate’s website. Subsequently, the ExA produces a report for the relevant Secretary of State who takes the decision, and these last reporting and decision-making stages are to be completed within 6 months. At the time of the UK study, 15 major REI cases had been through this new consenting system, and of these only one, Navitus, had been refused consent.

How then were such infrastructure projects deemed significant? The most prominent reason given is the need to meet the UK’s legal obligations under the European Union’s (EU) Renewable Energy Directive (2009/28/EC), and transposed into UK law via ‘The Promotion of the Use of Energy from Renewable Sources Regulations 2011’ (SI 2011/243). Current national policy in the UK leaves little room for doubt that REI is a high priority in two key National Policy Statements (NPS): EN-1 on energy and EN-3 on renewable energy (DECC, 2011a, 2011b), which set out the need, objectives and guidance for transitioning to renewables. These are key references within NSIP examinations. As EN-3 states: ‘a significant increase in generation from large-scale renewable energy infrastructure is necessary to meet the

15% renewable energy target' (DECC, 2011a: section 1.1.1). Given the need for open space, and in the case of solar and wind power also uninterrupted sunlight and wind, these were mainly sited in rural areas and in the case of offshore wind farms and the Tidal Lagoon they had grid connections works running from the on-shoring point on the coast through rural areas to national electricity grid connection points. As such, the NSIP regime is not only infused with legal arguments for consenting major REI, but it also implies that REI should be considered a priority over possible rural concerns, such as tranquility and landscape views. As stated in EN-3, accepting large onshore wind farms 'will inevitably have some visual and/or noise impacts, particularly if sited in rural areas' (DECC, 2011a: section 2.7.2). Hence such local impacts may be deemed acceptable in rural areas, subject to tests such as conformity to ETSU-R-97 guidance on the assessment and rating of noise from wind farms (Meir et al., 1996) as stipulated in EN3.

Alongside the RE targets that underpin the NSIP regime itself, the expansion of renewable energy infrastructure appears to have been encouraged for economic reasons. In the UK, central government has emphasised the economic value of such development to rural farmers and landowners, as part of a drive to increase economic productivity in rural areas (DEFRA, 2015). As argued by the Department for Environment, Food and Rural Affairs (DEFRA) and Department for Communities and Local Government (DCLG), 'Better connectivity has led to farmers and landowners diversifying into renewable energy, such as wind turbines, solar panels and anaerobic digesters, producing energy for themselves and to sell, to provide an additional income stream. Farmers also utilise their buildings to provide storage facilities or office space for local businesses, providing much needed business accommodation' (DCLG and DEFRA, 2016). Such claims implicate NSIP in the longstanding tension between industrialising and conserving the countryside.

Critiques of industrialisation of rural land are rooted in the refutation of 'nature as a free gift', an idea that is attributed to Marx despite the argument that the interpretations are not as intended (Burkett, 1999). In any case, the key observation was that the (over)use of nature undermines the very conditions needed for production. 'Free nature' rests on a self-defeating logic in the face of the 'irreconcilable contradiction between use value and exchange value' for any

commodity (Apostolopoulou and Adams, 2015: 17). However, arguments for REI suggest these can both use and conserve the environment, and thus go beyond notions of conflicting demands on rural land. Such narratives are highly contested, and popularly termed ‘green grabbing’ (Vidal, 2008) with the implication that ‘green’ arguments, where environmental value is attributed to developments and agricultural land uses such as bio-fuel crops, green infrastructure or ecotourism, are simply a cover to use rural land for private gain. They are seen as part of a set of planning discourses that can obscure local concerns by being vague about ‘wide benefits’ (Lennon, 2015), and thus smooth the path to ‘mis-use’ of the rural.

The NSIP regime was criticised for having a ‘democratic deficit’ in relation to onshore wind farms decision-making, which has been devolved back to local planning since the time of the UK study. Debates on rural governance lend some support to such a move, as they suggest that rural planning ought to err on the side of directly empowering local communities (Dalal-Clayton et al., 2002). Indeed in the UK, a new legitimacy has been given to arguments for local control (Wargent and Parker, 2018) by the introduction of statutory neighbourhood planning in England by the Localism Act (TSO, 2011). Nonetheless, rural planning scholars argue that ‘despite an apparent localisation of rural policy delivery, the design of policy – and the framing of its delivery – is occurring at numerous levels and within a variety of different bodies above the point of delivery’ (Gallent et al., 2015: 55). Focusing on major REI demonstrates this point, as both local and neighbourhood planning still operate in the context of decisions and policy made at national and Welsh scales.

While the introduction of the NSIP regime centralised decisions on REI and the lower tiers of planning, which are apparent within it, have less discretion and authority than the ExAs. In Wales, the Welsh Assembly Government has arguably sought to bridge its own ambition for major REI even more firmly into local scale rural planning for onshore wind farms. Its Technical Advice Note 8 states that ‘Local planning authorities should seek to maximise the potential of renewable energy by linking the development plan with other local authority strategies including the community strategy’ (Welsh Government, 2005), and sets out designated Strategic Site Areas (SSAs) preferred for the construction of wind farms. Indeed, energy studies

have criticised the means of constructing of SSAs for reducing the scope for reflexivity in Welsh energy policy (Cowell, 2010).

Local authorities are involved in NSIP examinations in an advisory capacity, as they are required to produce a local impact report (LIR) for the NSIP examination. LIR represent rural concerns and these are tested, as are all representations, through questioning by the ExA. Local plans are a material consideration in the NSIP examinations but throughout the cases studied, the NPSs may overrule them. This is clearly demonstrated in the case of Brechfa, in relation to the issue of minimum separation of turbines from rural properties. The Carmarthenshire unitary development plan (UDP) was being replaced by an LDP (local development plan), which was on deposit at the time of the exam. As the ExA noted, the deposit LDP contained a new policy that ‘large-scale wind power proposals should be located a minimum of 1500m away from the nearest residential property’ (Brechfa 3.12). However the ExA did not give weight to Carmarthenshire’s proposed policy, citing the guidance in TAN8 of ‘a normal minimum separation distance’ of 500m (Brechfa 4.112).

## **Concerns of rural communities**

As noted above, there are opportunities for local people to participate in NSIP processes. Applicants must undertake pre-application consultations in the local areas, and local people are included as Interested Parties (IP) in the examination. A survey of local participants across the UK study cases found that ‘the strength of critique from participants in the NSIPs regulations serves to warn against any assumptions of procedural inclusiveness’ (Natarajan et al., 2018: 209), although pro-active efforts of individual ExAs and developers that helped in particular episodes were acknowledged. The 12 cases studied were diverse, including onshore wind farms in Wales, as well as offshore wind farms, biomass and energy from waste plants, and a tidal lagoon. Broadly speaking, concerns identified by rural communities (including businesses and local interest and amenity groups as well as individual residents) related to tranquility, landscape, agriculture, tourism and ecology. Issues of tranquility, landscape and agriculture were particular to rural areas, whereas issues of local tourism and ecology were seen in both urban and rural areas, across the 12 cases. Therefore, while tourism and ecology are pertinent matters for planning for

rural communities in relation to REI, in the interests of succinctness, this section focuses on how ‘rural concerns’ over tranquility, landscape and agriculture that were raised by IPs were substantiated and contested within the examination.

## Tranquility

Looking first at the issue of noise as raised by rural communities, the representations predominantly cast their localities as quiet and tranquil by drawing on personal experience. For instance two IP in Triton Knoll raised concerns over ‘noise and disruption from the construction of overhead cables, substations and converter stations’ (Triton Knoll 5.1.15). The ExA framed these impacts as ‘amenity impacts’ but noted that ‘the potentially serious harm to their own health that would arise from noise, there was no independent evidence on this point submitted to the Panel’ (*ibid*). Similarly, in Brechfa IP representations regarding a ‘swishing noise’ of wind through turbine blades was related to experiences in local weather conditions; ‘residents suggests that the concerns arise most frequently when the wind is from the south-east, and when the weather is damp. Mist, drizzle or light rain are seen as particularly associated with adverse noise conditions’ (Brechfa 4.106). Again the ExA was unable to verify this on their site visits, and the information they requested on complaints over this type of noise coming from a nearby existing wind farm was not supplied by the local authority. The applicant argued that the issues experienced would not necessarily be replicated, and the ExA concluded on the evidence before them that ‘the project could meet relevant standards and thus accord with policy’ (Brechfa 4.110).

In some instance, IP concerns over the disruption of rural tranquility were given support by the LIR that local authorities supplied. Some LIRs argued that noise was a threat to the local economy. For instance in Rampion, the ExA reported how the South Downs National Park authority had ‘highlighted a need to consider the impact of “loss of amenity and tranquillity in areas immediately adjacent to the cable route”, suggesting that these concerns should not be considered lightly, given the marginal nature of many rural businesses dependent upon visitors’ (Rampion 4.505). In that case, the ExA concluded the disruption would be temporary coming only from construction. Other times, LIRs and local policy helped articulate the ‘residential amenity’ aspect. For instance in Clocaenog, local councils reported that the cumulative background noise from all existing and permitted development would

increase by 8 decibels, and noted that the ETSU-R-97 guidance indicated this was a major impact. The significance of this noise effect on rural communities was not contested by the ExA (Clocaenog 4.202) and the harm to residential amenity was acknowledged as being in conflict with local policies, i.e. NTE/7d of the Conwy local development plan and Policy VOE 9ii of the Denbighshire local development plan. Nevertheless following the guidance of EN3, the ExA attributed little or no weight to this impact as ‘the correct methodology has been followed and a wind farm is shown to comply with ETSU-R-97 recommended noise limits’ (Clocaenog 8.22).

## Landscape

The second area of particular rural concern was landscape. This was an area where there was frequently difficulties in providing evidence that could hold weight in the planning examination. The value of landscape was mainly described in terms of an intrinsic visual character of rural land., for offshore REI, the value of landscape could also related to views from rural land to the seascape. In Burbo for instance, the local groups Wirral Society and Hoylake Village Life, as well as several local individuals, raised concerns about the impact of the REI developments on both aspects. Wirral Council was also concerned that the effects of the proposed offshore development on so-called ‘receptors’ within the designated Areas of Special Landscape Value, had only been given a ‘moderate’ impact rating by the developer. There were further hearings and ExA questions on this issue, however several parties did not attend or follow up with any written representations (Burbo 4.124). However, the developer reported that there were discussions on mitigation that would proceed ‘in their own time [and] at their own pace and we are not suggesting that any of these discussions should be taken into account by you’ [the ExA]’ (Burbo 4.124). Thus the ExA concluded with reference to the NPSs that such local landscape impacts were not a reason to refuse consent.

Elsewhere, members of the public were at pains to present not only written material but also photomontages that visualised potential impacts. However, as demonstrated in Navitus Bay, visualisations from any party could be highly contested, and since the collection of industry guidance on assessing landscape impacts on ‘visual receptors’ (e.g. residential properties and people visiting viewpoints or using trails) was diverse, it could not easily resolve matters. The only consensus was that visualisations of landscape impacts should be used as tools (Navitus Bay 7.1.65),

reaffirming their use as ‘artefacts’ (Rydin et al., 2017). Nonetheless, issues of landscape were evaluated and they proved decisive in the eventual refusal in this case. Counting against the development were the ‘unique and outstanding qualities of the areas likely to be harmfully affected by the visual, intrusive presence of the turbine array and the offshore substations’ (Navitus Bay 21.2.25), across several nationally designated areas (the Dorest and Isle of Wight AONBs Purbeck and Tennyson Heritage Coasts and New Forest Park). The ExA found that this – together with the ‘less than substantial harm’ to both the World Heritage Site and to the significance of designated heritage assets, and the point that those issues would ‘preclude a favourable conclusion in terms of design quality’ (Navitus Bay 21.3.19) – outweighed the benefits of the proposed wind farm.

Landscape concerns were not limited to views *per se*, but also extended to a more general rural character. In the Energy from Waste (EfW) case, local people and planning authorities indicated concerns about the industrial look of the facility and sought mitigation through redesign. As reported by the ExA, they argued that the proposed site was ‘an area which is now changing its function and turning away from its historic role as an area where clay is extracted, in turn leaving large holes in the ground to be filled with waste from other parts of the country. Rather, it is now a rural, peaceful landscape, deserving to be left that way. The intrusion of the proposed EfW development would mean a return to the past’ (Rookery 5.42). The ExA concluded that this weighed significantly against the proposal, although it did not outweigh the benefits, and no redesign would change this: ‘Inevitably, the plant would be seen from many of the more distant viewpoints in the surrounding landscape as an essentially industrial plant in a rural location’ (Rookery 6.18). Similarly, in Rampion, the energy substation, an associated works included in the application, was a concern in relation to rural vernacular design traditions. IP argued that ‘the height of any substation buildings should be restricted to a single storey and that their design should echo agricultural buildings and thereby be appropriate to their rural setting’ (Rampion 4.272). In this case, however, at the ExAs discretion a mitigation provision to protect existing hedgerows from removal was added into the developers draft DCO, with the explanation that ‘this provision is important given the maturity of trees and hedgerows in the location of the proposed substation and their importance in providing potential

screening and the value attached to these landscape features by interested parties' (Rampion 4.288).

## Agriculture

The third area of concern specific to rural communities was the impact of tracts of cable-laying that are necessary for energy transmission. While these types of works are not exclusive to REI, uncertainty is introduced where grid connections are not included as part of the applications. Such exclusions are relatively common in major REI, at least in part due to their scale and technological complexity. In the UK study, three of the 12 cases did not include associated grid connection in the application (Brechfa, Kentish and Triton Knoll), Burbo did not include those cables that were in Wales (with local authorities in Wales determining associated works for offshore wind farms at that time), and Navitus Bay had not yet determined which of three sites to use. For agriculture, uncertainty threatened to impact seasonal operations and good soil practice, as well as income streams from crops. In Triton Knoll for instance, the ExA reported that there was 'uncertainty about the ability of farmers in the cable corridor to plan investment in facilities such as new agricultural buildings, drainage or irrigation, due to ongoing uncertainty about the location and width of the cable corridor or the depth at which cables would be buried' (Triton Knoll 5.1.21) and over 'how construction might be managed in a period of high rainfall, to avoid damage to soil structure and fertility' (Triton Knoll 5.1.12). The National Farmers' Union also provided representations on those matters and 'added concerns over the long-term impact on farmers' ability to reuse affected areas for crops through effects such as heating or drying' (Triton Knoll 5.1.21). In response to those concerns, combined with other points raised that related to cable laying including issues of tranquillity and other landowners' interests, the ExA recommended 'that no works shall commence until the SoS [Secretary of State] had confirmed in writing that all necessary consents for the connection have been granted' (Rampion 5.1.34).

## Conclusions

The rural landscape has become a prominent 'lens' within which to examine energy debates internationally. Renewable energy infrastructure is a physical manifestation of rural change and a symbolically visible marker of the provision and societal uses of energy (Nadaï and van der Horst, 2010a, 2010b). In the UK, the reasoning for

increasing renewable energy generating capacity is infused with a powerful narrative of helping to fight climate change. The use of rural land for major REI is thus framed as an alternative means to ‘high carbon’ forms of production. The section on the NSIP regime highlights strong narratives of carbon reduction, and potential for ‘green-grabbing’. Planning that would consider equity in uses of the countryside must be able to learn about and consider rural concerns, not simply be driven by national or other higher tier concerns. This is not to suggest some type of automatic privilege of local rural concerns over wider need; on the contrary it invokes the argument that *both* conservation and use of rural land are crucial. This raises the question of how to plan for rural communities such that the impacts on rural localities are given adequate weight. To shed light on this, the previous section unpacked how the concerns of rural communities might be articulated within national regulatory processes of planning.

The study of representations made by rural communities in view of proposed NSIPs, demonstrate how hard IPs have to fight to establish the importance of their concerns, and seek mitigation for impacts. Local individuals encounter a powerful national voice in the NPS and well-resourced developers who are more equipped to deliver evidence of the sort that finds traction within regulatory processes. When local communities were aligned with a civic organisation their points were more clearly heard within the planning examination, however concerns were most effectively raised where they could establish a connection either to local planning policy or protection of areas of national designation. Thus, local authorities had an important role in helping support or refute rural communities concerns and in negotiating mitigation with developers. This suggests that, while active citizenry is essential to articulating community views, rural planning is important in ensuring ‘upward recognition’ of rural concerns over REI within the hierarchy of decision-making, especially when decisions are made at the national tier of statutory planning. As such, there is a reliance on local communities and local authorities to give voice to rural concerns within the NSIP examinations.

The position of ‘the rural’ within the planning processes for REI has been fundamentally shifted by the upscaling of decision-making. Identifying local concerns and relevant current rural plans and policies when a development is proposed appear to be the key means to keeping rural planning in the frame. However, in the NSIP

regime rural planning actors have limited capacities to engage, and their voice is a secondary consideration, particularly in relation to national policy. Thus the centralisation of decision-making on major REI presents a serious challenge for rural planning. This remains true despite the devolution of certain aspects (as noted earlier), and is also an important consideration for other types of infrastructure such as transport and water works. These too are most likely to be developed in rural settings yet justified through regional and national priorities that, at least in the UK, are determined ‘upstream’ of regulation. This is important, since the impacts of major infrastructure development on the countryside are most likely to be considered when deciding development applications. There are two possible responses to such a situation. Firstly, local rural planning actors, can seek to engage with the higher tier arenas of decision-making. However such action does not ensure that the use of countryside land is strategically assessed, i.e. the value of finite rural resources and the costs of their uses are not an explicit consideration in planning at all (or in the case of REI bracketed out under the reasoning of ‘mitigating climate change’) and likewise the totality of the impacts on the rural population remain unknown. Therefore as a second response, rural planners might seek *post hoc* aggregate assessment and monitoring of rural impacts. In the present context, it appears that this will be critical to ensuring that rural planning concerns are not overlooked.

## Note

1 This work was conducted at UCL and ESRC-funded. It was completed in December 2017, and findings and outputs are available through the project archive at [www.ucl.ac.uk/nsips](http://www.ucl.ac.uk/nsips).

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