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Canolfan Polisi Cyhoeddus Cymru

Accelerating deployment of energy infrastructure

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Contents

Summary

- This evidence review explores how the deployment of renewable energy infrastructure could be accelerated through reforms to the planning system. It looks at two key areas of the planning system: the permitting and consenting process and public engagement, drawing on insights from reforms in other countries.
- Planning is an issue partially devolved to Wales. The Welsh Government is already making attempts to reform the planning system, introducing the Infrastructure (Wales) Bill to simplify the consenting process for major projects.
- Other countries are also taking action to streamline their permitting and consenting regimes to facilitate rapid deployment of infrastructure needed to reach net zero. Reform in the Netherlands shows that streamlining can successfully accelerate the rollout of renewable energy.
- The report recommends that aspects of the planning system could be temporarily streamlined, learning from the experience of other countries such as Spain and Finland.
- Pre-assessment is a key feature of streamlined processes, with projects in certain areas more likely to proceed. We recommend that pre-assessed areas in Wales could be developed further.
- While the value of public engagement is widely acknowledged, existing practice is largely one-way and focused on information sharing.
- Public engagement should be meaningful, participatory, and citizen-led where possible, and begin early in the planning process.
- Digital tools can enable more people to participate in the planning process, however, it is important to use a balance of digital and traditional methods of communication to avoid excluding those not digitally connected.
- The report recommends that Wales could implement digital tools similar to FAST-41 in the United States, perhaps making them compulsory for all developments including those that are the responsibility of LPAs.
- Harmonisation between different levels of the planning system should be pursued, aiming to ensure that procedures intended to encourage rapid deployment do not inadvertently create new administrative hurdles across other levels of the planning system in Wales and the wider UK.

Introduction

WCPP have been commissioned by the Welsh Government to provide evidence to support the work of the Wales Net Zero 2035 Challenge Group.

The Welsh Government and Plaid Cymru Cooperation Agreement committed to 'commission independent advice to examine potential pathways to net zero by 2035'. In response to this the Wales Net Zero 2035 Challenge Group has been formed, chaired by former minister Jane Davidson. The Group's work is scheduled to run until summer 2024 when it will present its final report. The group will look at the impact on society and the economy, considering the distribution of the costs and benefits and how any adverse effects could be mitigated. The Group is organising its work through a series of five challenge areas. More information on the work of the Wales Net Zero 2035 Challenge Group can be found at: **https://netzero2035.wales**

This evidence review has been prepared to support the Group's work on its second challenge area, 'How could Wales meet energy needs by 2035 while phasing out fossil fuels?' It focuses on ways in which the deployment of energy infrastructure could be sped up, and is organised in two parts:

1. Ways in which legislative changes have been implemented in other countries through **permitting and consenting regimes**; and
2. Ways in which **public engagement** can be enhanced to maximise support for new infrastructure projects.

To explore how the deployment of energy infrastructure could be accelerated, there is a need to understand the ways in which planning reforms in other countries have worked on the ground and whether legislative change has achieved speedier, more consistent decisions and reduced the application burden on developers. Additionally, we understand that public engagement throughout the planning process needs to be enhanced – particularly during the early stages of project planning and consenting – so that local communities are or can be reassured about the effects of large-scale infrastructure work and appropriate changes can be made to projects if required.

The Welsh context

Current policy and legislation

Legislative and executive control over planning is largely devolved to Wales, with some significant exceptions, although much of the law surrounding planning rests on an England and Wales basis as the legislation was passed prior to devolution or prior to full legislative devolution. The Welsh Government is proposing to consolidate planning legislation through an Act of the Senedd, which will also aim to simplify and modernise planning law (Welsh Government, 2021a). The National Infrastructure Commission for Wales also reported that 'the [planning] systems should be reviewed to ensure they are as streamlined as possible' (2023: 34).

Planning is primarily delivered by local planning authorities (LPAs) consisting of the 22 local authorities in Wales as well as the three National Park Authorities, who are responsible for planning in the national parks instead of local authorities (Senedd Research, 2021). The Welsh Government is responsible for planning appeals against LPA decisions. It is also responsible for 'developments of national significance', which are larger-scale infrastructure developments for which national permission is required (Senedd Research, 2022). However, planning permission for the largest-scale infrastructure projects, in particular large-scale energy generation, is reserved to the UK government.[1]

Welsh national planning policy is set out in *Planning Policy Wales* covering the Welsh Government's policy objectives as well as legislative requirements and expectations for local planning authorities (Welsh Government, 2021b). Additionally, *Future Wales: The National Plan 2040* acts as the development plan for Wales which shapes strategic and local development plans (Welsh Government, 2021c). The development plan includes several pre-assessed areas for onshore wind (Welsh Government, 2021c).

For onshore energy developments, planning responsibility is shared as follows:

- **Developments up to 10 MW capacity:** decided by LPAs under town and country planning legislation;

[1] This paper was finalised prior to the publication of the UK government's *Connections Action Plan* and *Getting Great Britain building again* (Department for Energy Security and Net Zero and Ofgem, 2023; Department for Levelling Up, Housing and Communities, 2023).

- **Developments between 10 and 350 MW:** decided by Welsh Government under the developments of national significance regime; and
- **Developments over 350 MW:** decided by UK government under the Planning Act 2008 'Nationally Significant Infrastructure Projects' regime, except onshore wind developments which are decided by Welsh Government whatever their generating capacity (Senedd Research, 2023).

Offshore developments are governed in a similar way although with a different legislative basis (Senedd Research, 2023). All offshore developments must additionally be licensed by Natural Resources Wales (Senedd Research, 2023).

The Infrastructure (Wales) Bill

The Welsh Government has introduced the Infrastructure (Wales) Bill to simplify the consenting process for projects that would previously have fallen under the developments of national significance regime. The Infrastructure (Wales) Bill will create a 'one-stop shop' for permissions, consents and licenses that previously would have fallen under different regimes and authorities, for both onshore and offshore developments (Welsh Government, 2023a).

This new unified consenting regime would allow applicants to make a single application for all the consents and permits they require, where these are already devolved. This would be a simpler and less confusing and burdensome regime for developers, while also allowing for a certain degree of streamlining to be implemented allowing decisions to be made faster by Welsh Government (Welsh Government, 2023a). This could also increase certainty in decision-making.

Overview of the Evidence

There is little evidence which examines the planning system as a whole, hence the two areas which feature in this review: permitting and consenting regimes, and public engagement, come from two largely independent bodies of evidence.

Permitting and consenting regimes

There are examples of countries who have developed renewable energy at scale. Iceland developed large-scale hydroelectricity and geothermal energy projects due to its low population density and significant natural resources (Logadóttir, 2015), while Uruguay was largely reliant on imports from Argentina until it developed its own wind power infrastructure in 2005 (Corrêa et al., 2022). These countries were able to develop their renewable energy infrastructure, and associated processes, from first principles, making the lessons less applicable to the Welsh context and the need to adapt existing practices quickly. As such, these examples do not feature in this review.

There are also several outputs on this topic from think tanks, policy institutes and other organisations (see Langengen and Kakkad, 2023; Sud et al., 2023). The Energy Transitions Commission (2023), has also highlighted the challenges and potential solutions to planning and permitting barriers, drawing on a number of international examples. These outputs prove useful in identifying innovations in countries elsewhere, from which Wales could learn lessons. However, they tend to lack in depth discussion of the processes and contexts in which these are possible.

Given the recent emphasis on increasing the deployment of renewable energy around the world to meet net zero goals, there is little existing evidence on what works to enable the rapid acceleration necessary. There is a general lack of robust evaluations on the impact of specific policies; however, there are a number of countries which have implemented changes to planning and consenting regimes, and it is valuable to consider the lessons from these for the Welsh context.

Public engagement

There has been significant academic research on participation and engagement in the planning system. A large proportion of the literature is normative, focusing on how to effectively engage with stakeholders (Planning Aid Wales, 2021). There are also a wide range of, largely single, case studies, which focus on a broad range of geographical contexts, including Wales.

We rely on a number of systematic and non-systematic reviews, including syntheses of case studies (see Aitken et al., 2014; Lawson et al., 2022) in order to find lessons

for Wales in enhancing public engagement. These primarily focus on a Welsh or UK context, drawing on international examples in the case studies of Denmark and the United States. However, what works for public engagement is mostly evaluated in one-dimensional terms of procedural and ethical fairness; and there are few reviews where policies are evaluated either across contexts, outcomes or different types of technology (Devine-Wright et al., 2016).

Permitting and consenting regimes

Many countries rapidly need to increase deployment of renewable energy in order to meet their net zero ambitions. Across Europe, this is a particularly important issue as a consequence of Russia's invasion of Ukraine and its disruption on the energy system (European Commission, 2022). Governments across Europe, as well as the European Union, are taking action to streamline their permitting and consenting regimes to facilitate rapid deployment of both renewable energy projects, and other infrastructure needed to reach net zero.

In this section, we present three case studies from the Netherlands, Spain and Finland, discussing how this streamlining has taken place, and the lessons which can be drawn from these examples for Wales.

Case study 1: The Netherlands - offshore site designation

Prior to 2017, less than 1 GW of offshore wind capacity had been developed in the Netherlands (Wind and Water Works, 2023). Under the planning regime in place at the time, developers were responsible for site selection and investigation. As they still needed to go through the process of obtaining a permit to construct offshore wind farms for the sites that were selected, this increased costs for developers while also leading to significant uncertainty as to whether sites would be approved (Wind and Water Works, 2023). In response, the Dutch government adopted a more centralised model for the rollout of offshore wind.

Under the Dutch system, areas are pre-designated for offshore wind development and schedules are developed under a series of 'roadmaps' that detail how, and in what sequence, sites are to be developed (Wind and Water Works, 2023). These include projected generating capacity for sites. The government then conducts the necessary regulatory studies (such as environmental impact assessments) and makes a decision on installing grid connections prior to the individual sites being consented, in order to allow for the longer time period required to develop and install grid connections. Following this, sites are permitted – setting out the location and planning constraints for wind turbines (including factors like height, cables, ecological considerations etc), but leaving some flexibility around turbine design to allow for

innovation. This stage also involves public consultation and potentially appeals, although once the Wind Farm Site Decision (WFSD) is made it cannot be revoked.

Tendering is carried out after the WFSD is made 'irrevocable' (Wind and Water Works, 2023). As the permitting is carried out prior to tendering the wind farm, the risk involved in the tendering process is minimised. There are three tender models:

- Lowest subsidy bid, for wind farms requiring public funds;
- Highest feasibility, as strike prices dropped so low in initial rounds that subsidy-free tenders were awarded in 2018 and 2019; or
- Highest auction price, where the winning bid offers a price designed to offset some of the public costs incurred in providing grid infrastructure and site selection and assessment.

Once a developer is awarded a tender, the Dutch government oversees preparation, construction and operation to ensure compliance with the tender and WFSD requirements, for a maximum of 40 years (Wind and Water Works, 2023). 3.5 GW of capacity was tendered in this way between 2016 and 2019.

Lessons for Wales

The Dutch pre-designation scheme appears to have a number of advantages for developers, and for facilitating larger-scale rollout of renewable energy generators. In particular, distinctive factors compared to the UK include:

- Pre-assessment of suitable sites, although this is now being incorporated into the Crown Estate offshore leasing process (Crown Estate, 2023);
- Ensuring that necessary grid connections are authorised before the permitting, consenting and tendering processes; and
- Permitting and consenting of projects prior to the tendering process, significantly de-risking development.

This approach to consenting has successfully increased capacity in the Netherlands, resulting in a quadrupling over six years (National Infrastructure Commission, 2023). It also appears to have reduced costs and, in some cases, wind farms have been tendered without subsidy in the Netherlands (Jansen et al., 2020). The authors suggest that price reductions and auction design have been factors in this (Jansen et al., 2020).

Some analysis suggests that the approach taken in the Netherlands has impeded certain forms of innovation, in particular 'disruptive' innovations that change dominant designs or systems (van der Loos et al., 2020). These disruptive innovations could

ultimately lead to more effective, well-designed and ‘optimised’ turbines (van der Loos et al., 2020). The current approach in the Netherlands has by contrast established a ‘dominant design’ very quickly with innovation tending towards iterative improvements to current design technology (van der Loos et al., 2020). Elsewhere, however, the authors argue that the Dutch approach has been more effective in creating an ‘offshore wind innovation system’ than Norway (van der Loos et al., 2021). The rapid establishment of a dominant design has also been beneficial in enabling and facilitating ‘rapid technological diffusion’, allowing offshore wind to be rolled out quickly utilising existing technology (van der Loos et al., 2020).

While Wales lacks some of the powers required to implement a similar system for offshore wind in the absence of co-ordination with the UK government and the Crown Estate, it could use one-stop shop consenting as envisaged in the Infrastructure Bill to implement a similar pre-assessment process for onshore low-carbon energy. In particular, ensuring that permissions are in place before tendering particular projects would significantly de-risk them which would encourage private investment without compromising on public engagement or assessment of the impact of projects.

Case study 2: Spain - streamlining permit processes

Spain has a similar tiered planning system to that used in Wales. Projects over 50 MW are approved at the national level through the Ministry for Ecological Transition and Demographic Challenge (MITECO), while smaller projects are approved by one of the seventeen autonomous communities (Roth and Tallat-Kelpšaitė, 2021). It has also experienced similar challenges to those experienced in Wales in the past few years, including the overburdening of planning agencies increased pressures on staff (Audit Wales, 2019; De Brouwer et al., 2022).

In January 2022, Spain was processing almost 700 renewable energy projects totalling around 66,000 MW, vastly exceeding Spain’s 2030 target for renewable energy (Kitson, 2022). This has led to a significant administrative backlog, as between 44 and 50% of solar projects in Spain are estimated to be behind schedule due to delays in the environmental impact assessment process (Ford, 2022). This delay was most pronounced at the national level, with reports that larger developments were often split into smaller projects under the 50 MW threshold to be processed quicker at the regional level (Roth and Tallat-Kelpšaitė, 2021).

One reason for the high volume of applications in recent years has been market speculation, where permits have been accrued with no intentions of developing a project, as the permits had no expiry dates; it is estimated that approximately 60% of

projects with an access permit, had not proceeded to the next stage (Roth and Tallat-Kelpšaitė, 2021). The Spanish Government also previously provided €40,000 per megawatt as an incentive for the most contentious projects to leave the queue, such as those linked to especially long power lines (Kitson, 2022). The UK has provided similar incentives to reduce its administrative burden, with the Transmission Entry Capacity (TEC) amnesty providing no penalty for projects applying to leave the grid connection queue (National Grid ESO, 2022).

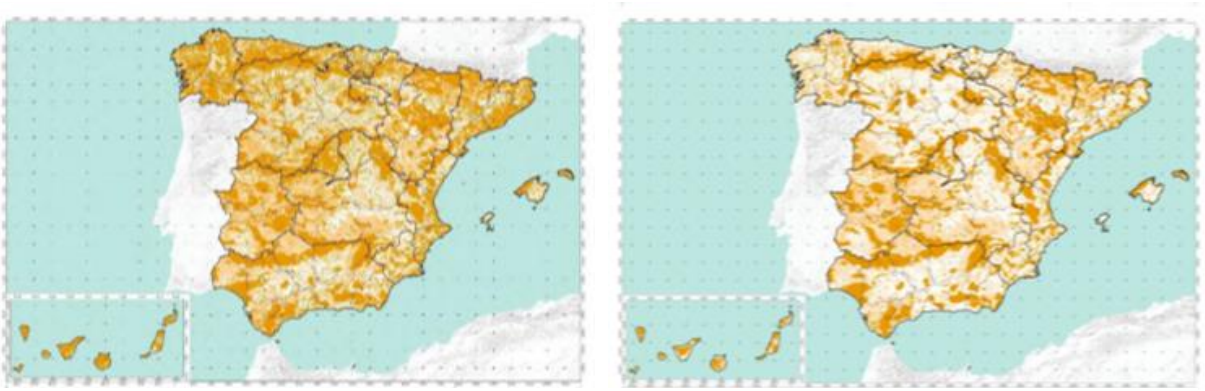
In 2020, the Spanish Government developed a geographical information systems (GIS) tool which allows developers to identify areas of land for development of wind and solar energy projects. This tool encompasses data on eighteen different factors, including proximity to urban areas, protected areas of conservation and visibility (MITECO, 2020). By overlaying the maps of each indicator, an Environmental Sensitivity Index is calculated, ranging from zero to ten, with larger scores indicating the areas best suited for development (low sensitivity). Scores are calculated for 25x25 metre squares, providing in-depth granular information for potential development sites. For wind energy, approximately 51% of Spain's total land areas is given the highest sensitivity rating, where no development is recommended, whereas this figure is around 33% for solar energy; for the two categories best suited to development, the total area is 35% for wind energy, and 52% for solar (MITECO, 2020). This tool only applies to onshore projects, with the intention that the tool can utilise already-existing data to assist developers with site selection and provide important information to other local stakeholders about the likely environmental conditions of projects.

This tool was then utilised in 2022 as part of fast-track reforms to the first step of Spain's permitting system. Projects at this stage (who will have already received access and grid connection permits) are eligible for a streamlined preliminary procedure providing they meet certain criteria, including:

- Powerlines of length less than 15km;
- Installed capacity of maximum 75 MW (wind) or 150 MW (solar);
- Not located in any Natura 2000 conservation area (of rare and threatened species); and
- Located entirely in an area of low or moderate environmental sensitivity according to the existing environmental suitability zoning tool.

(Vázquez del Rey Villenueva, 2022)

Figure 1 - Overview of environmental suitability for wind (left) and solar (right) projects in Spain



Darker shading indicates reduced environmental suitability Source: MITECO, (2020)

Projects can apply for this procedure until 31st December 2024, and will receive an 'environmental impacts determination report' (EIDR) from the central environmental body within a maximum period of two months (Watson Farley & Williams, 2022). The EIDR is a prerequisite to gaining the required construction permits from government and decides whether or not a project needs to be submitted for a formal environmental impact assessment. It may contain conditions to mitigate certain environmental impacts, as well as specified conditions for environmental monitoring (Watson Farley and Williams, 2022). Receiving a favourable EIDR through this new streamlined process means that projects can receive urgent status in subsequent phases for public interest reasons, further streamlining the process (Garrigues, 2022).

It is estimated that this streamlining could halve the time for developments to receive permits to around two years (Ford, 2022). However, the process only applies to projects subject to the national permitting system (over 50 MW) and given the maximum project capacity of 75 MW, there are a limited number of projects which are eligible. Moreover, there are concerns around implementation: including the potential for projects to be split into those which can be streamlined (similar to how they were split previously to be processed by autonomous communities) (Pearcey, 2022).

Using the streamlined process to prioritise projects in areas with the least environmental impact may also increase the concentration projects in the regions of Extremadura and Andalusia (Pearcey, 2022). These regions are expected to have the most solar capacity in Spain by 2030, with strong solar resources and large amounts of suitable land. As a result, the increase in renewables will likely provide jobs and other economic benefits to these autonomous communities, which are some of the poorest in Spain: offering an opportunity to reduce spatial inequalities (OECD, 2012; Hacker, 2021; Pearcey, 2022).

Lessons for Wales

The National Infrastructure Commission (2023) in the UK highlighted the digitisation of data as an area for innovation, as infrastructure deployment is often slowed down by developers gathering already collected data. They recommend a centralised publicly accessible database to avoid this duplication.

The Spanish approach is similar to the Netherlands case study examined above. In particular, in both countries there is:

- A degree of pre-assessment, with projects in certain areas more likely to proceed; and
- A presumption that projects should already have grid access in place before issuing a construction permit.

However, unlike the Netherlands, the Spanish system is not an instance of large-scale reform but a streamlining of existing systems to deal with excess demand. It also allows for projects to be referred to a more comprehensive system where needed. It may therefore be politically easier to implement without wholesale changes to the planning system.

This also suggests that a Spanish-style approach could be implemented before (or during) a process of general planning reform. While it is probably not a sustainable long-term solution, particularly if it leads to an over-concentration of infrastructure in certain areas, it could therefore be a reasonable and practical step to take in accelerating deployment in the short term.

Case study 3: Finland - do no significant harm

Finland has committed to reaching net zero by 2035, while also aiming to reduce emissions by 95%, compared to 1990 levels by 2050 (State Treasury of Finland, 2023). Increasing the share of renewable energy is a fundamental part of achieving this goal, with the aim to increase the proportion of energy from renewable sources to at least 51% of total final energy consumption by 2030 (Ministry of Economic Affairs and Employment of Finland, 2022). Progress has already been made in this regard, with this share increasing from 34% in 2011 to 48% in 2021, according to the International Energy Agency (IEA, 2023). Given the Russian invasion of Ukraine, there is now an increased desire to improve energy self-sufficiency in Finland, as in 2021, imports from Russia accounted for 34% of Finland's total energy consumption (IEA, 2023).

Accelerating the deployment of renewables therefore has the potential to realise benefits beyond net zero. The current Finnish Programme for Government states that 'smooth permit procedures are prerequisites… for transitioning to a clean economy,' highlighting the need to prioritise reforms in this area and implement them quickly (Finnish Government, 2023: 160). These reforms include the development of a centralised national body, or one stop shop to coordinate and improve the permitting process. However, it has also taken temporary action to prioritise projects which are essential for achieving its net zero goals.

In early 2023, the Finnish Government published guidelines for priority processing of environmental and water permit applications for projects related to environmental sustainability, framing them within the context of its net zero objective (Ministry of the Environment of Finland, 2023). Five types of infrastructure project are eligible for priority processing:

- Renewable energy projects (including offshore wind);
- Industrial electrification projects (replacing fossil fuels);
- Production and use of green hydrogen (produced from renewable sources);
- Carbon capture, utilisation, and storage projects; and,
- Battery factories and the recovery, re-use and recycling of battery materials

To benefit from priority processing, projects must prove that the project aligns with the 'do no significant harm' principle (DSNH). This principle is derived from the European Union's new sustainable finance framework to fund projects through the EU Recovery and Resilience Fund and is not typically used in the context of planning (Schultén, 2022; Ministry of the Environment of Finland, 2023). The European Union Taxonomy sets out six environmental objectives:

- Climate change mitigation;
- Climate change adaptation;
- Sustainable use and protection of water and marine resources;
- Transition to a circular economy;
- Pollution prevention and control; and,
- Protection and restoration of biodiversity and ecosystems.

(European Commission, 2023)

In order for a project to benefit from priority processing, applicants must prove the project significantly contributes to achieving one of the objectives and does no significant harm to any of the objectives (Ministry of the Environment of Finland, 2023). The process consists of a self-assessment questionnaire, in addition to the required forms for the planning processes, answering questions for each of the objectives, which are then assessed by officials. Running until 2026, a target of no more than twelve months for processing has been set out by the government; the same framework also allows for urgent handling of DNSH projects by appellate courts until 2028.

Not all renewable energy projects will benefit from this process: currently environmental permits are only required in certain circumstances, such as noise or light pollution on its surroundings (Alanko et al., 2012). Wind and solar projects are therefore only likely to benefit in priority treatment in the court system (Schultén, 2022). Offshore wind projects, on the other hand are likely to benefit significantly, and the Finnish Government has stated that it envisages a growing role for offshore wind in the future (Ministry of Economic Affairs and Employment of Finland, 2022; IEA, 2023).

There are, however, some concerns with this approach. For example, expediting only part of the permit system (given buildings permits are not included) may not sufficiently shorten project timelines, and the potential for new bottlenecks to form while permitting agencies and courts initially come to terms with the new system (Schultén, 2022). Despite these concerns, the Finnish case highlights how temporary measures can be implemented while long-term changes are being developed.

Lessons for Wales

Temporary streamlining could be adopted in the Welsh context. It may be possible that some procedures could be expedited while the processes related to the Infrastructure Bill are finalised and implemented, allowing for progress to be made quicker. The Finnish case highlights changes that target a specific part of the system, which are likely to facilitate progress on key government priorities. This could be useful to adopt in Wales, given the different actors responsible for the permitting of energy infrastructure and the competencies of the Welsh Government.

While the developments in Finland required amendments to primary legislation to implement, there may be examples of processes in Wales which could be temporarily streamlined using secondary legislation or other forms of guidance, providing that these procedures are communicated clearly with stakeholders.

Public engagement

When attempting to accelerate the deployment of renewable energy infrastructure, it is vital that this does not come at the expense of meaningful public engagement. The UK planning system has been criticised for the lengthiness and ineffectiveness of its engagement functions, and there have been suggestions that engagement activities could and should be streamlined (see Langengen and Kakkad, 2023).

The UK National Infrastructure Commission (2023) notes that effective engagement cannot reduce timelines in itself, but it can reduce uncertainty during the process and improve the quality of projects. In fact, extra time may need to be added to project timelines in order to ensure meaningful engagement.

There is a consensus within academic and grey literature on the importance of effective engagement with communities; central to this is the theme of trust, both in the fairness of outcomes and fairness in the planning process itself (Aitken et al., 2016). Streamlining engagement within the planning system may create distrust in the process and in outcomes; therefore, we believe the focus should instead be on improving the effectiveness of this engagement.

In this section, we present an overview of existing engagement activity in the planning process in Wales, before discussing features of good public engagement. We also present two case studies from Denmark and the United States and discuss possible lessons for Wales.

Engagement in the Welsh planning system

While not explicitly part of the planning system, the Well-Being of Future Generations (Wales) Act 2015 (WFGA) provides an overarching framework to guide the planning system (Lawson et al., 2022). Any statutory body carrying out a planning function must act in accordance with the WFGA and its five ways of working (Welsh Government, 2021d).

The Welsh Government impose statutory requirements on public engagement for developers as part of the pre-application process, including:

- Making draft planning application documents available to view;
- Notifying the right consultees of the consultation;
- Providing a 28-day consultation period; and

- Submitting a ‘Pre-Application Consultation Report’ detailing how the consultation was undertaken and how people’s views were considered

(Welsh Government, 2021e).

The Welsh Government also publishes non-statutory guidance on good engagement and encourages developers to ‘go further than the minimum to get the most out of the process’ (Welsh Government, 2021e: 4). Consultation takes place at a set point, the pre-application stage, and while developers are encouraged to go beyond statutory requirements, this process may reinforce the perception that consultation is simply a technical requirement to developers (Planning Aid Wales, 2021).

At a local level, decisions on planning applications are made by councillors on local government planning committees; at a national level, decisions are made by Welsh Government Ministers, who are given a recommendation by Planning and Environment Decisions Wales, also part of the Welsh Government (The Planning Inspectorate, 2019). Only applicants can appeal a decision on the grounds of merit. Objectors have no right to an appeal, other than mounting a judicial challenge on the grounds of an alleged procedural failure, including not meeting the statutory consultation requirements (Lawson et al., 2022). Engagement in the planning process is an important form of participatory democracy, allowing citizens to have a say in things that affect them; however, decisions are ultimately made by elected representatives, and these are unable to be challenged on their merits. This tension between participatory and representative forms of democracy in the planning system is one faced by other countries as well (Planning Aid Wales, 2021). It highlights the need to build trust in the planning system, meaning that citizens believe their views are valued and considered by the elected representatives making the final decision. A system lacking trust may therefore result in increased requests to challenge decisions based on procedural failure, extending project timelines.

Engagement in Wales is primarily reactive in nature, with the focus on adhering to the guidelines rather than looking for meaningful suggestions (Planning Aid Wales, 2021). Indeed, the realised importance of community engagement rarely translates into practice. The primary motivation for engagement is often to share information, keep communities ‘on side’ and increase public support for the project, rather than to provide local communities an opportunity to participate (Aitken et al., 2016; White et al; 2020). There is also a lack of consistency, transparency and evaluation of engagement processes (Planning Aid Wales, 2021). There is, therefore, a need to consider how engagement can be made more meaningful and responsive for communities in Wales, and to encourage developers to take a more proactive attitude towards public engagement.

Features of effective engagement

As stated above, there is considerable agreement in the literature on the importance of public engagement in the planning system. There are several key features which are considered to underpin effective engagement, and promote trust in the planning system, including:

- Early engagement;
- Participatory processes; and,
- Meaningful impact.

Early engagement

Engaging with stakeholders as early as possible in the planning process is likely to reduce conflict and speed up decision making processes (Planning Aid Wales, 2021; Lawson et al., 2022). This is particularly important for less familiar and emergent technologies (Devine-Wright et al., 2016). Negative perceptions of the local public by developers leads to preferences against early engagement, to prevent raising concern among citizens; these perceptions are also associated with less participation (Devine-Wright et al., 2016).

Early engagement does not, however, automatically lead to sustained community support (Aitken et al., 2014). Project plans can be abstract, and citizens may not become aware of the impact of projects until construction begins; similarly, those disengaged from the earlier process may be unaware of projects. This means it is critically important to inform communities throughout the process, especially those who live in, or near, areas which have been pre-assessed for renewable energy. One example of the risks involved if residents are not adequately or appropriately consulted is the Pen Y Cymoedd wind farm in South Wales, where the presence of a pre-assessed area for wind meant citizens felt ‘developers are now hovering over the area like vultures’ (Aitken et al., 2014: 20). In this case, ensuring that citizens are informed of the potential impacts of a designated area at an early stage and given opportunities to inform the development process is critical.

Participatory processes

Most frequently, stakeholder engagement within the planning process for projects in Wales and across the UK consists of public drop-in sessions and comment cards, which are often prescribed in statutory guidance (Aitken et al., 2016; Audit Wales, 2019). Developers therefore tend to conduct one-way engagement, and define both the topics for discussion and the communities with whom they engage. Participatory approaches such as workshops tend to be more effective in fostering engagement

than public meetings or fora, given the latter's adversarial nature and tendency to be dominated by strong voices either for or against a development (Aitken et al., 2016; Lawson et al., 2022). Participatory processes strive to create dialogue and two-way information sharing and demonstrate a willingness of developers to be exposed to questioning and alternative arguments (Aitken et al., 2014; 2016).

Audit Wales (2019) highlighted that local planning authorities often face difficulties in engaging with stakeholders about proposals and their implications, and that the communication methods used are out of touch in the digital age. The use of digital tools is becoming increasingly important for fostering engagement with the planning process. The use of digital technologies (for example, social media) can increase participation and open up the planning process to larger communities than traditional methods of information distribution (such as lamppost notices or newspaper inserts) but may exclude those without access to technology at all, or those, for example, in rural areas who may lack the internet bandwidth to engage in an online workshop (Butler et al., 2020; Lawson et al., 2022).

Care needs to be taken to generate the right balance between using digital tools for citizen engagement and face to face engagement. In their 'Planning for the Future' White Paper, the UK government outlined their vision for digital engagement, stating that new technology would allow people to 'raise views about and visualise emerging proposals whilst on-the-go on a smart phone' (Ministry of Housing, Communities and Local Government, 2020: 18). However, the complex and technical nature of the planning system is cited as a barrier for members of the public to engage in the current system, and even IT-literate participants in existing processes have highlighted the complexity of the system (Nararajan, et al., 2020; Lawson et al., 2022). Current Welsh Government policy states that 'a combination of digital tools and face-to-face activities will provide the most effective way to engage with the whole community' (2021e: 16).

Meaningful impact

Providing examples of tangible change based on comments from the engagement activity, and making the community aware of these, is likely to increase support from local citizens for developments as it demonstrates that concerns are taken seriously (Aitken et al., 2016; Planning Aid Wales, 2021). Engagement is at its most effective when developers take steps to establish potential issues and then set about rectifying them (Aitken et al., 2014).

The Welsh Government (2022b) encourages the submission of a Collaborative Benefits Report (CBR) to provide a pathway for engagement with local stakeholders and to improve transparency within the planning process. Evidence suggests that

meaningful impacts from consultation underpin engagement, and the CBR provides a publicly available document that demonstrates the 'engagement journey,' (Welsh Government, 2022b: 20). While not required as part of the planning process, this constitutes good practice and encourages positive engagement with the community. Moreover, producing a CBR can be a method of documenting favourability for a project: most frequently, people engage in the planning process in a negative way (for example, to object) (Planning Aid Wales, 2021).

Community benefits are often a tangible outcome from the engagement process, and can be viewed as a way of keeping communities onside with a project. Some benefits can emerge as a direct response to demand from communities in the engagement process (Rudolph et al., 2015). For the Pen Y Cymoedd wind farm development, for instance, apprenticeships were created as a community benefits as a result of responses from the engagement process (Aitken et al., 2014).

All new energy projects in Wales have been required to have at least an element of local ownership since 2020, contributing to the target of 1 gigawatt (GW) of locally owned renewable energy and heat capacity by 2030 (Welsh Government, 2020). However, there is limited and contradictory evidence as to whether providing community benefits, including shared ownership, improves social acceptability, increases trust in developers or accelerates timelines (Devine-Wright et al., 2016). Even when factoring in community benefit, good engagement is not in itself sufficient to deter opposition: in particular, it cannot make a badly designed project good (Aitken et al., 2014). In some cases, local economic impacts have been determined to be a small driver of increased social acceptance, with community schemes enjoying a higher level of trust than commercial developers (Leiren et al., 2020)., Public support is, however, largely context dependent and how benefits are perceived locally is crucial in their effectiveness in increasing support (Leiren et al., 2020; Segreto et al., 2020). Hence, co-producing benefits in collaboration with local communities can provide a mechanism which is fair for local communities and underpins effective engagement.

Case study 4: Denmark – Spatial Planning

In other European nations, there is increased emphasis on opportunities for pubic consultation at a strategic plan level, with further (but less significant) opportunity to comment on individual planning applications (Aitken et al., 2014).

The Danish planning system is tiered, with the national government preparing a national planning report after each election, producing overall guidelines and a long-term ambition; it also can issue national directives for projects of larger importance (OECD, 2017). The Danish Nature Agency approves onshore wind turbines larger

than 150 metres in height while municipalities are responsible for smaller turbines (Danish Energy Agency, 2015).

Municipalities publish a strategic theme plan, identifying and designating different types of land uses, including the expected maximum number and height of turbines (Anker and Jørgensen, 2015). Local plans are then created for each development project, specifying the exact design and layout (Danish Energy Agency, 2015; OECD; 2017). Each of these plans are vertically integrated with one another, that is, each level provides a vision and a framework which the lower level of planning must adopt and operate in (Pettersson and Söderholm, 2011).

In the creation of these plans, there are two mandatory consultation phases: an 'idea phase' and a 'proposal phase' (Clausen et al., 2021) The idea phase allows the public to debate the overarching planning strategy, including potential areas for wind energy, before a draft version is published; a decision is then made on whether or not to include these in the draft plan, which then undergoes further consultation (Clausen et al., 2021).

Denmark is generally considered an example of effective public engagement, but there are also lessons from experience which can be noted:

- Municipal plans are only published digitally, meaning that residents often are unaware about their development and have to search for information themselves (Clausen et al., 2021).
- Participants in stakeholder workshops found that their opinions were not used as a starting point for dialogue, but instead to further refine the existing ideas within already proposed plans (Clausen et al., 2021). Giving the public the opportunity to shape the agenda and present their own ideas increases their empowerment and increases trust in the overall process (Aitken et al., 2016).

There is a need to go beyond technical specifications, in order to ensure that there is a broad understanding of what matters to the public in planning decisions. For instance, one participant in Denmark noted that the visibility of wind turbines needed to consider multiple sightlines from inside and outside people's homes: 'we are not sitting in the kitchen all the time… the fact that people are mobile is not taken into consideration' (Clausen et al., 2021: 739).

Lessons for Wales

There are growing opportunities in Wales for the public to contribute to Strategic Development Plans and Local Development Plans at early stages (Welsh Government, 2022). These plans are developed by public bodies, who are required by the WFGA to follow the five ways of working, including collaboration and

involvement, thereby going further than the statutory minimum requirements for consultation on individual projects. This process in Wales can benefit from lessons from Denmark, where there is similar frontloading of engagement to include debate and discussion at a strategic level. This provides an extra opportunity for the public to be involved in the planning process.

Denmark provides details about potential renewable energy developments at the strategic level, allowing communities to shape potential projects before developers apply for planning permission. This allows the public to have increased influence over key decisions on project design. Most commonly, engagement in the UK occurs at the pre-application stage, where these decisions have already been made (Aitken et al., 2016). As part of the call for candidate sites in the formulation of development plans, similar specifications could be asked for in Wales, going beyond wind projects to also include solar, for example. This would allow for increased public involvement at an earlier stage, while allowing them to also engage with detailed plans at a later stage. Ironing out potential issues at the candidate site stage could help mitigate potential opposition and allow for a smoother passage through the planning process. This could also assist with the development of Local Area Energy Plans, giving a more informed understanding of the potential generation at each candidate site.

Wales could also learn from Denmark and embed participatory practices in its approach to development planning. The current system in Wales allows for the public to comment on the Preferred Strategy and Deposit Plans and then only participate in the public examination stage if they have commented beforehand (Welsh Government, 2022). This limits participation from the public and relies largely on interested parties registering their interest, meaning that those living near candidate sites may still have no knowledge of potential developments before an application is made. While the guidance on how these hearings are conducted is not statutory, it is expected that oral hearings take place as a 'round-table public discussion on the matters and issues identified by the Inspector(s)… and [public] representations' (Welsh Government, 2022: 21). This does not allow a participatory approach and means that hearings will largely follow a pre-defined agenda. The Danish case highlights how this form of engagement largely results in a complex technical discussion and excludes the ideas and concerns of the public (Clausen et al., 2021).

Case study 5: United States – FAST-41

In the United States, Title 41 of the Fixing America's Surface Transportation Act (FAST-41) established a new governance structure and procedures to improve and increase the transparency of the permitting process for eligible federal infrastructure projects (including renewable and conventional energy production, as well as

electricity transmission infrastructure, and carbon capture technologies) (US Government, 2022).

A new Permitting Council was developed, as a one stop point of contact to monitor the efficient approval of projects (US Government, 2022). The Permitting Council provides annual reports that assess government agencies' performance in adhering to timetables, as well as publishing reports on best practice, including on effective stakeholder engagement (Minott, 2021; US Government, 2023a). If delays to a project increase the planned timetable for approval by more than 150%, the Permitting Council must report this to Congress, increasing political accountability for government agencies (US Government, 2020).

Part of the changes also involved the development of a new permitting dashboard which lists federal projects and provides a timetable for when permits will be approved, with the aim of increasing transparency and accountability. The dashboard provides a resource where stakeholders can track projects as they progress through the complex permitting system, highlighting delays and changes to the expected start date. It also aims to provide data federal government agencies can use to analyse their own practices and improve their internal processes (US Government, 2019; Minott, 2021).

Eligible FAST-41 projects also benefit from a reduced time period to initiate a judicial review: from six years to two years, and these can only be made by those who commented during the environmental review process (Minott, 2021; Hart, 2022). This process is similar to that in Wales, in that reviews from third parties can only consider disputes over procedural failings, rather than over the decision itself, and parties must have previously engaged with the planning system before or during the application process (Lawson et al., 2022; National Infrastructure Commission, 2023). An important caveat is that this system is both voluntary and only applies for projects requiring federal approval (Sud and Patnaik, 2022). Given the federal structure of the United States, this will only represent a fraction of the total number of projects being undertaken.

Figure 2 - Example of the permitting timetable for an offshore wind project on the FAST-41 permitting dashboard

Source: US Government (2023b)

Lessons for Wales

In the implementation of FAST-41, the US Government has developed measures to expedite projects' progress through the planning system, while also digitalising the way in which information about projects is displayed. For projects which are sponsored by federal government agencies, there is an accountability mechanism which informs Congress of delays. A similar process could be implemented in Wales. A public notification system reporting to the Senedd would also increase the public awareness of delays to large-scale projects. The utilisation of a one stop shop, as developed in the Infrastructure Bill, allows for a centralised agency to deliver political accountability and has the potential to increase trust in the process.

The permitting dashboard also developed as part of FAST-41 highlights opportunities to strengthen engagement. This type of digital tool can increase transparency on the status of projects and the steps to take them through the planning process, as well as notifying the public of when they are able to input into the process. Given that engagement at latter stages of the planning process requires previous engagement, or a registering of interest, this can help different groups identify when and how they can best voice their opinions. More flexibility could be built into a Welsh iteration of

this process by allowing interested parties to input at any stage regardless of previous involvement. It is important to note, however, that this would need to complement existing traditional means of communication, to avoid some groups being excluded from the process entirely.

The FAST-41 scheme is also voluntary, meaning that not all projects are included on the permitting dashboard; it also only covers the permits required from the federal government. The Welsh Government could implement a similar dashboard as a compulsory measure, and look at whether there is potential to integrate a dashboard for developments of national significance, with a similar approach for projects which are dealt with by local planning authorities. It is also important to note that FAST-41 covers various types of infrastructure and is not limited to renewable energy projects, highlighting the potential for a permitting dashboard to be implemented for other important infrastructure projects in Wales.

Conclusion and recommendations

Wales is already making significant progress towards the accelerated deployment of renewable energy through the Infrastructure (Wales) Bill, which will introduce a one stop shop for permit applications. This has generally been considered to be effective when used in other countries.

However, this Bill will need to be implemented well, and it will take time to develop the institutional frameworks to do this. While other countries (for example Spain and Finland) are currently developing wholesale changes to their permitting frameworks, they have temporarily streamlined procedures in one area of the planning system to meet immediate need and tackle backlogs. A common feature of these approaches is their fixed duration, allowing for a transition to the new schemes when they are ready. Wales could identify areas where processes could be streamlined to prevent backlogs while the Infrastructure Bill passes through the Senedd. It will be important, however, to avoid causing confusion between existing and future permitting systems.

Pre-assessment has been utilised in both the Netherlands and Spain to streamline applications, with both countries taking different strategies to avoid duplication of data gathering for planning applications. The Netherlands has taken a centralised approach, ensuring permits are in place before tendering, while Spain has used digital tools to allow less rigorous environmental assessment procedures in areas more favourable for development. There are already some pre-assessed areas for wind in Wales, and these could be expanded upon. It is, however, important to recognise some of the difficulties in public engagement which have occurred as a result of existing pre-assessed areas for wind energy projects in Wales. Both Spain and the Netherlands also ensure that grid connections are authorised before the issuance of construction permits. While this would significantly reduce risk for developers, it may be difficult to draw upon in Wales given that grid connection is the responsibility of the National Grid.

The Welsh planning system is underpinned by the Well-Being of Future Generations (Wales) Act 2015, reiterating the need for a system which allows collaboration between actors and the involvement of local people. Allowing increased public engagement in the development of national, regional and local development plans allows citizens to have a say on the use of land in their area, and influence potential projects before they get to the design stage; lessons for strengthening this process can be drawn from other European countries, like Denmark. Early citizen

engagement is important, but it is also key that such engagement is meaningful, participatory, and citizen-led where possible. Digital tools can allow for an increased number of people to participate in the planning process, but this needs to be done carefully to avoid excluding those who are not online. The United States provides an example of how digital tools can be used to promote transparency and accountability in the planning process, and how they can take on some of the information-sharing function; a stage which, all too often, represents the majority of engagement activities. Wales could take a similar approach in the use of digital tools, and the Welsh Government could also look to integrate this at the local level.

All five of the case studies featured in this report have multi-tiered planning systems, like Wales. In the cases featured, action has been taken at the highest level to streamline procedures for the largest projects, which have the biggest impact on people's lives. The Welsh Government has responsibility for the lowest two tiers of the Welsh planning system, with different processes in place at the local and UK levels. Any changes to procedures that aim to enable more rapid deployment will need to consider the impact on the other levels of the planning system. A process which is significantly different to the other levels may disincentivise development and could have unintended consequences if it creates new administrative barriers. It is vital that the Welsh Government works with local authorities, other devolved nations and the UK government to accelerate deployment of renewable energy infrastructure, given the tiered planning system and the unified nature of the energy system in Great Britain.

Recommendations

- Aspects of the planning system could be temporarily streamlined, in line with the ambitions of the Infrastructure Bill, while that Bill passes through the Senedd.
- Pre-assessed areas for wind in Wales could be developed further.
- Public engagement should be meaningful, participatory, and citizen-led where possible, and begin early in the planning process.
- Wales could implement digital tools similar to FAST-41 in the United States, perhaps making them compulsory for all developments including those that are the responsibility of LPAs.
- Harmonisation between different levels of the planning system should be pursued, aiming to ensure that procedures intended to encourage rapid deployment do not inadvertently create new administrative hurdles across other levels of the planning system in Wales and the wider UK.

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