POLICY RECOMMENDATIONS

Local Voices Matter: Empowering Citizens in Wind Energy Decisions

SUMMARY OF RECOMMENDATIONS

Citizens, have your say: it is your (energy) future, so become active!

Given energy (policy) decisions affect all citizens, it is important for citizens to have their say on what wind power developments they find sustainable.

Policy makers need to provide room for active 'energy citizenship'

Decision makers need to enable appropriate engagement and consultation processes to allow citizens to express their preferences regarding wind energy developments and influence decision making.

Policy makers should strengthen local value creation of wind projects

Local value creation is an important aspect of wind development and contributed to acceptance of wind power. More needs to be done to provide local benefits.

EC to continue to enable and 'champion' energy citizenship

The EC has so far been a 'champion' for energy citizenship e.g., through enabling renewable energy communities. However more needs to be done to mainstream such practices across Europe.

WIND POWER IN EUROPE: NOT PURELY A TECHNICAL DEVELOPMENT

Wind turbines, both onshore and offshore, produce cleaner electricity, contribute to energy security and are now one of the cheapest forms of electricity generation.[i] The European Union (EU) and many of its member states have ambitious targets for using wind turbines to generate an increasing share of its electricity. In 2024, 46.9% of net electricity generated in the EU came from renewable energy sources.[ii]

The European Commission (EC) wants the EU to remain a global leader in renewable energy and believes that wind power "*will be key to achieving the EU's renewable energy targets and reaching carbon neutrality by 2050*".[iii] The EU also has the vision that "*citizens should have a central role in the energy transitions*"[iv]: in this vision, the energy consumers of today become the active energy citizens of tomorrow. Those energy citizens engage in and take responsibility for energy production and consumption. This vision highlights that wind energy deployment is not simply a technical or economic project, but a societal one redistributing resources, reshaping landscapes, and influencing social relations.

Awareness for these broader impacts of energy system transformations is at the core of energy justice and just transitions.

Wahlung and Palm therefore argue that "*[e]nergy democracy and energy citizenship are keywords in [the EU's] future strategy. Both are political, social and cultural concepts tightly connected with an increased awareness of a need for a rapid but also fair and inclusive energy transition*". In line with this thinking, energy citizenship can be defined as "*...ways in which citizens are becoming actively involved in the energy transition, and engaging politically, either as consumers and users, by participating in protest and support movements and ... as prosumers*".[v]

The governance of wind energy involves a broad range of actors including state-related actors such as local, regional, national and EU policy makers and regulators; industry actors ranging from small and medium size enterprises (SMEs) to network operators, specialised project developers, investors and large international firms; and finally local citizens, non-governmental organisations (NGOs) or community groups. There are a range of interdependencies between these actors (e.g., technical competencies and knowledge, planning authority, investment needs), so none of these actors alone can 'push through' or 'put a stop to' wind developments.

There is a wide variety regarding which actors are involved in developing wind energy projects and who stands to gain and create value from them. For example, large offshore wind parks can be built and operated by a traditional utility company, farmers can build individual turbines on their land or community groups can develop projects which are owned collectively. The governance processes and the actors involved, the benefits created and how they are shared between actors, will significantly differ across these different pathways. Socio-technical transitions research views such pathways as unfolding socio-technical patterns of change within societal systems as they move to meet human needs in more sustainable ways.[vi] Socio-technical means that social and technical issues are closely linked and need to be considered together. In aiming to substantially increase the role of wind energy power in electricity generation, thinking about the different possible socio-technical configurations (i.e., different technologies, ownership models, governance, models, actors, etc.) each with different environmental and social sustainability profiles to develop this wind energy generation is crucial.

APPRAISING DIFFERENT WIND ENERGY PATHWAYS

The EU-funded **JustWind4All** project therefore explored various stakeholder views on a range of different future pathways (i.e., options) for wind development in Germany and the Netherlands using a method called **Multi-criteria Mapping (MCM).** MCM is an interview-based method used to gather and compare different people's views on complex issues with a wide range of possible solutions as well as high stakes and uncertainty.[vii] It helps interviewees think through the pros and cons of

each option in a structured way, taking into account the bigger context and the things that matter most to them. This makes MCM especially useful for exploring tricky topics—like how to develop wind energy in a way that is just and takes into account its impact on the environment—by highlighting different ways forward, providing room for a variety of preferences and exploring the reasoning behind those. Using MCM 'opens up' the appraisal of different wind pathways to a more diverse group of stakeholders, which is otherwise often done by 'technical experts'.

The logic of such a MCM exercise is not to find the one best option to develop wind energy, but to produce insights into a diverse set of stakeholder perspectives as a **basis for plural and conditional advice**. We mean plural in the sense that there is not one clearly 'best' European socio-technical configuration for developing wind energy. Various stakeholders have diverse opinions on what they consider sustainable, and they may propose different solutions for just and effective wind energy governance and development that suit different regions in Europe. Such an advice needs to be conditional, meaning that one should take into consideration societal circumstances (such as specific European or national market rules), because different socio-technical configurations may be more or less beneficial under certain conditions.

The MCM conducted revolved around the following question: *How are different wind energy pathways appraised in relation to their social and environmental sustainability by relevant stakeholders?* This question was answered through a software-guided in-depth interview process following a range of steps. A total of 32 participants from Germany and the Netherlands were interviewed, largely drawn from three stakeholder groups: policy makers, wind industry professionals, and third-sector actors like NGOs and diverse citizen groups. In a first step, each interviewee was introduced to four options identified by the project team based on a literature review and expert advice (see Table 1), and they could also suggest their own option definitions - either as entirely different ways to implement wind energy or as permutations or more detailed versions of the given pathways.

Table 1: Four potential pathways for wind development

NAME	KEY FEATURES
All wind offshore	All wind generation takes place offshore
Large wind firms	Wind is mainly run by large firms with little participation or community benefits
Local alliances	Alternative organisational forms and frameworks such as energy cooperatives or municipal wind projects create local value and possibilities for participation
Reconciling nature	Wind developments more fully respect non-humans and nature

Interviewees were then able to define their own criteria against which to appraise the wind development options in terms of their social and environmental sustainability. Applying evenly across all options, these criteria should reflect what matters most to them when thinking about wind energy development (like environmental impact, local value creation or public acceptance). Interviewees were then asked to assess each option with an optimistic and a pessimistic score, meaning they were asked to provide their assessment of the option under optimistic assumptions as well as under more pessimistic assumptions. This was done in order to provide explicit space to capture uncertainty in such assessments. These scores (numeric values) were then used to create visual charts showing how well each option might perform under their criteria.

Interviewees also explained their reasoning behind each score, allowing the researchers to also explore the values and beliefs behind them. The team analysed both the quantitative results (numerical scores) and the rich qualitative insights to identify patterns in how different groups viewed the options, including ethical tensions and diverse priorities and to compare across the two countries.

RESULTS: PERSPECTIVES OF STAKEHOLDERS IN GERMANY AND THE NETHERLANDS ON DEVELOPING WIND ENERGY IN SOCIALLY AND ENVIRONMENTALLY SUSTAINABLE WAYS

Across all 32 participants in the two countries, the option of *"Local Alliances"*—where communities work together with municipalities, regional companies or cooperatives—was the most positively viewed option for developing wind energy. People saw this approach as having the best chance of delivering benefits locally, while also reducing conflicts. The second most preferred option was *"Reconciling Nature,"* which focuses on protecting the environment during wind energy development beyond current mandatory rules (such as for example environmental impact assessments). In contrast, the two other options were generally rated lower: *"All Wind Offshore"* (building all wind turbines at sea) and *"Large Wind Firms"* (relying mostly on large often international companies to lead the transition).

However, perspectives also varied significantly by country. One contrast stood out in particular: German participants assessed the offshore-only option with low scores, whereas many Dutch participants saw all wind offshore as a promising solution, especially because it seemed to cause fewer conflicts with local communities. Generally, there were fewer clear preferences and higher uncertainties expressed by the Dutch participants compared to the German participants.

The analysis also looked at the differences between the three stakeholder groups:

- **Third sector actors** (like NGOs and local wind cooperatives) in both countries strongly supported *Local Alliances* and emphasised environmental protection. They were wary of the motivations of

large companies dominating the sector, viewing them as being solely driven by profit motives (rather than social and environmental benefits).

- **Wind industry actors** had mixed views. In the Netherlands, they favoured *All Wind Offshore* and *Large Wind Firms* more than *Local Alliances*, but in Germany, even industry actors leaned toward local alliances. Many believed a mix of all options might be necessary.
- **Government actors** also tended to prefer *Local Alliances* and *Reconciling Nature*, though Dutch policymakers were more open to offshore options than their German counterparts.

Overall and despite differences, *Local Alliances* consistently ranked among the top choices for all groups, showing a shared appreciation for local involvement and benefit-sharing. It is important to acknowledge that there was a lot of uncertainties expressed in the scores: under some future assumptions some options do very well, while under others they do poorly. Also looking at the extreme values, all core options were either viewed as the very best or the very worst option by at least one participant. This highlights that there is no single "best" option—social and environmental outcomes of wind energy will depend on future political decisions, and it's crucial to remain aware of differing perspectives and the potential for both winners and losers in transitions.

To understand ***why*** people ranked the options the way they did, the study looked at the specific values or "criteria" that participants used to assess wind power development options. These criteria can be grouped into several major categories:

SOCIAL FACTORS

This was the most discussed area. Diverse interviewees cared deeply about acceptance, fairness, and community involvement. They talked about how projects should benefit local people through jobs, cheaper energy, and decision-making power. In Germany, people especially emphasised local value creation and public acceptance. Dutch participants focused more on involving communities in decision-making and minimising negative impacts like noise or shadow flicker from turbines.

ENVIRONMENTAL CONCERNS

The criteria chosen showed that participants wanted wind energy to align with climate goals but not at the expense of nature, flora and fauna. German interviewees often framed it in terms of nature compatibility – the minimisation of negative effects on nature. Dutch participants were more concerned with the environmental impact over the complete life cycle—such as what happens to turbines at the end of their life and the global effects of sourcing materials. They also introduced criteria that combined social and ecological concerns into one criterion rather than separating those out.

ECONOMIC ISSUES
Especially Dutch wind industry participants stressed profitability and return on investment. They wanted wind energy to be financially sound as otherwise they feared that wind energy would not be developed/ invested in at all. In Germany, interviewees also worried about energy prices for consumers and the overall cost to society, indicating a broader concern for affordability and fairness.

POLITICAL FACTORS
Few interviewees introduced criteria related to political issues, but those who did mostly discussed the need to meet climate targets or ensure stable regulatory frameworks. German government actors were more focused on achieving national wind energy and climate goals, while Dutch participants cared more about whether regulations help balance environmental and social priorities.

TECHNICAL CHALLENGES
Interviewees also introduced criteria related to grid capacity, power supply stability, and connecting wind farms to where energy is needed. Dutch participants often raised concerns about the country's overloaded grid. Similarly, German respondents discussed the importance of decentralising power systems and linking northern supply to southern demand. The need for grid expansions was mentioned in both countries.

FEASIBILITY
Participants from the wind industry in both countries worried about whether projects could realistically be built. They talked about time, required investments, and the expertise needed to make things happen. German participants included more social and political conditions in their definition of what is "feasible," while Dutch participants focused more on technical and financial capabilities.

Overall, the results highlight that while diverse interviewees across the two countries and different societal groups agree on the importance of justice, environment, and local involvement, they often define and prioritise these aspects differently. For example, German participants tended to focus more on environmental protection, local value creation, and public acceptance, while Dutch participants focussed more on financial viability, offshore wind potential, and combining social and ecological thinking. Still, *Local Alliances* consistently came out as a preferred choice because they reflect a model of wind development that was considered more inclusive, locally beneficial, and environmentally sensitive. The research does not point to a single best way forward but instead shows how different values, experiences, and priorities shape how people view the future of wind energy. It also shows policymakers and developers that successful wind energy projects need to go beyond technical and financial concerns—they must reflect the diverse values and concerns of the people affected by them.

CORE MESSAGES AND RECOMMENDATIONS

1 Citizens, have your say: it is your (energy) future, so become active!

Active energy citizenship in wind power development can take many forms. People may oppose wind projects because concerns about noise or visual impacts. They may try to influence where turbines are built, preferring one location over another. They may become prosumers, investors, or members of community energy groups benefiting from wind power developments. Active energy citizenship in all its variety is important because choices for or against specific energy pathways affect everyone in Europe. The recent price spikes after Russia's invasion of Ukraine made this very clear. Transitioning energy systems towards renewable energy brings both risks and opportunities. For this reason, it is important that all citizens have a say. They should be able to express which types of wind power projects they prefer, where they think turbines should be located, what regulations are fair, and how the grid should be planned.

Our research highlights the many criteria people use when evaluating wind power. These views go beyond simple choices like being "for" or "against" wind energy, or preferring offshore over onshore. Instead, society needs a broad and detailed discussion about how wind power should be developed and governed. This recommendation is therefore directed at all EU citizens to get involved in the social project that is the energy transition in line with the EU vision that citizens should have a central role in the energy transition. As set out above, this engagement with wind developments may take a variety of forms: from invited participation, to local opposition, becoming a prosumer, community energy member, or getting engaged politically at different levels (local, regional, national, EU) or forms (such as in NGOs, political parties, etc).

The following recommendations directed at policymakers specify a number of ways in which opportunities for such active energy citizenship could be strengthened.

2 Policy makers should provide room for active 'energy citizenship'

Our MCM analysis shows that people raise diverse social and environmental concerns about wind energy, including questions of justice. These concerns should guide decisions about the kinds of wind projects pursued. With the EU aiming to accelerate wind deployment, policymakers must ensure locally sensitive, inclusive participation. The goal should not be to "manage backlash" but to create spaces, where citizens' voices shape outcomes.

Germany and the Netherlands already have participation mechanisms—such as regional participation laws and decision-making processes. However, these often focus on local value creation, like financial compensation for municipalities (which is important, see next point), rather than giving citizens real influence over project siting or design. Similarly, mandatory consultation in environmental impact assessments is widely seen as symbolic, not empowering. However, research shows that meaningful community engagement from the start of a wind energy project helps build trust, addresses local concerns, and fosters a sense of ownership among community members.[viii] In the JustWind4all project, a database of participatory practises was developed which can be accessed through the Zenodo platform here. It shows examples of meaningful and successful participation.

One way to foster active energy citizenship could be the creation of national or regional citizens' assemblies to deliberate the future of wind power. For example, Scotland has set up citizens' juries[ix] to gather insights into what matters most to local communities regarding wind farm development. These juries explored perspectives on accelerating wind energy, participants' experiences, and factors that could improve acceptance. The insights gained helped guide decisions on project planning and siting decisions.

Next to invited participation processes, citizens will also express their discontent with developments through organising protests or mobilising counter expertise. Rather than suppressing or ignoring those voices, policymakers can consider them as providing crucial assessments of both the official involvement process and the choices (e.g., sites, technology, heights, operating hours) put forth. Considering them as assessments, these perspectives can be fed back into formal decision-making processes, and harnessed to arrive at mutually acceptable outcomes or can lead to an integration of knowledge – all this is possible when considering social protest as a form of participation.[x]

3 Policy makers should strengthen local value creation of wind projects

In addition to being involved in decision making processes, the potential for benefiting economically from wind energy development was also an important theme in our MCM analysis. Such local value creation typically does not happen automatically, but requires favourable regulatory conditions (e.g., provisions enabling for example community energy projects or energy sharing arrangements) and can be fostered through local rules. Across Europe, we see a very different regulatory landscape in this regard ranging from encouraging developers to compensate local communities, to offering investment opportunities or promoting co-ownership.[xi]

In Germany, participation laws typically prioritise acceptance through such benefit-sharing over empowering the public to shape project outcomes. While the federal government recommends operators to make community benefit payments to local municipalities in proximity to the wind development, and/or to provide benefits for local households (such as cheaper electricity rates), some federal states have made financial benefits for local communities mandatory (e.g., Thuringia, Brandenburg and Mecklenburg-Western Pomerania). Wind Park Zeewolde in the Netherlands exemplifies a successful model of community-driven financial participation in wind energy developments.[xii] The wind park, opened in 2022, is 100 percent collectively owned by the local community, after over two hundred local farmers and residents came together to invest half a billion euros, creating the world's largest community-owned wind park. This has proved to be particularly beneficial for the primarily agrarian community in the face of climate change and crop failures.

In order to strengthen local financial participation opportunities in wind energy development, the EU should provide a comprehensive overview of advantages and limitations of different financial participation schemes and pressure member states to harmonise, strengthen and implement such rules across the EU to make local financial value creation legally binding rather than optional for wind project developers.

4 EC should continue to enable and 'champion' energy citizenship

From the EC's desire for citizens to have a central role in the transition to renewable energy comes its responsibility to enable and champion energy citizenship in EU regulatory and policy decisions wherever possible. The EU should also increase pressure on member states to enable energy citizenship in developing wind energy.

Through their vision as well as policy and regulatory decisions, the EC has so far been a 'champion' for energy citizenship, enabling citizens to become important actors in their own right, not least through enabling community energy projects, net-metering, energy sharing, etc. Important in this regard has been the Renewable Energy Directive (RED) II (Directive 2018/2001) contained within the Clean Energy Package (CEP), which explicitly defined renewable energy communities as a legal entity. However, member states have at times not or only reluctantly implemented these provisions, or they have transposed them in very different ways with varying outcomes.[xiii] Some of the most supportive regulatory frameworks have been established in Italy, Austria and the Netherlands, while in other European member states such as Poland, community energy is still a very marginal phenomenon.[xiv] To strengthen and further mainstream renewable energy community projects – and with it energy citizenship – additional polices at EU and member state level are necessary.

The EU not only provides regulatory guidance but also funds the knowledge base for energy citizenship. This includes ongoing support for environmental and technological research, like reducing the impact of wind turbines and developing alternative technologies. Additionally, funding should cover social issues such as energy justice, democracy, and governance of the renewable energy transition. Involving social sciences and humanities is essential, alongside promoting inter- and transdisciplinary research to tackle complex socio-technical questions and contribute to discussions on energy citizenship.

FURTHER INFORMATION

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OTHER RELEVANT PROJECT OUTPUTS

Regional Case Studies

Database of Participatory Practices

Scientific Papers

All Outputs

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