



Annual Report 2024

Task 62

Photo: Land based wind farms. (Photo credit: NREL Image Gallery 50666. Dennis Schroeder)

Social Science for Collaborative Wind Energy Planning & Participation

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Wind energy development isn't just technical; it's rooted in social contexts and community dynamics.

Social science research and recommendations enable us to address community concerns, fairness, and participation from the outset of the wind energy project. Task 62 leverages global social

science research and insights to encourage and enable successful relationships between wind energy developers, communities, and authorities. The goal is fair, value-balancing and responsible wind energy projects.

This is imperative, as local opposition can be a key constraint for development, and protests can halt permitting

and construction, regardless of a country's climate goals or industry strength. Task 62's network of international researchers defines challenges and outlines solutions at local, regional, and national levels to align with community needs. We collaborate on research and share findings. Task members engage with partner organizations, NGOs, universities, and industry, advise

governments, and disseminate material for decision-makers, researchers, energy planners, and others.

In 2024, Task 62 was started with social scientists, industry, and other practitioners from 12 countries spanning North America, Europe, and Asia. The Task focused on clarifying the steps and content required to reframe the social challenge: asking not how to convince communities to accept projects, but what industry and governments can do differently to co-create projects to improve outcomes, build long-term support, reduce conflict, and increase likelihood of timely approvals.

Purpose: To use social science research and expertise in order to support fair, responsible, and sustainable wind energy development.

Mission: To provide actionable insights

and tools that enable responsible, sustainable and locally supported wind energy deployment.

Introduction

The rapidly increasing scale and concentration of wind turbines on some landscapes presents challenges and opportunities for people who live near the projects. As the geographic distribution of wind energy (and other renewables, transmission, and storage) expands to meet climate and energy goals as well as the world's growing electricity demand, the need to carefully consider the impacts on society also increases. Task 62's network of international researchers defines challenges and applies solutions to align with communities at local, regional, and national levels. We conduct research and share findings with partner organizations and industry, advise

governments, and disseminate material for decision-makers, researchers, energy planners, among others.

Task 62 strives to positively impact the following audiences:

- Developers/Industry
- Communities
- Authorities
- Researchers

Task 62 Work Packages are described below:

- 1. Socio-Enviro-Technical collaboration:** Rooted in the Grand Challenges of Wind Energy, addressing impacts like noise and environmental factors.
- 2. Local engagement and approval:** Enhancing planning processes to foster community approval - where to go beyond what the law says.

COUNTRY	PARTICIPANT'S INSTITUTIONS	PARTICIPANTS
Canada	University of Western Ontario	Jamie Baxter
Denmark	Danish Technical University, Aalborg University	David Rudolph, Kristian Borch
Finland	University of Eastern Finland	Lasse Peltonen
France	Total Energies	Magali Collin
Germany	Federal Ministry for Economic Affairs and Energy (BMWE), Medical School Hamburg (MSH), Institute for Future Energy and Material Flow Systems (IZES)	Gundula Huebner, Jan Hildebrand
Ireland	AstonECO, University College Cork, Sustainable Energy Agency of Ireland	John Aston, Bernadette Power, Jean-Pierre Roux
Japan	Nagoya University, Toho University	Yasushi Maruyama, Memi Motosu, Ayano Takeuchi
Netherlands	Pondera	Marielle de Sain
Norway	Norwegian Institute for Nature Research (NINA)	Kristin E. Mathiesen
Sweden	Swedish Energy Agency - Energi Myndigheten Sweden	Amanda Ros
U.K.	Celtic Sea Power, University of Exeter, The Crown Estate	Neil Farrington, Patrick Devine Wright, Pamela Buchan
U.S	Lawrence Berkeley National Lab, National Renewable Energy Lab, Colorado State University	Joe Rand, Matilda Kreider, Suzanne Tegen

Table 1. Countries Participating in Task 62

3. **Organizational culture:** The power of integrating meaningful engagement into core business; and the obstacles created by not doing so.

4. **Project participation and business models:** Exploring models for shared benefits.

5. **Tools for improved planning:** Using gamification and other tools/methods for better dialogue and higher inclusion of young people.

Progress and Achievements

Task 62 was approved by the IEA Wind TCP Executive Committee in Bari, Italy, in May 2024. Since then, Task members have been examining changes needed to advance content and communication. The Task is moving from the idea that communities should accept renewable energy projects to how changes to these projects' design, siting, and decision-making processes might have a much more effective impact.

A key part of this evolution was to strengthen the Task membership so that the voices of all major wind-energy countries were at the table. This meant a large number of one-to-one or one-to-few online meetings as the team stormed and formed. The level of consensus around this reframing of the challenge grew as participants felt the growing pressure on countries to reach their climate and clean energy goals.

The origin of community opposition was very similar in all countries, and many Task 62 members continue to study ways to engage communities. Seven countries gathered in Finland (spring 2024) to discuss key factors to societal acceptance of wind energy and wind energy deployment in Finland. [1]

This commonality made more apparent the value of international collaboration as wind energy deployment advances around the globe. We have learned that wind energy developments and social science intersect in many different areas, including within the developer's

Board rooms, throughout their teams, among their investors, throughout local communities and municipalities, utility providers, energy planners, state regulators, and others.

In keeping with Work Package 1 to collaborate across disciplines, Task 62 co-hosted a Social-Environmental Cross-Cutting Meeting at the *NAWEA/WindTech 2024 conference at Rutgers University* in October 2024.

They brought together researchers and industry professionals from the social science and environmental sides of wind energy to discuss issues and ideas that cut across our areas of work, such as community concerns about wind energy's environmental impacts and strategies for countering misinformation/disinformation.

The meeting was attended by 45 experts from various disciplines and countries. The meeting was co-hosted by the National Renewable Energy Laboratory (Cris Hein and Matilda Kreider), Pacific Northwest National Laboratory (Hayley Farr), Colorado State University's Center for the New Energy Economy (Suzanne Tegen), and Western EcoSystems Technology (Amanda Hale).

To keep momentum, there was a virtual follow-up meeting held in January with break-out groups covering topics like data sharing and collaboration with industry. Social and environmental scientists began working together to submit joint papers for conferences.

Highlights

- A joint publication from Finland, Ireland, Denmark, Germany, Sweden, the Netherlands, and the United States Natural Resources Institute Finland's Policy Brief: Build Public Trust: *Six Factors for Increasing Wind Power Acceptance* [1]. The summary graphic from this report is shown figure 1.

- Cross-disciplinary meeting between social and environmental scientists at the North American Wind Energy Academy Meeting, Rutgers University,



Figure 1. Six factors that impact societal acceptance of wind energy projects.
(Source: Hübner, G., Leschinger, V., Müller, F.J.Y. & Pohl, J. (2023) [1])

New Jersey, USA. This October meeting offered experts from IEA Wind Task 34 and 62 to gather and discuss mutual challenges along with experts from other tasks and disciplines attending the conference. There has been one follow-up virtual meeting with this group, and they plan to meet again at the 2025 NAWEA conference, keeping the discussions current and ongoing.

Outcomes and Significance

In addition to the collaboration of Task 62 members listed above, Professor Gundula Huebner and her colleagues work with the **German wind industry** to assess host community perceptions of annoyance from their nearby wind farm, understand issues, and ascertain mitigation methods, such as the impact of slowing turbine speeds.

Dr. Jan Hildebrand (Germany) is advising the **Ministry of Energy from the Federal state of Saarland** on the development of a new law on public participation in wind energy projects. He also works with municipalities and energy agencies on community benefits agreements including presenting to stakeholders. He presented this work to the French Ministry for Ecological Transition, and the work will be translated for German French collaboration.

In the **UK**, Neil Farrington works with industry and government at Celtic Sea Power. He has direct industry engagement through the now-established Celtic Sea Cluster.

In **Ireland**, following extensive engage-

ment with 7 developers and 150+ near neighbours, John Aston is developing the Earning Local Support Academy (ELSA), with support from the Sustainable Energy Authority of Ireland to enable and advance relationships between communities, developers, and local authorities.

In **Canada**, Jamie Baxter is working with local residents, particularly those using a community-based development model, and including First Nation residents to understand how they view turbines, including the roles played by participatory planning, benefits communication, and Indigenous reconciliation.

In **Finland**, Lasse Peltonen works with local authorities, renewable energy companies, and the central government to develop collaboration and new capacities regarding the ways wind energy development can better respond to local needs – including the creation of a new guide.

Next Steps

- Task 62 members have organized a day long Mini-Symposium at the Wind Energy Science Conference in Nantes, France in June 2025 to showcase how social science facilitating collaborative wind energy development can greatly assist responsible deployment and the energy transition.
- Ongoing collaborations with other researchers and practitioners on present & future projects, e.g., meeting in January 2025 with IEA Wind's environmental task.

- Workshops, publications, webinars, and tool development to promote actionable social science in wind energy and disseminate information, for example online discussions, such as that presented by Gundula Huebner and her team, Innovative Participatory Approaches to the Energy Transition.

- Development of guides and recommendations for planners, designers, developers, and local authorities.

References

[1] Hübner, G., Leschinger, V., Müller, F.J.Y. & Pohl, J. (2023). Broadening the social acceptance of wind energy – An Integrated Acceptance Model, Energy Policy, 173, 113360, doi.org/10.1016/j.enpol.2022.113360 where originally impacts on people and nature were classified as one single driver. Graphic design by Natural Resources Institute Finland *LUKE Policy Brief 8/2024*.

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