



1) PINE TREE WIND AND SOLAR FARM TOUR. NREL IMAGE GALLERY 50692. PHOTO CREDIT: DENNIS SCHROEDER, NREL

## TASK 28 REPORT 2020

### Social science of wind energy acceptance (SoSWEA)

Social acceptance continues to be a key constraint for the development of wind energy projects. In the face of the intensifying and dynamic challenges in most parts of the world, there will continue to be added value in Task 28 and learning how researchers around the globe identify challenges and apply solutions at local, regional, and country-wide levels.

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**S**ocial scientists and others participating in this task conduct research and share findings to increase knowledge among Task 28 members.

They collaborate with partner organizations and disseminate high quality data and analyses for decision-makers, researchers, energy planners, regulators, and others.

Task 28 was highly productive in its first three phases, and significant work remains, while the value of international collaboration only increases as wind

deployment advances around the globe. The MISTRAL Project (Multi-Sectoral Approaches to Innovative Skills Training for Renewable Energy and Social Acceptance) is a part of Task 28 and focuses on training social scientists for the near-future workforce. In brief, objectives of MISTRAL are:

- To pursue creative, inter-disciplinary research on the conceptual framing, drivers, contexts, and responses to declining social acceptance of renewable energy infrastructure;
- To establish the links and feedback processes between socio-political, market and community dimensions of social acceptance, at a range of spatial scales;
- To engage academic researchers with other key stakeholders in the field of social acceptance; and
- To provide an innovative training environment to develop advanced skills in research and debate issues with world leading researchers in the field, for progressing the energy transition.

For Phase IV (May 2020 – April 2024), the task is taking a more holistic systems view of social science of wind energy acceptance, so information is useful to a wider audience. As the global energy supply transitions to sources such as solar and wind, Task 28 research can be useful for any community experiencing an energy transition.

### Progress and achievements

Task 28 successfully completed Phase III in 2020 and commenced Phase IV after its proposed work programme May 2021 - April 2024 was approved by IEA Wind TCP Exco Committee. Phase IV has now been successfully underway since May 2020 and is on programme in terms of planned deliverables and activities.

During Task 28 Phase IV Year 1, as planned, several meetings and collaborations have taken place with many publications, presentations and dissemination delivered. Several countries including the Netherlands, Ireland, and Denmark, have worked with the wind industry on the social acceptance best practices for offshore wind. Others such as the United States and Japan published on co-benefits of wind development [3]. The United Kingdom, Canada, Japan, and others researched community justice issues [5]. Task 28 deliverables can be found on our website: <https://iea-wind.org/task28/t28-publications>.

Beginning summer 2020, Task 28 began a new phase with these work packages:

#### Track 1: Research synthesis and gap analysis

1. Innovations in value additions and benefit schemes from wind projects—what have we learned from Phases 1-3, and where are current gaps in research?
2. Understanding costs associated with community engagement and opposition
3. New and emerging issues in wind energy acceptance (including supersized turbines, decommissioning/repowering, floating offshore systems)

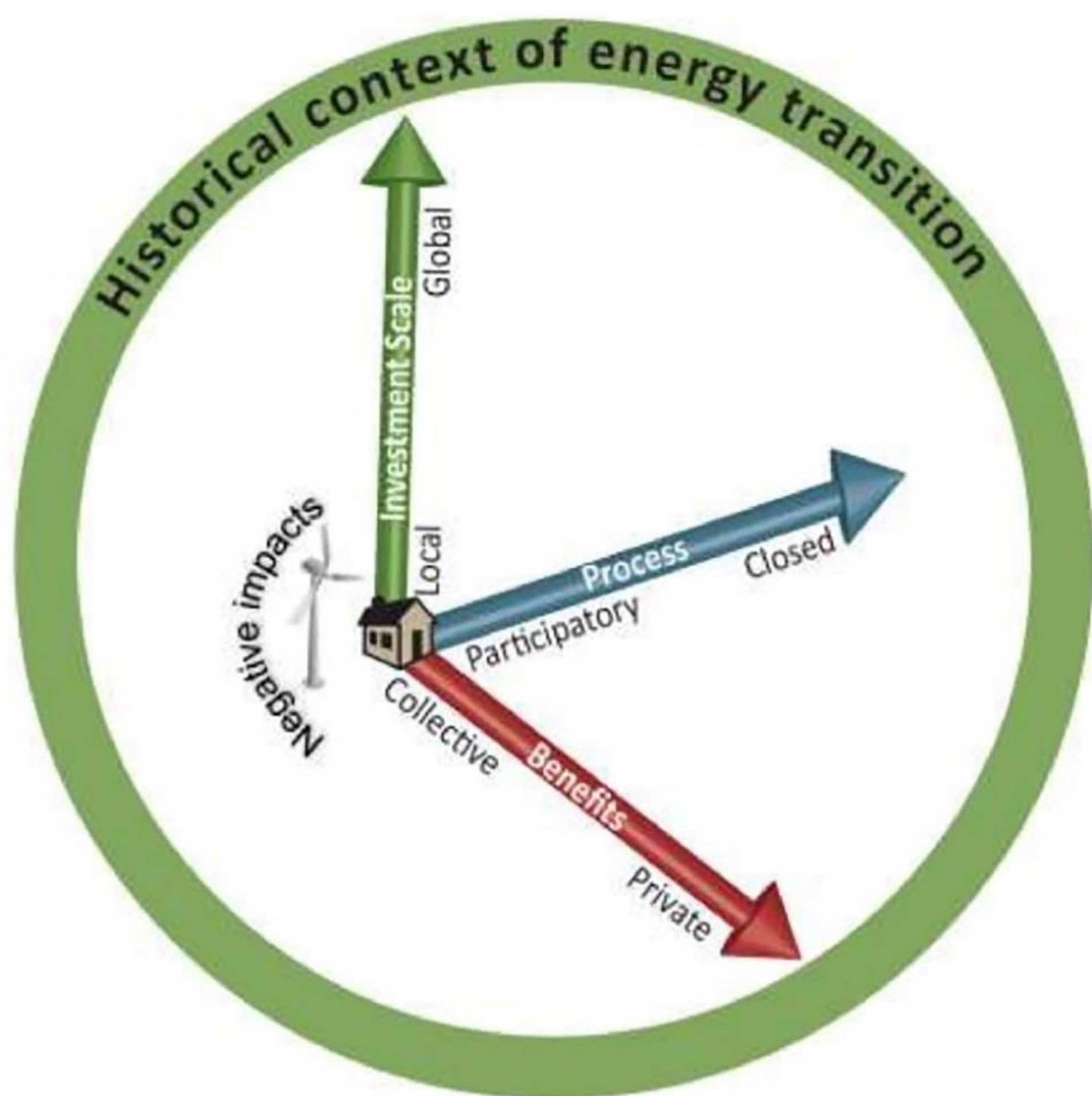
#### Track 2: Research dissemination, facilitation, and knowledge exchange

4. Increased global engagement and knowledge exchange of wind energy acceptance and social science
5. Offshore Wind Working Group on Social Acceptance: expert convening and information dissemination

TABLE 1. COUNTRIES PARTICIPATING IN TASK

Table 1. Task 28 Participants in 2020		
	Country/Sponsor	Institution(s)
1	Canada	Western University, Canada
2	Denmark	DTU Wind Energy, Department of Wind Energy
3	Finland	Akordi / Business Finland
4	Germany	Federal Ministry for Economic Affairs and Energy
5	Ireland	Sustainable Energy Authority of Ireland
6	Japan	National Institute of Advanced Industrial Science and Technology
7	Switzerland	Swiss Federal Office of Energy
8	United States	Colorado State University, U.S. Department of Energy's National Laboratories (NREL, LBNL)

OBSERVERS IN 2020: UNITED KINGDOM, SWEDEN, NORWAY, NETHERLANDS, WIND EUROPE.



2) COMMUNITY ACCEPTANCE – LEARNING ABOUT WIND TURBINES. COLORADO, USA. NREL IMAGE GALLERY 56386. PHOTO CREDIT: DENNIS SCHROEDER, NREL.

### Highlight

In 2020, three members of Task 28 (along with three other co-authors) collaborated to publish *Scale, history and justice in community wind energy: An empirical review* in the journal *Energy Research and Social Science*. This important contribution augments a seminal social acceptance framework co-authored by Patrick Devine-Wright (Task 28 participant). This article reviewed 15 studies on community wind energy and advances our understanding of why community-based wind energy development is generally more acceptable to locals. While fair process and fair distribution of benefits are well known determinants of acceptance, this review adds a third dimension: investment scale. The authors posit that factors contributing to high local social acceptance are: locally-oriented, participatory, and have collective benefits. While these three dimensions may not entirely define the acceptability of community wind energy projects, they may be key for maximizing local wind energy project support. [5]



PEOPLE WALKING IN FRONT OF WIND TURBINE AT NWTTC 2019

## Outcomes and significance

Debates surrounding wind energy projects in the field show that social acceptance needs to be better understood if country-level policy targets for energy production and equity are to be accomplished. Individual projects require public approval, and to be realized, proponents, and opponents need to work together to improve development and deployment processes. Industry, government, and research institutions appear to be increasingly interested in these topics during the worldwide energy transition.

International knowledge sharing and collaboration are crucial to understand how the global deployment of wind energy impacts communities that host wind turbines, their neighbors, and the wind energy supply chain.

## Next steps

In 2021, six Task 28 participants held a mini-symposium about Social Acceptance at the virtual Wind Energy Science Conference. Participants will continue to work together on social acceptance topics and provide informational webinars at conferences and through the Task 28 platform. As the energy transition moves forward and renewable energy is built out to meet ambitious climate targets, there is more demand for work on societal impacts and host communities. Task 28 topics will become even more relevant in the near future, and members have already been asked to work with other IEA tasks (e.g., Task 25, Task 39) and research groups to help them understand decades of social science research behind wind energy acceptance. It will be vital to include emerging economies in Task 28 research as we move into a cleaner energy economy in an equitable way.

## References

1. Fact Sheet: Landscape & Visualisation by Susanna Batel, Portugal and Gundula Hübner, Germany.
2. Fact Sheet: Health and Annoyance by Gundula Hübner, Germany
3. Fact Sheet: Co-benefit Model of Offshore Wind Farms and Fishery Communities by Yasushi Maruyama, Japan
4. Fact Sheet: Individual or Collective? Community Investment, Local Taxes, and the Social Acceptance of Wind Energy in Switzerland by Pascal Vuichard, Switzerland
5. Baxter, J., Walker, C., Ellis, G., Devine-Wright, P., Adams, M. and Smith Fullerton, R. (2020). Scale, history and justice in community wind energy: An empirical review. *Energy Research and Social Science*, 68, 101532.
6. Task 28 participants presented: "Wind Farm Developers: a Typology of Acceptability" at the 11<sup>th</sup> International Sustainability Transitions conference, 21<sup>st</sup> August 2020. The work was together with a range of developers in Denmark in the Wind2050 project.

## Task contacts

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