Final report

1. Project details

Project title	Danish participation in Phase III: IEA Task28 “Social Acceptance of Wind Power”
File no.	64017-05142
Name of the funding scheme	EUDP 2017
Project managing company / institution	DTU Wind Energy
CVR number (central business register)	30060946
Project partners	None
Submission date	31 March 2021

2. Summary

The objective of this project was to participate in the IEA Wind Task 28 Social Acceptance of Wind Power, to share the latest research results from Danish work with the international community and to learn about other countries’ research programmes and findings. To this end, the Danish participants have attended conferences, seminars and meetings, and DTU has hosted an Annual Meeting of Task 28. This has resulted in a number of presentations and publications where recommendations have been made for policy makers, practitioners and researchers in the field of more sustainable integration of wind energy in our society.

3. Project objectives

IEA Wind Task 28 on Social Acceptance of Wind Energy Projects is a working group within the International Energy Agency Wind Technology Collaboration Programme (IEA Wind TCP). This EUDP-supported project was created for the Danish participation in the Task.

Task 28 is an interdisciplinary and international research, knowledge creation and exchange platform with the objective of supporting efforts to understand, and ultimately to achieve, broad-based social support for wind energy around the globe.

This project’s primary aim was to gather the latest and most relevant Danish research in this area and through the Task 28 network, disseminate this through meetings, seminars, conferences, projects, and contact with

authorities and practitioners in the field. The secondary aim was in parallel, to harvest the corresponding best research findings from the international network to keep Danish research at the forefront in this field.

As the project was a network and dissemination activity, there was no technology or product development. Rather, the emphasis is on knowledge sharing and further development of social science as an essential and complementary discipline to technological sciences in the energy transition.

The participant countries of the IEA Task 28 at the time of this project were:

Participants

- Denmark
- Germany
- Finland
- Ireland
- Japan
- Portugal
- Switzerland
- United States

Observers

- Canada
- Norway
- United Kingdom
- (Wind Europe)

The Operating Agent country for the Task was Ireland.

4. Project implementation

The project was implemented very much along the lines envisaged in the project application (please see Appendix 1 for overview of Task 28 Phase III, priorities, themes and work packages). Most of the work carried out under this project was in Work Package 3 “Regulatory processes and consenting regimes” (lead by DTU) and Work Package 2 “Offshore wind energy”. Danish participation was fully engaged at all the Task meetings, seminars and conferences (please see section 5 for details).

The main risk envisaged in the project was ensuring the continuation of Danish research at the highest level, so that Denmark could participate with substantial and relevant findings. From DTU’s perspective this risk was mitigated by DTU Wind Energy taking over the project leadership role from DTU Management, to maintain continuity and secure the quality of underlying research.

The unexpected risk encountered was that posed by the COVID-19 global pandemic. For a network and dissemination project that previously relied on travel and in-person meetings, this presented somewhat of a challenge. However, it was a challenge faced by all participating countries and the change to using online meeting and networking opportunities was made without significant disruption.

As a consequence of the severe restriction on travel the project applied for, and was granted, a change in use of the planned travel budget. This involved the reallocation of funding from travel to research hours, of which not all was completely utilised but it resulted in further findings and dissemination than otherwise would have been possible.

5. Project results

This section provides an overview of the notable network and dissemination events that were participated in during the course of this project. These are the main results of this project, since it was not an objective of the project to develop technological or commercial results.

5.1 Hosting of IEA Task 28 Annual Meeting (26-28th March 2018)

In the week before Easter 2018, DTU Wind Energy hosted two International Energy Agency meetings at the Risø Campus, Roskilde.

As part of collaborative initiatives, DTU Wind Energy and DTU Management Engineering organised a three-day meeting of the two IEA groups:

- IEA Task 28 “Social Acceptance of Wind Energy Projects”
- IEA TEM (Technical Experts Meeting) #90 “Community and Distributed Wind”

The idea of holding them together was to make the most of the possible synergies between smaller and more distributed wind turbines and the social acceptability of such projects. This was the first time that experts from the social science approach of the Task 28 group and the engineering-based turbine group had come together in one place.

In all, 35 researchers, academics, consultants and engineers from 15 different countries from around the world were able to network and exchange experiences and ideas, as well as promote new avenues for research and dissemination. “I took part in very useful discussions that I would not normally have the opportunity to have with social science folks”, commented a North American small wind promoter, adding “it was somewhat outside of my comfort zone”.

Some of the group were also taken on a tour of the Risø campus, including the SYSLAB facility and the Large Scale Blade Test facility. A scientist from Germany was impressed not only by the facilities but also the DTU researchers: “One can really feel the engagement and enthusiasm of the DTU people”.

The event was successfully carried out and was judged to be a success with future ties between the groups to be explored. The international community of experts left with a positive impression of both DTU and Denmark: “Great people, great food, great place and generosity of spirit”, wrote one attendee after returning home.

Figure 1: A selection of the two IEA groups on a tour of the Risø Campus

5.2 Conferences, Seminars and Meetings

Sep 2018: Wind Europe Conference, Hamburg

Attendance, and presentation of research findings, at Wind Europe Conference, Hamburg, Germany 26-27th September 2018, including IEA Task28 meeting. At the symposium arranged by Task28, Kristian Borch (DTU) presented on the topic of "Communication strategies in wind power development".

Dec 2018: Visiting scholar, Denmark

DTU hosted the internationally-renowned scholar Professor Patrick Devine-Wright, from Exeter University, UK. Patrick is an expert within the field of 'social acceptance' and as well as participating in a joint seminar that presented the latest research findings to wind technology engineers, he also collaborated in discussions about future project applications.

Mar 2019: Task 28 Workshop, Lisbon

DTU researchers attended the IEA Task 28 meeting and workshop in Lisbon, Portugal, 25-26th March 2019 at ISCTE-IUL, University Institute of Lisbon. Tom Cronin (DTU) and Kristian Borch (DTU) presented: "Permitting Processes, Legal Participation and Distance / Set-back influences".

Jun 2019: Wind Energy Science Conference, Cork

Kristian Borch (DTU) participated in the WES Conference, Cork, Ireland. He presented the topic: "Strategic capability of management of sociotechnical controversies in wind power development".

August 2019: Seminar at Danish Institute for International Studies, Copenhagen

28th August 2019, DTU researchers Kristian Borch and David Rudolph presented at the seminar on the topic of: "The energy transition is bringing renewable energy in increased speed, but how do we make sure the transition brings development to communities?" In collaboration with Danida funded project Tentrans and DFF-funded project Wind2050.

Sep 2019: Social Acceptance Workshop, Belfast

Interfacing with potential new EU Social Acceptance project partners, in Belfast, UK. 11th September 2019 presentations at Social Acceptance Workshop by Kristian Borch (DTU) and Tom Cronin (DTU). Workshop attended by researchers, students, authorities and practitioners.

Sep 2019: European Energy Research Alliance seminar, Amsterdam

Presenting the IEA Task 28 work and Danish experience with wind power at the EERA seminar on 25th September 2019 "Social impacts as part of environmental impact assessments for wind farms - Challenges and recommendations" by David Rudolph (DTU).

Dec 2019: Task 28 Annual Meeting, Denver

Online participation in the Task 28 annual meeting in Denver, Colorado State University, USA.

Aug 2020: International Sustainability Conference, Vienna

Tom Cronin (DTU) presented a paper based on DFF-funded project Wind2050 and Task28 collaboration: "Wind farm developers: a typology of acceptability (Tom Cronin, Julia Kirch Kirkegaard and Cris Pons-Seres de Brauwer). International Sustainability Transitions Conference, Vienna, held online, 21st Aug 2020.

Sep 2020: Task 28 Annual Meeting (online)

IEA Task 28 annual meeting held online 8th September 2020. Attended by DTU researcher, Tom Cronin and AAU researcher, Kristian Borch.

Oct 2020: IEA Experts Group (online)

Webinar arranged by IEA experts group: "Energy Infrastructure - public acceptance", 24th October 2020. Attended by DTU researchers Tom Cronin and Julia Kirch Kirkegaard.

5.3 Publications

Guidelines

"Guide for policy makers – community engagement and benefits for offshore wind energy". David Rudolph (DTU) contributed to a guide on stakeholder engagement and community benefits related to offshore wind farms. This report is organised by operating agent Garry Keegan and includes input from other IEA Task 28 participants. It is aimed at informing the Irish Government with regard to emerging offshore wind energy developments in Ireland, but also other countries that undergo significant growth of offshore wind energy. (Part of work in WP2 Offshore)

Book publications

Collating and assembling the latest research from Task 28 members on moving beyond 'social acceptance' of renewable energy infrastructures. Along with Susana Batel (ISCTE-Lisbon), David Rudolph (DTU) submitted a book manuscript to the publisher Palgrave Macmillan entitled "A critical approach to the social acceptance of renewable energy infrastructures: Going beyond green growth and sustainability", which will be published in early 2021. The book proposal originated from discussions during and after the IEA Task 28 meeting held at the DTU Risø Campus in 2018, and was subsequently developed. The book has gathered 11 chapters from authors across the world that advance a critical approach to social acceptance research outlined by the editors. Julia K. Kirkegaard (DTU) and Sophie Nyborg (DTU) also contributed to the book with a chapter.

Journal articles

The following articles have been written/published with assistance/involvement from IEA Task28 members, although they were not produced exclusively within the Task 28 remit

Feedback received from Task 28 members: "Paradigm shift in Danish wind power: the (un)sustainable transformation of a sector", Kirkegaard, Julia Kirch; Cronin, Tom and Nyborg, Sophie, Journal of Environmental Policy and Planning, accepted Oct 2020.

Authoring work has been carried out on: "The land rush of wind energy, its socio-material workings, and its consequences: On the entangled markets of land and wind in Denmark", Kirkegaard, Julia Kirch; Rudolph, David; Cronin, Tom and Nyborg, Sophie. To be submitted to Environmental Planning A.

Topic and substance presented to Task28 members on multiple occasions: "Mapping wind-power controversies on social media: Facebook as a powerful mobilizer of local resistance", Borch, Kristian, Energy Policy, published March 2020.

6. Utilisation of project results

As the project was mainly a network and dissemination activity, the results of the project are mainly in the utilisation of the findings disseminated at the various conferences and seminars. The most direct utilisation of results have been those events where practitioners (e.g. wind farm developers) have been present.

There have, however, been two main (and major) utilisations of the Task 28 network and research results:

1) **The formation of Task 41 Distributed wind**

   IEA Task 41 was formed as a direct initiative coming from the joint annual meetings in March 2018 held at the DTU Risø Campus. Tom Cronin (DTU) is a member of both IES Task 28 and 41, and cross-fertilises the synergies between the two tasks.

2) **The successful award of funding for the MISTRAL project**

   The MISTRAL project is a Marie-Curie Innovative Training Network, funded by EU's Horizon 2020 programme. It was a direct result of collaboration by the European members in the IEA Task 28 and DTU received funding for two PhD projects within the topic of 'social acceptance' of wind power.

   "MISTRAL (Multi-sectoral approaches to Innovative Skills Training for Renewable energy & sociAL acceptance) will train a new generation of researchers who can evaluate the complexity of social acceptance issues facing the deployment of renewable energy infrastructure, and propose innovative solutions in a variety of research, government and business contexts."

7. Project conclusion and perspective

The project has managed to succeed in disseminating Danish research results within the field of social acceptance of wind energy, although travel to conferences and meetings were stopped in Q2 of 2020 due to the corona virus situation, and some of the associated work delayed/postponed. The project has, however, managed to maintain contact with the Task28 network and has contributed to the successful approval for the extension Phase IV (2020-2024)of the IEA Task 28 by the ExCo85.

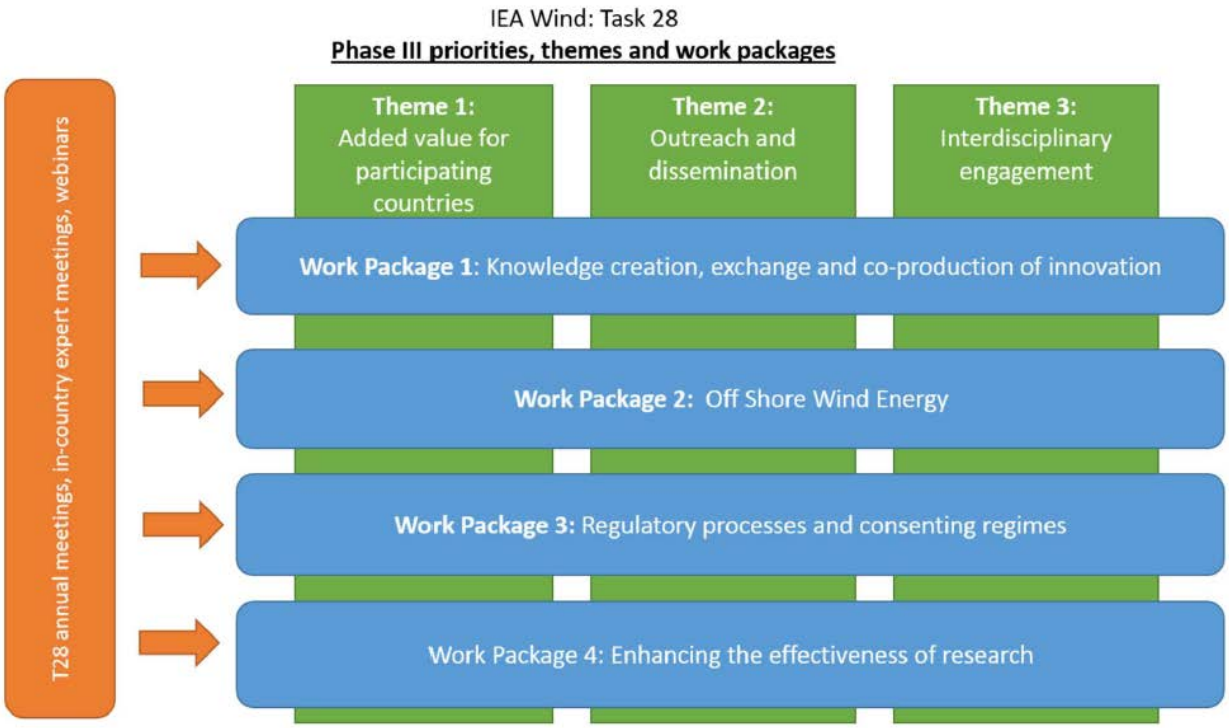
In the immediate future, those Danish researchers who were involved in Phase III, will concentrate on the start-up of the Phase IV and secure Danish participation during the next three and a half years.

To reflect much of the findings and interaction with technology research and practitioners, the title for the Task 28 has been revised to "Social Science of Wind Energy Acceptance".

8. Appendices

Link to IEA Wind Task 28 website: Task 28 - Task28 (ieawind.org)

Appendix 1: Overview of Task 28 Phase III, priorities, themes and work packages



WP1: Knowledge creation, exchange and co-production of innovation

i. Understanding Community Impacts; ii. Evaluating Community Benefit & Ownership Models; iii. Community Participation Best Practice; iv. Training Framework for Industry Practitioners; v. State of the Art Reports.

WP2: Off-Shore Wind Energy: unique challenges of social acceptance

It is anticipated that this Work Package would benefit from being initiated through a topical expert meeting/workshop.

WP3: Regulatory processes and consenting regimes

Evaluation / Review / Comparison of existing regulatory regimes, legislation, codes of conduct, and implementation of laws among participant countries – identification of changes made that have worked / improved social acceptance. Identification of what is working / best practice.

WP4: Enhancing the effectiveness of research in social acceptance of wind energy

This work package is aimed at enhancing the effectiveness of research on social acceptance. This will include developing common variables and their definition (e.g. of defining proximity and annoyance related to turbines) to be used in social acceptance studies, particularly when measuring community attitudes.