

# ExCo 86 Newsletter

November 2020



**Online Meeting 12-15 October 2020**

Photo from [www.seai.ie](http://www.seai.ie)



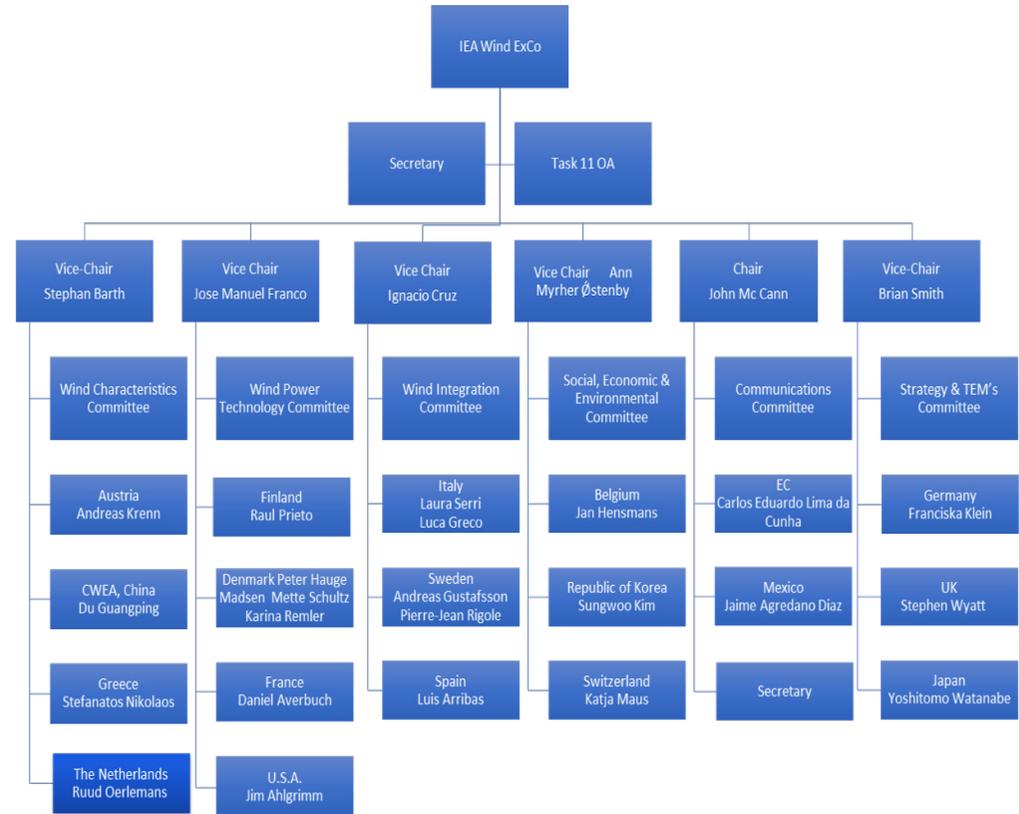


**John McCann, SEAI,**  
Chair Executive Secretary IEA Wind TCP  
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## ExCo 86 Chair Overview

- IEA Wind Growth**  
 Despite COVID 19 restrictions we continued to collaborate and grow the IEA Wind TCP in 2020. India and Romania were invited to join IEA Wind and 3 new Tasks were started in 2020
- Key Highlight**  
 In 2020 the IEA Wind Leadership Team initiated changes in the organisation of the ExCo to bring improved focus and resourcing to delivering strategic objectives.
- Key Highlight**  
 A key change was to have the Chair and Vice Chairs each take responsibility for one strategic priority, with member committees supporting them.

## New Strategic Committee Structure



# Norway

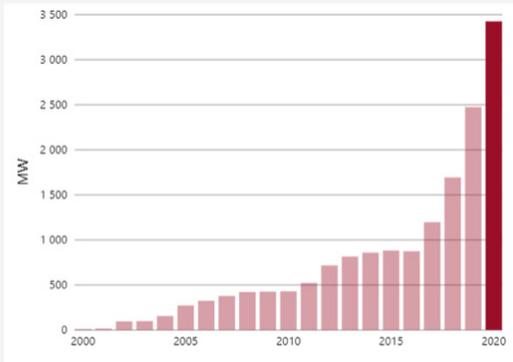
Country Presentation



For more information please contact:  
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### Key highlights

- High deployment of wind power in Norway for the fourth consecutive year, but this will come to an end after 2021
- Government white paper on wind power has been released. This can impact the permitting process and deadlines
- The Government opened to areas for offshore wind power earlier this year and applications can be submitted from 1.1.2021



**Deployment of windpower in Norway is setting new records - again**

# Sweden

Country Presentation

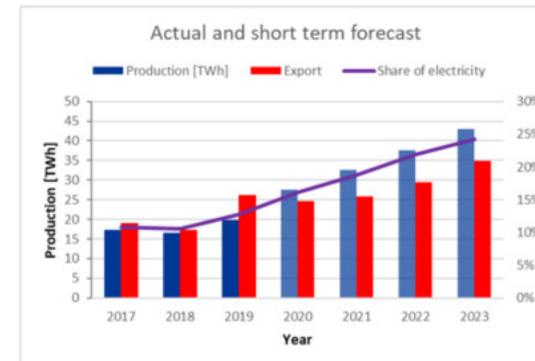
### Key highlights

- Wind power in 2019  
Installed capacity reached 8 681 MW Wind accounted for 13% of electricity production (19,8TWh)
- Negative electricity price  
Minus 0,2 € per MWh. This was the electricity price during the night of the 20th of February on the Nordpool power market
- High growth the coming years  
Based on current planned and in-construction projects, wind power will reach 25% of the electricity production (40 TWh) by 2023 is acting to address all these issues



For more information please contact:  
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Swedish Energy Agency  
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**Short term forecast for wind power electricity production and electricity export**

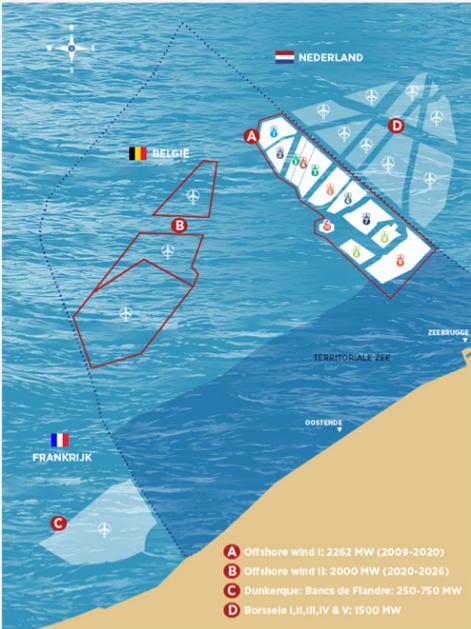


# Belgium

Country Presentation



For more information please contact:  
**Jan Hensmans**  
FPS Economy- Directorate general Energy  
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## Key highlights

- Installed Capacity 2262 MW  
From 2021 on, the current wind parks will produce 8 TWh/year (2262 MW installed capacity) delivering energy for 2,300,000 homes, representing 10% of the electricity demand in Belgium
- Doubling capacity by 2024  
The Federal Government approved a doubling of the offshore capacity during the next governmental period 2019-2024 (from 2,2 GW to 4GW)
- Nautilus study  
Belgium is investigating a second Interconnector between Belgium and the UK (Nautilus Hybrid Interconnection) : 1 combined asset for the interconnector & the connection of offshore wind farm(s)
- North Seas Energy Cooperation (NSEC)  
Belgium will chair the cooperation (between 10 countries and the EC) in 2021
- **3 new development areas**
- **Extension of Modular Offshore Grid**
- **20% of electricity demand in BE**

# France

Country Presentation



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## Key highlights

- Adoption of the Pluriannual Energy Program (PPE) with new targets for onshore and offshore wind in 2023 of 24.1 and 2.4 GW.
- Positive final investment decisions and construction start-up of offshore parks from Round 1
- Launch of the ZEBRA project to develop first 100% recyclable wind turbine blade

## Start-up of the Public debate for floating wind commercial tender in South Brittany



# Germany

Country Presentation

## Key highlights

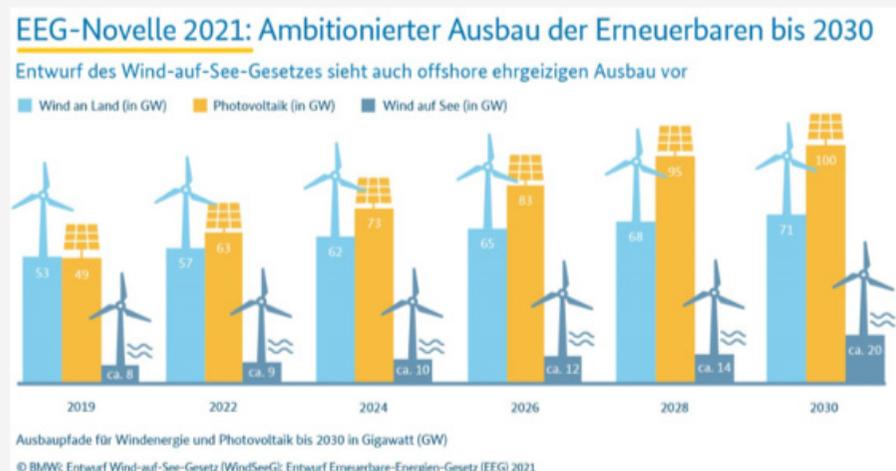
- New offshore wind targets: 20 GW by 2030, 40 GW by 2040 (currently installed  $\approx$  8 GW)
- Renewable Energy Act amendment EEG 2021. Including aspects of greenhouse gas neutrality, social acceptance of renewable energies; target: 65% of renewables share by 2030 (in 2019 42%)
- Newsletter on research project highlights of BMWi Website of contracting party, Federal Ministry for Economic Affairs and Energy (BMWi), called "Strom-Forschung", see link: <https://strom-forschung.de/en/>

For more information please contact:

IEA Wind TCP ExCo member for Germany: **Franciska Klein**  
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### Title: Paths for further expansion of wind energy and PV by 2030 according to Renewable Energy Act 2021 amendment draft

Source: Federal Ministry for Economic Affairs and Energy (BMWi)

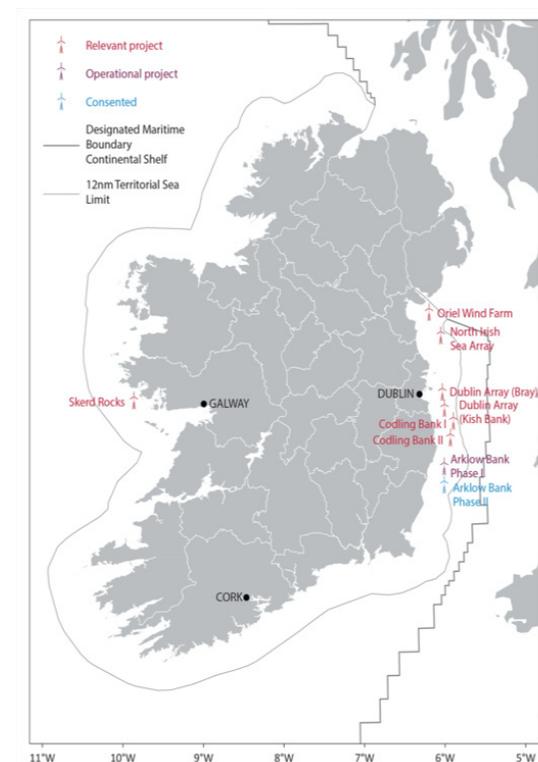


# IRELAND

Country Presentation

## Key highlights

- Wind energy's contribution to electricity demand reached 31.5% in 2019. Avoided emissions from wind energy exceeded those for all other renewable resources together
- Climate Action Plan target of 70% renewable electricity by 2030 precipitated new measures for permitting, grid connection and offshore consenting. Stalled offshore projects can now progress
- The first auction in the new RESS support scheme resulted in solar projects winning contracts for the most capacity but wind still providing more energy



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**Offshore  
Wind Consent  
Applications  
Ireland**

# United States of America

## Country Presentation



**Jim Ahlgrimm**  
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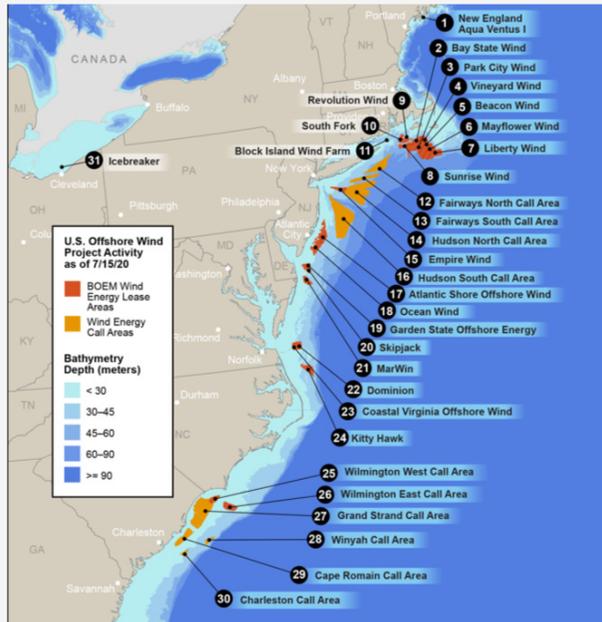


**Brian Smith**  
National Renewable Energy Lab  
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**Atlantic Coast  
Offshore Wind  
Project Development**

### Key highlights

- Leading Renewable Electricity Production. Wind energy became the largest source of renewable electricity in the U.S. in 2019, generating over 7% of the country's electricity.
- Record Deployment Anticipated for 2020. 2020 first half installed capacity additions in the U.S. set a record at 4,367 MW
- Offshore Wind Pipeline Growing Offshore wind now represents 21% of the U.S. capacity pipeline at 9,112 MW of 43,427 under construction or advanced development energy in the electricity system record achieved in 2019



# Task 11

## End-of-term report & extension proposal

### Key highlights

- TEMs – reference events for the wind energy community. 5 in-person TEMs and 4 online TEMs were organised in 2019-2020, gathering in total over 430 experts from 200 organisations
- Accompanying new IEA Wind Task proposals 3 Task proposals were submitted – blade recycling, farm control & blade erosion – while 3 more are on the way – floating arrays, hybrid plants and airborne wind
- A strategic actor of the TCPTask 11 has had increasing interaction with the Secretariat, Leadership Team and other Task OAs. It was instrumental for implementing the TCP's strategy notably by facilitating the first Leadership Team Summit in Geneva in 2020
- Keep up the pace. Task 11 will maintain the pace for the upcoming term while focusing on communications & addressing internal needs of the TCP, under a new acronym: Wind SCOUT



For more information please contact:  
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### 35 experts gathered in Rome in 2019 for TEM#96



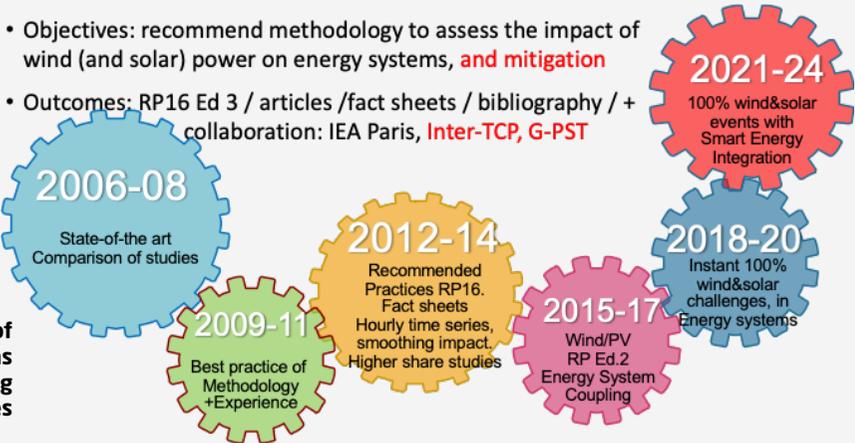
# Task 25 Extension



### Key highlights

- Grid integration of wind and solar continue to be high priority  
The work of Task 25 has evolved from assessing impacts of 10-20% shares of wind to power systems, to preparing systems for operating at times with 100% wind and solar
- 4 year extension aims at addressing the challenges of Planning, Balancing, Stability and Markets
- Collaboration with other TCPs will be pursued with higher priority – many TCPs have already contacted Task 25 for collaboration regarding value of flexibility in future (Hydro, Bioenergy, Storage,...). Possibilities for an inter-TCP Task, or more concrete collaboration after the 4 years will be investigated

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The focus of Task 25 has evolved during the phases

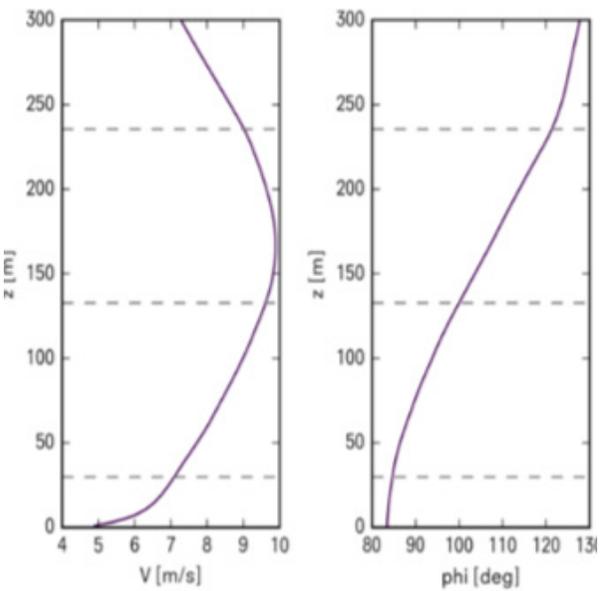
# Task 29 Aerodynamics



### Key highlights

- IEA Task 29 on wind tunnel measurements completed very successfully. Final report will be delivered soon
- Large 10MW+ turbines are exposed to challenging atmospheric conditions (e.g. a veer of 40 degrees over a 10 MW rotor plane) which violate all aerodynamic modelling assumptions
- Many countries have started up aerodynamic measurement programs to understand these challenges. A cooperation on this specialised field is proposed in a new IEA Task

For more information please contact:  
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**Wind shear (left) and veer (right) at Met Mast IJmuiden**  
  
(lower/upper dashed line indicate 10 MW rotor plane)



## Task 30

Status Report - OC6 Project



For more information please contact:  
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### Key highlights

- Work in Phase I concluded that engineering-level models have a persistent under-prediction of nonlinear hydrodynamic loads for floating wind semisubmersibles
- Tuning models for one condition, worsened results for another – indicating that engineering models are missing physics for this application
- A separate working group was initiated to investigate how higher-fidelity models (like CFD) can inform and improve the engineering-level models

**OC6 Phase I: Breaking apart components of nonlinear hydrodynamic loads for floating semisubmersibles**



## Task 32

The wind lidar community



**Dr. Andrew Clifton**  
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### Key highlights

- Lidar-assisted turbine control: Tasks 32 & 37 are collaborating to co-design wind turbines with lidar and enable lidar-assisted control of turbines
- Wind energy in new areas: Task 32 and Task 19 are collaborating to get better wind data in complex terrain and cold climates, supporting the deployment of wind energy in challenging locations
- Going digital in 2020: Task 32 reached 350 participants through online events in 2020, including 70 at our General Meeting. Despite social distancing, our new strategic roadmap helps keep alignment and we disseminate our results through white papers



**Prof. Dr. David Schlipf**  
University of Flensburg  
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**Our 2019 General Meeting: 53 participants from 13 countries**



**Task proposal**  
VTT

**EROSION OF WIND TURBINE BLADES**

**Key highlights**

- **Still an unsolved challenge**  
Erosion of blades will aggravate with larger turbines and longer lifespans. Offshore projects online in 2030 will operate 30 years
- **IEA Wind can contribute**  
Tackling erosion benefits from concurrent collaboration from several knowledge areas: climatic conditions, operational practices, test methods, erosion mechanics, and materials
- **Appetite from stakeholders**  
Thirteen participants from industry, academia and R&D organizations have confirmed their participation. Other 15 organizations are interested and seeking funding to participate

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For more information please contact:  
**Charlotte Bay Hasager**  
DTU Wind Energy  
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**A relevant and timely work plan**

- The four-year work plan is structured in four technical work packages (see table below), aiming at starting in Q1/2021
- Proposal document available in the ExCo members area
- The work aims to produce 25 deliverables among recommended practices, validated models, state-of-the-art reports, literature surveys, etc.
- Interested? Please contact Raul Prieto or Charlotte Bay Hasager

Work Package	Lead organization	Deliverables
WP 1: management	VTT (FI) and DTU (DK)	D1.1-D1.6
WP 2: Climatic conditions	Cornell University (US)	D2.1-D2.9
WP 3: Wind turbine operation with erosion	Sandia National Laboratories (US)	D3.1-D3.5
WP 4: Laboratory testing of erosion	DTU (DK)	D4.1-D4.7
WP 5: Erosion mechanics & material properties	University of Bergen (NO) and CEU Cardenal Herrera University (ES)	D5.1-D5.4



Source: Vestas

