ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON **WIND ENERGY**

ETIPWind Steering Committee Meeting

MARCH 14 2016

etipwind.eu

BRUXELLES

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION
PLATFORM ON **WIND ENERGY**

Task Force presentation

etipwind.eu

Agenda	
10:00 – 11:00	**Task Force – presentation** • Each Task Force give a 5- 7 min. presentation of the topics they have developed to the European Commission
11:00 – 12:00	**Marketing and policy push – presentation** Policy push of the Strategic Research and Innovation Agenda. • ETIPWind secretariat give a status on the marketing and policy push given on transnational level; • Each SC member give a 2 min. report on the marketing and policy push they have executed.
12:00 – 12:30	**ETIPWind team in WindEurope** • Presentation of the online marketing on Twitter and LinkedIn • Presentation of the ETIPWind events for 2017
12:30 – 12:40	**ETIP SNET update + Combined renewable initiative**
12:40 – 13:30	**Lunch**
13:30 – 14:30	**ETIPWind Work Programme 2017 – Deliverables** • ETIPWind Work Programme 2017
14:30– 15:00	**ETIPWind Terms of Reference – approval**
15:00- 15:30	**ECOfys**
15:30- 15:45	**Meeting dates in 2017 and AOB**

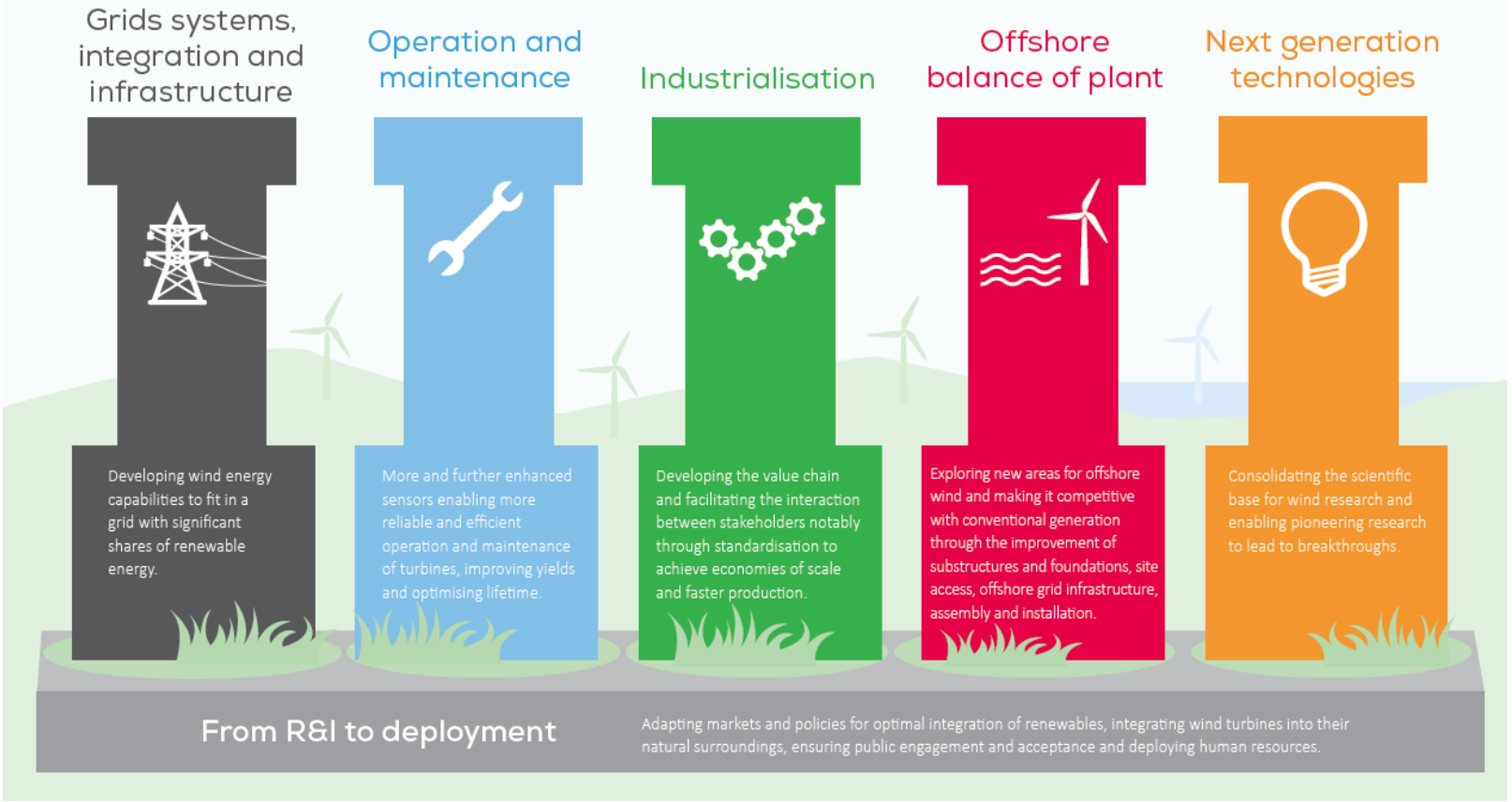
Commissions feedback

- What happened the 21st November?
- Where in the H2020 WP processes are the Commission now?
- What now?

ETIP Wind

etipwind.eu/sria

5 Pillars of research and innovation for wind energy



Task Force – presentation

Grid systems, integration and infrastructure
In depth models of procurement strategies for ancillary services from renewables going forward to facilitate a cost effective integration of renewables
In depth technical and economic study for delivery of ancillary services throughout the entire value chain including technologies to be deployed and market value of these services
Integration of offshore meshed grids in the power markets to optimise technical solution and market value integration of offshore meshed grids in the power markets
Technical testing of Power grids with low rotational inertia to challenge current norms
Develop modular offshore grid infrastructure enabling lower cost installation
Energy Management Systems (EMS) with high RES penetration to optimise delivery and storage of electricity

Task Force – presentation

Operation and maintenance
New large bearing and new large single component testing, failure analysis, leading to optimised redesign
Applied real-time analytics to improve reliability of components and predictability of failures
Enhanced intelligent sensor systems for improved performance measurement and condition monitoring
Improved operation and maintenance planning and decision-making thanks to big data analytics coupled to common logistical coordination between different actors thus reducing cost considerably offshore and onshore
End-of-life and lifetime extension strategies for wind turbines leading to best environmental solutions
Improvement in the highly complex field of generator failure analysis, testing leading to improved design and reliability

Task Force – presentation

Industrialisation
Development of cost reducing design standards for subcomponent testing of rotor blades
Development of cost reducing design standards for fatigue and testing of fiber-reinforced plastics as used in rotor blades
Harmonisation of key offshore regulation to reduce cost of offshore wind power and encourage best practice outside of Europe
Recycling and life extension of electronic components
Development and testing of more robust and reliable wind-power specific power semiconductor converter and other primary components
Development of and real time modelling of optimised standards for offshore medium-voltage DC power collection and for other major components to foster newer more reliable technology
Harmonisation and optimisation of regulation for wind turbine transportation on road, sea and rail and optimisation and streamlining of installation systems to insure lower direct and indirect costs

Task Force – presentation

Offshore balance of plant
Floating offshore wind farms – solutions for the biggest cost and design challenges
Offshore site characterization for improved design basis, and optimised spatial planning and installation
Development of next generation low loss and reliable electrical infrastructure within offshore wind farms
Development of much more reliable affordable, innovative and industrialised offshore cables including new tech rapid repair systems
Standardised innovative foundation design to reach a one design can be adjusted to all sites thus reducing foundation coat dramatically
Operational control and maintenance
Offshore wind farm for research and innovation

Task Force – presentation

Next generation technologies
Better testing of current composite material and development, testing of new and improved composite materials, and optimised structural design and manufacturing for turbine blades thus optimising strength, lifetime and attributes
Better testing of current metallic components substructures and development of new and testing of new metallic structures leading to optimised design, materials and optimised manufacturing for substructures (towers and foundations)
Development and testing of next generation cold climate and warm climate version wind turbines
Development and testing next generation high-accuracy-yet-affordable wind turbine, blade and controller design tools concepts
Development and applied testing of aerodynamic and aero acoustic design methods to deliver next generation efficiency
Development and testing of next generation High Temperature Superconductor wind generators to dramatically reduce the weight and increase the efficiency of large MW machines
Next leap in design and manufacture of wind turbine blades
Site class specific designs for stretched rotors – increasing the capacity factors

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON **WIND ENERGY**

Marketing and policy push

etipwind.eu

Marketing and policy push – Presentation

Transnational level

- VP Maroš Šefčovič's (meeting)
- DG Jos Delbecke (meeting)
- dDG Patrick Child (meeting)
- National associations (letter)
- Relevant DG HoU's and POs (letter)
- Other ETIPs (letter)
- SRIA (events)

National level

- Steering Committee members

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION
PLATFORM ON **WIND ENERGY**

ETIPWind team in WindEurope

etipwind.eu

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON **WIND ENERGY**

ETIPWind events in 2017

Lorenzo Morselli
Conference programme manager

etipwind.eu

December 2016

ETIPWind events overview

June 2016 Brussels

June 2016 Brussels

September 2016 Hamburg

June 2017 Brussels

November 2017 Amsterdam

Q1 2018 (tbc) Location tbc

Validated the ETIP wind approach and work programme, and provided input for the SRIA, which fed into the H2020 calls planning.

Two sessions at WindEurope Summit 2016 in Hamburg, covering digitalisation and how to make the most of EU R&I funding.

Broad audience

Focused on disseminating ETIPWind results.

Proposal: hold it during EU Sustainable Energy Week 2017 (19-25 June) in Brussels

Specialist audience

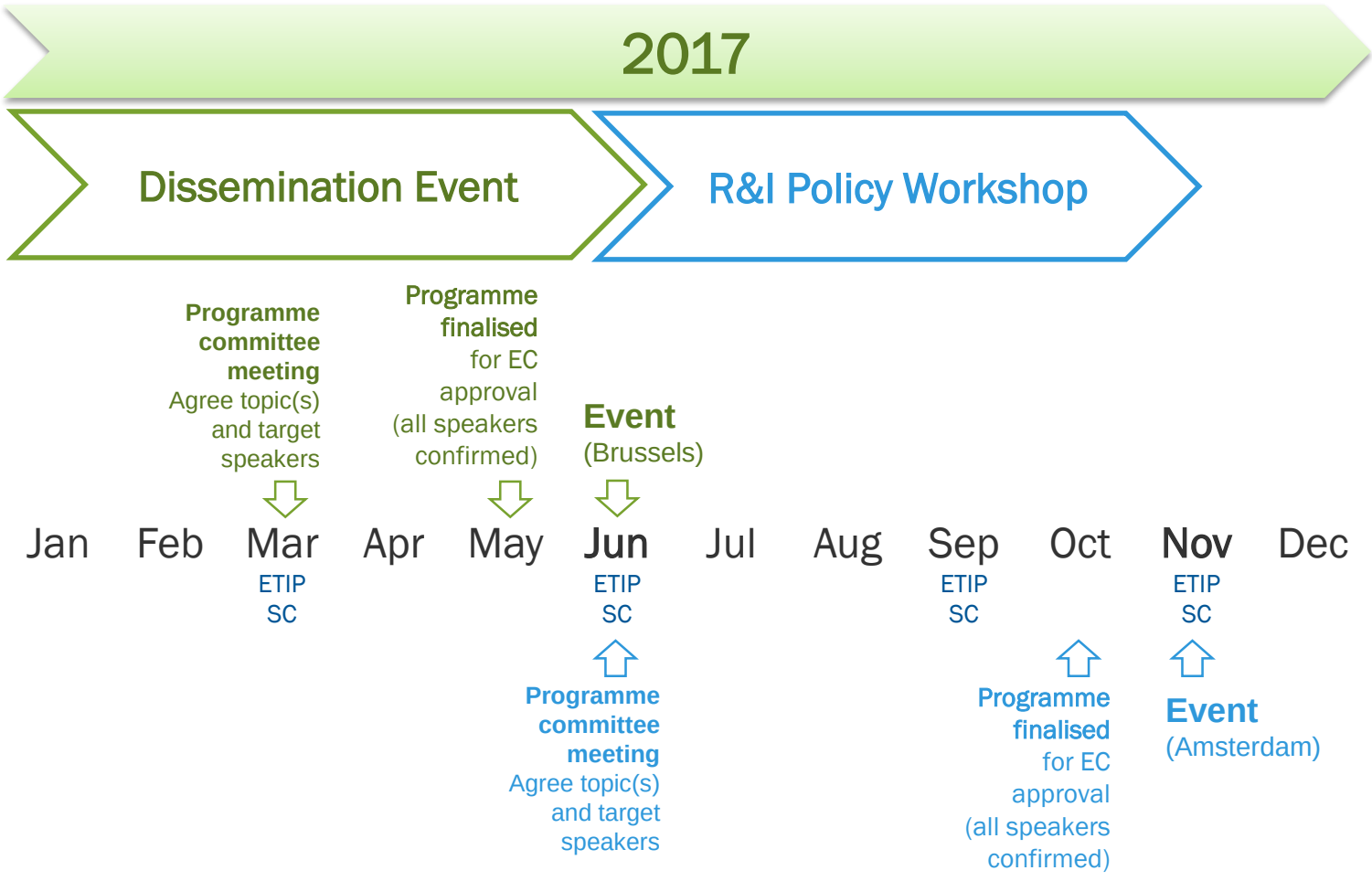
Focused on specific policy/research areas to provide EC with input.

Proposal: hold it at WindEurope Conference and Exhibition 2017 (28-30 November) in Amsterdam

ETIP Wind

etipwind.eu

ETIPWind events overview



ETIP Wind

etipwind.eu

WindEurope Marketing Team ☺

Jason Bickley

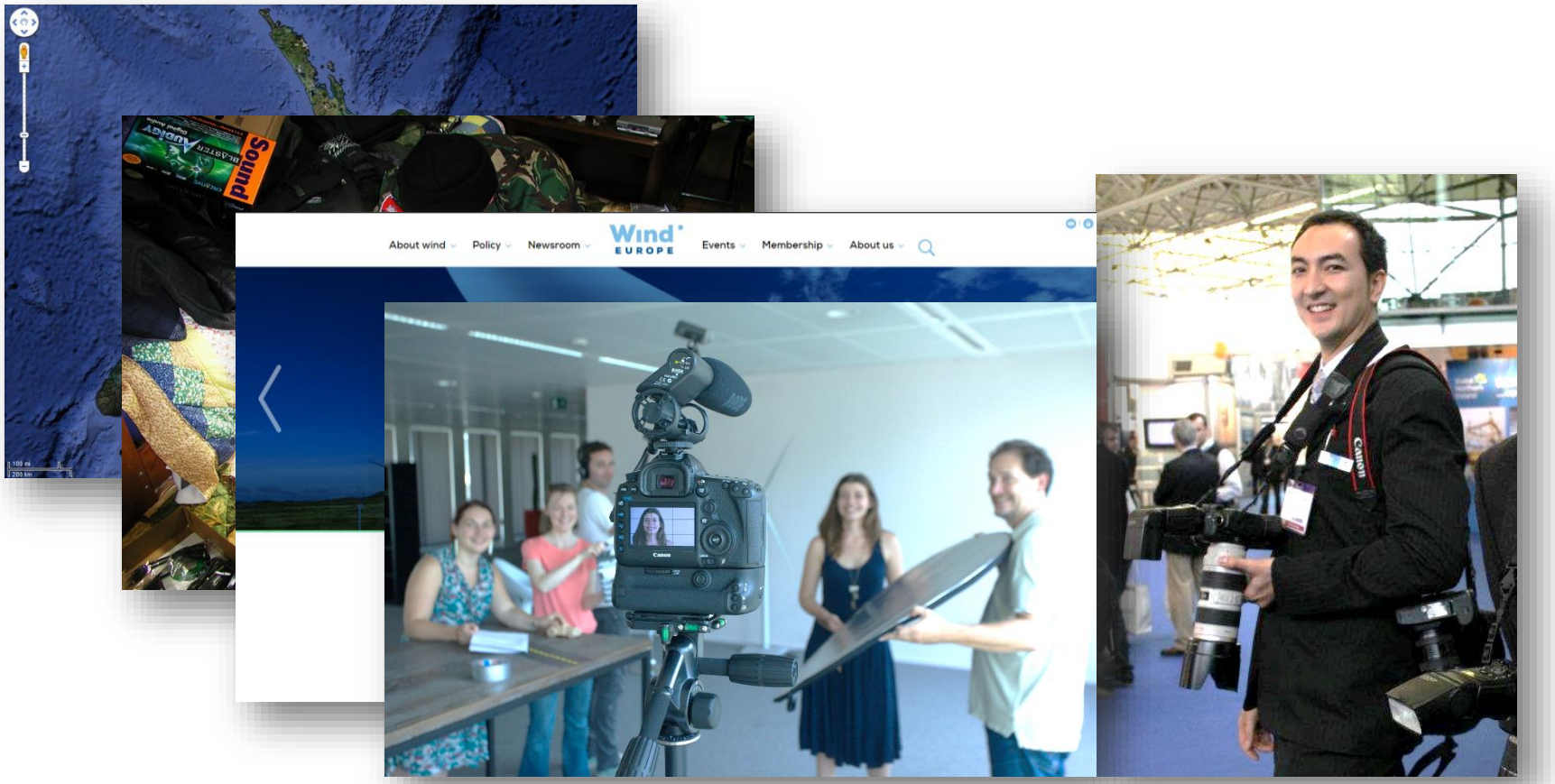
Wind EUROPE

windeurope.org | Dec 2016

This is the WindEurope Marketing Team!

Wind EUROPE

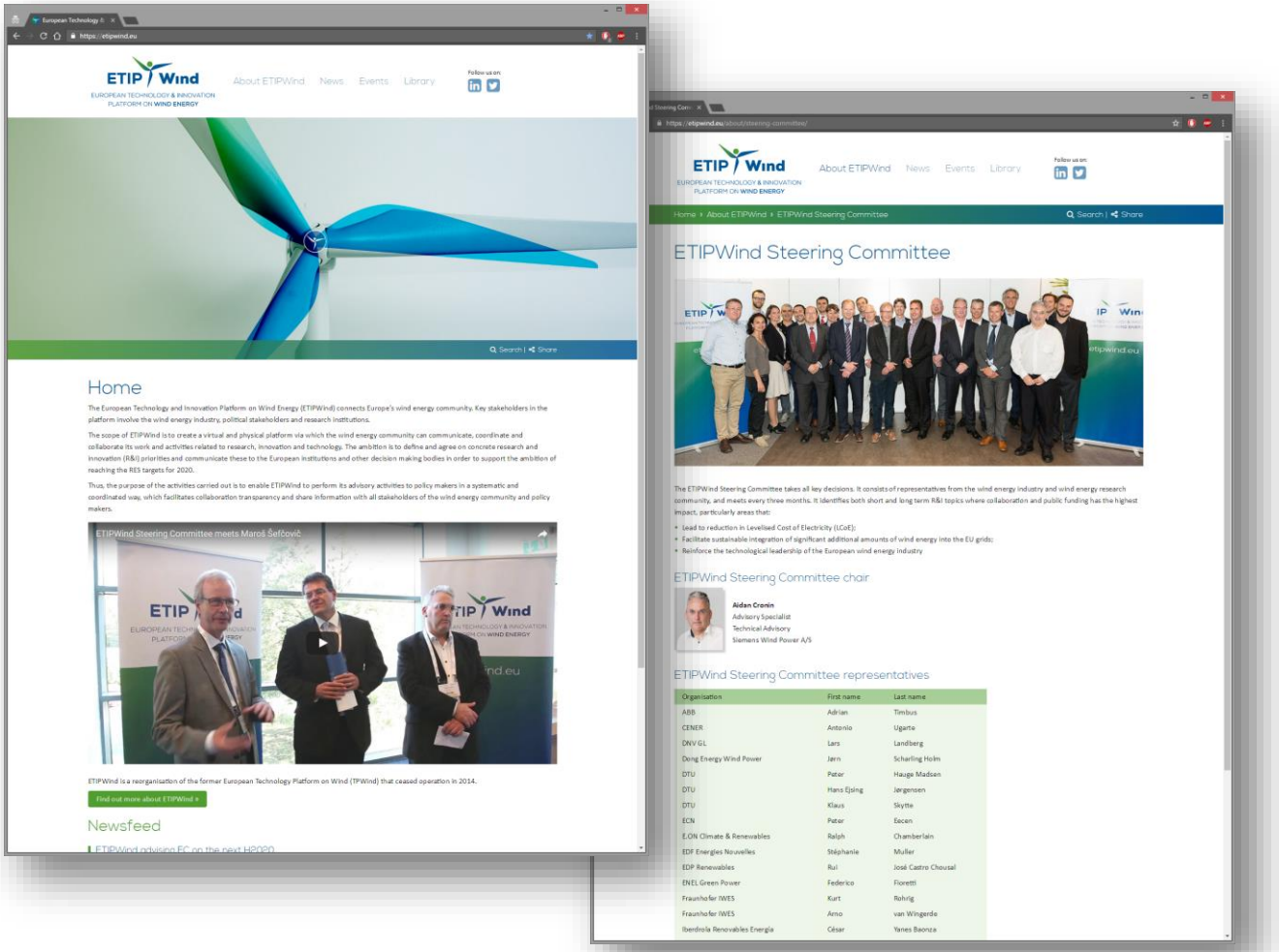
Wind EUROPE


About wind
Policy
Newsroom
Wind EUROPE
Events
Membership
About us

Wind EUROPE

PETR
NOVAK

Wind
EUROPE


ETIP Wind
EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY
About ETIPWind
News
Events
Library
Follow us on:
Search | Share
Home
The European Technology and Innovation Platform on Wind Energy (ETIPWind) connects Europe's wind energy community. Key stakeholders in the platform involve the wind energy industry, political stakeholders and research institutions.
The scope of ETIPWind is to create a virtual and physical platform via which the wind energy community can communicate, coordinate and collaborate its work and activities related to research, innovation and technology. The ambition is to define and agree on concrete research and innovation (R&I) priorities and communicate these to the European institutions and other decision making bodies in order to support the ambition of reaching the RES targets for 2020.
Thus, the purpose of the activities carried out is to enable ETIPWind to perform its advisory activities to policy makers in a systematic and coordinated way, which facilitates collaboration transparency and share information with all stakeholders of the wind energy community and policy makers.
ETIPWind Steering Committee meets Maroš Šefčovič
ETIPWind is a reorganisation of the former European Technology Platform on Wind (TPWind) that ceased operation in 2014.
Find out more about ETIPWind »
Newsfeed
ETIPWind advising EC on the next H2020
Home › About ETIPWind › ETIPWind Steering Committee
ETIPWind Steering Committee
The ETIPWind Steering Committee takes all key decisions. It consists of representatives from the wind energy industry and wind energy research community, and meets every three months. It identifies both short and long term R&I topics where collaboration and public funding has the highest impact, particularly areas that:
Lead to reduction in Levelised Cost of Electricity (LCoE);
Facilitate sustainable integration of significant additional amounts of wind energy into the EU grids;
Reinforce the technological leadership of the European wind energy industry
ETIPWind Steering Committee chair
Aidan Cronin
Advisory Specialist
Technical-Advisory
Siemens Wind Power A/S
ETIPWind Steering Committee representatives
Organisation First name Last name
ABB Adrian Timbus
CENER Antonio Ugarte
DNV GL Lars Landberg
Dong Energy Wind Power Jørn Scharling Holm
DTU Peter Hauge Madsen
DTU Hans Ejsing Jørgensen
DTU Klaus Skytte
ECN Peter Eecen
E.ON Climate & Renewables Ralph Chamberlain
EDF Energies Nouvelles Stéphanie Muller
EDP Renewables Rui José Castro Chousal
ENEL Green Power Federico Fioretti
Fraunhofer IWES Kurt Rohrig
Fraunhofer IWES Arno van Wingerde
Iberdrola Renovables Energía César Yanes Baonza

Wind EUROPE

MAKAYLA
MACGREGOR

Wind
EUROPE

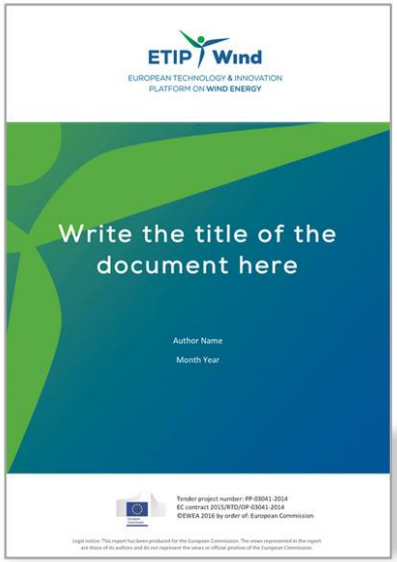

ETIPWind
@ETIPWind
The European Technology and Innovation Platform on Wind Energy (ETIPWind) connects Europe's wind energy community.
Brussels, Belgium
etipwind.eu
Joined April 2016
23 Photos and videos
TWEETS 47
FOLLOWING 243
FOLLOWERS 92
LIKES 15
Follow
Tweets
Tweets & replies
Media
ETIPWind Retweeted
European Commission @EU_Commission · Dec 3
#CleanEnergyEU package released this week: how does #investEU help to reach the objectives? europa.eu/!R44vg (pdf)
EXPECTED RESULTS:
+900,000 new jobs
ETIPWind Retweeted
Maroš Šefčovič @MarosSefcovic · Dec 12
In a few min, introducing #CleanEnergyEU package to the European Parliament. Join the livestream: europarl.europa.eu/plenary/en/hom... #Eplenary
European Parliament, EK na Slovensku, Miguel Arias Cañete and 6 others
Energy Efficiency Sector Generates Jobs and Money
By 2030, improve energy efficiency across the EU by +30%
+ 70 billion EUR
+ 400,000 JOBS
ETIPWind @ETIPWind · 22h
Wind power key to curbing greenhouse emissions!
theguardian.com/environment/20 …
#windenergy
New to Twitter?
Sign up now to get your own personalized timeline!
Sign up
Worldwide Trends
Alan Thicke
#FelizMiercoles
#AddStarWarsImproveAMovie
#WatchEgoOnVevo
Asian Business
EXPOSED ARMY'S PARTY


Strategic research and innovation agenda 2016
September 2016
ETIP Wind

Wind EUROPE

LAIA
MIRO

Wind
EUROPE


ETIP Wind
EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY
Write the title of the document here
Author Name
Month Year
Tender project number: PP-03041-2014
EC contract 2015/RTD/OP-03041-2014
©EWEA 2016 by order of: European Commission


ETIP Wind
Document information
Deliverable number
Deliverable name
Reviewed by
Date
Work Package and Task
Lead Beneficiary for this Deliverable
Authors
Name
Version control
Version
Date
[Official versions only]
[yyyy-mm-dd]
Table o
1 HEADING 1 – CHA
1.1 Heading 2 – C
1.2 Heading 2 – C
1.2.1 Heading
1.2.2 Heading
2 HEADING 1 – CHA
2.1 'Heading 2' –
1 HEADING 1
2 'HEADING 1' – CHAPTER 2
1.1 Heading 2 –
1.2 Heading 2 –
2.1 'Heading 2' – Chapter 2.1
bullet point 1
bullet point 2
Figure 1. Figure 1
Table 1. Table
normal body text
etipwind.eu
ETIPWind Name of the document
5


ETIP Wind
EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY
Write here the title of the presentation
Presenter name
Job title
etipwind.eu
February 2016


This is the title of your slide
This is the subtitle of your slide
This is the title of the slide
ETIP Wind
EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY
Thanks for your attention
etipwind.eu

Wind EUROPE


THANK YOU
Remember the hashtag!
#ETIPWind
windeurope.org
WindEurope, Rue d'Arlon 80
1040 Brussels, Belgium
Wind EUROPE

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON **WIND ENERGY**

ETIP SNET update + Combined renewable initiative

etipwind.eu

SET Plan Temporary WG Action 4

Strategic Energy Technology Plan

Member States reps, (~ *H2020 PC)*

- Integrated Roadmap
- Towards an Integrated SET-Plan
- 10 Actions: renewables, consumers**, energy systems**, energy efficiency in buildings, ...

SET–Plan Temporary WG Action 4

AT +IT

ETIP SNET (Chair + Co-Chair + WG Chairs)

ETIPs Wind, PV, DHC, REHC, EGEC,

European Technology and Innovation Platform

Smart Networks for the Energy Transition

5 WGs +

National Stakeholders Coordination Group

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION
PLATFORM ON **WIND ENERGY**

ETIPWind Work Programme 2017

etipwind.eu

General delivery of virtual and digital services

ETIPWind will continuously operate on virtual and digital platforms in order to increase transparency, communication and coordination.

The main virtual and digital platforms will be:

- ETIPWind website (www.etipwind.eu)
- Twitter (https://twitter.com/etipwind)
- LinkedIn (https://www.linkedin.com/groups/8512829)

Input into research and innovation processes

- ETIPWind will input to documents initiated by DG ENER, DG CLIMA, DG R&I, the SET-Plan Steering Group and the Working Group for offshore wind in order to influence their decisions, aligning the programming and implementation of R&I priorities on wind energy which ensure cost reductions and maintaining global leadership on wind energy in the short, medium and long-term

Workshop and conferences

The ETIPWind Steering Committee will participate in the development of content, provide speakers and general marketing of the event to secure relevance.

If possible, workshops/conferences foreseen in 2017 will be held during:

- European Sustainable Energy Week in Bruxelles;
- Wind Europe Annual Event in Amsterdam

High-level meetings

- ETIPWind will host at least two high-level stakeholder meeting during 2017 where key decision makers from the industry, academia, governmental institutions and European Institutions will gather and discuss research and innovation related topics.

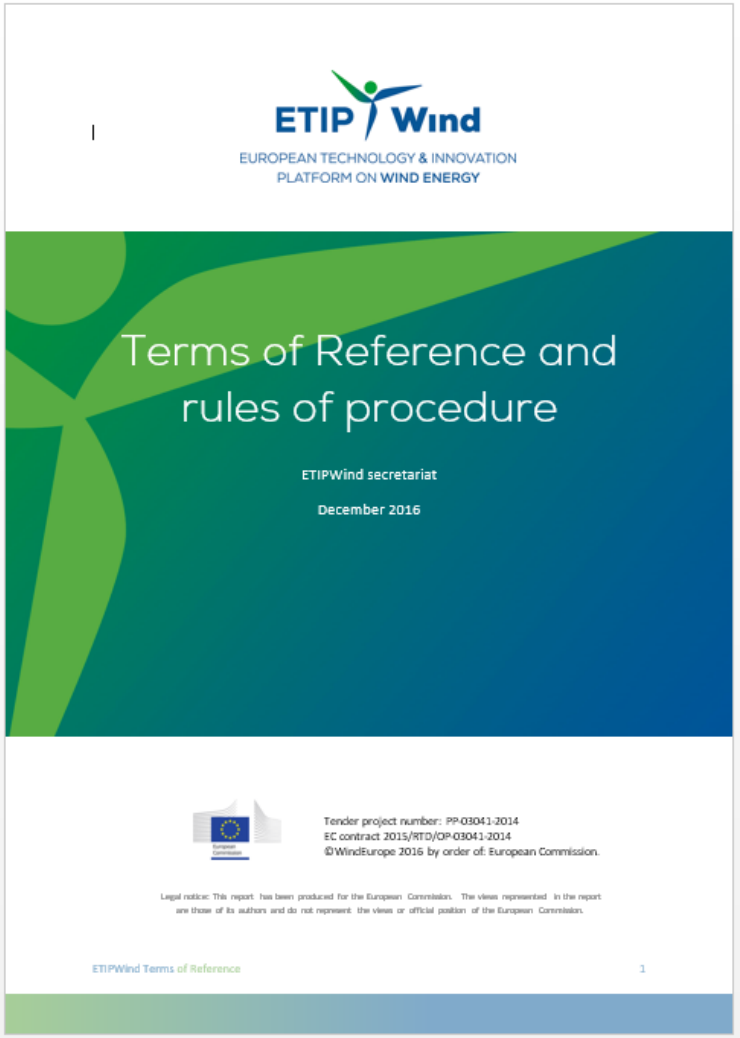
ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON **WIND ENERGY**

ETIPWind Terms of Reference

etipwind.eu

ETIPWind Terms of Reference – approval



ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY

Terms of Reference and rules of procedure

ETIPWind secretariat

December 2016

Tender project number: PP-03041-2014
EC contract 2015/RTD/OP-03041-2014
© WindEurope 2016 by order of: European Commission.

Legal notice: This report has been produced for the European Commission. The views represented in the report are those of its authors and do not represent the views or official position of the European Commission.

ETIPWind Terms of Reference 1

ETIP Wind

etipwind.eu

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION
PLATFORM ON **WIND ENERGY**

ECOfys

etipwind.eu

ECOFYS

sustainable energy for everyone

eco logic

TU WIEN

Energy Economics Group

Fraunhofer IWES

DG Energy - *Support to EU wind energy technology development and demonstration, with a focus on cost competitiveness and smart integration*

Draft results

ETIP Wind

15/12/2016

Heleen Groenenberg

DG Energy – Study Wind Energy Technology

Background and objectives

Background: European Commission is committed to a further upscaling of wind energy technology

Key challenges: a reduction of costs, grid integration, life extension and end-of-life strategies, (lack of) synergies between test facilities, and non-technological risks, impacts

Project objective: to support the EC in assessing, programming, implementing and monitoring technology development and demonstration for wind energy

Focus: challenges for cost reduction and grid integration in the short and medium term, both for on and offshore wind energy

DG Energy – Study Wind Energy Technology

Timeline, stakeholder consultations

Project duration

> 1 January 2015 – March 2016

Early deliveries

> Task 1: Grid integration and system optimization

> Task 2: Options for a strategy for cost reduction

Stakeholder consultation

> A range of stakeholder representatives was consulted during the project

> Presentations to EWEA, UK OWIC, and during ENTSO-E

DG Energy – Study Wind Energy Technology

Focal points

1. **Grid integration** and system optimisation

2. Options for a strategy for **cost reduction**

3. Plans to allocate funds to **RTD priorities**

4. **Scenarios** for EU wind energy

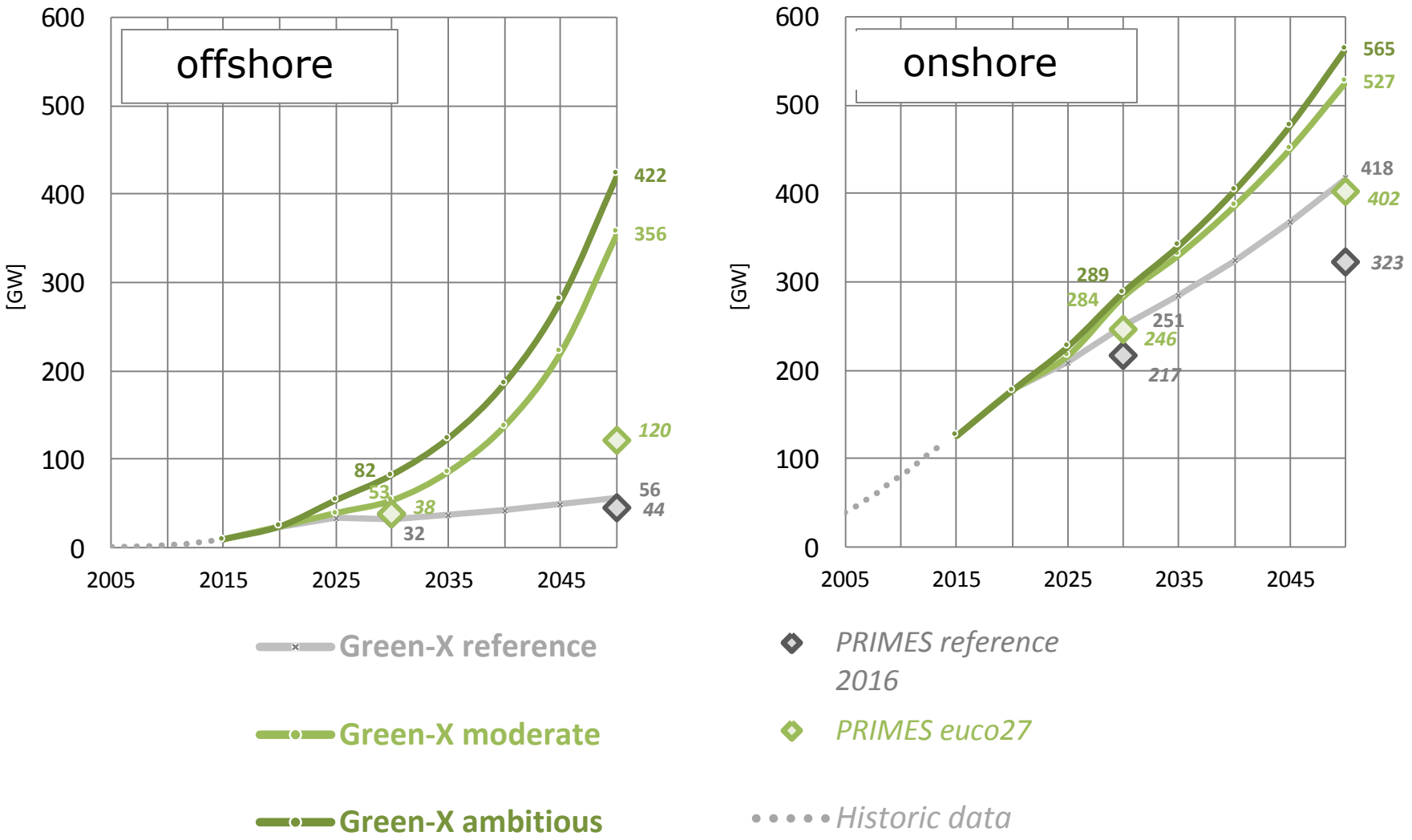
5. **Life extension**, repowering, end-of-life

6. Synergies between **test facilities** in EU

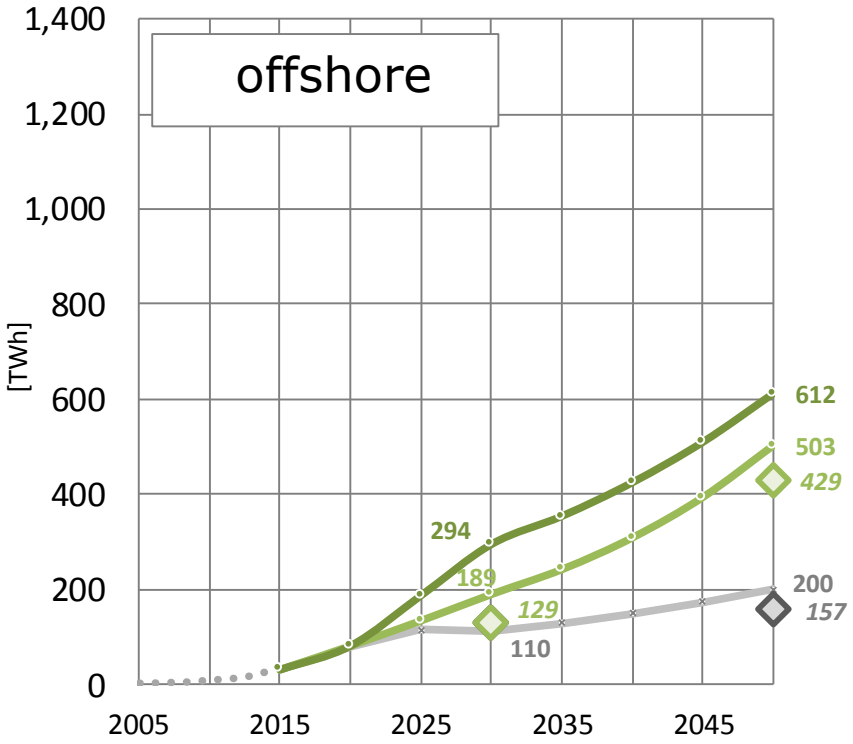
7. **Non-technical** risks and obstacles

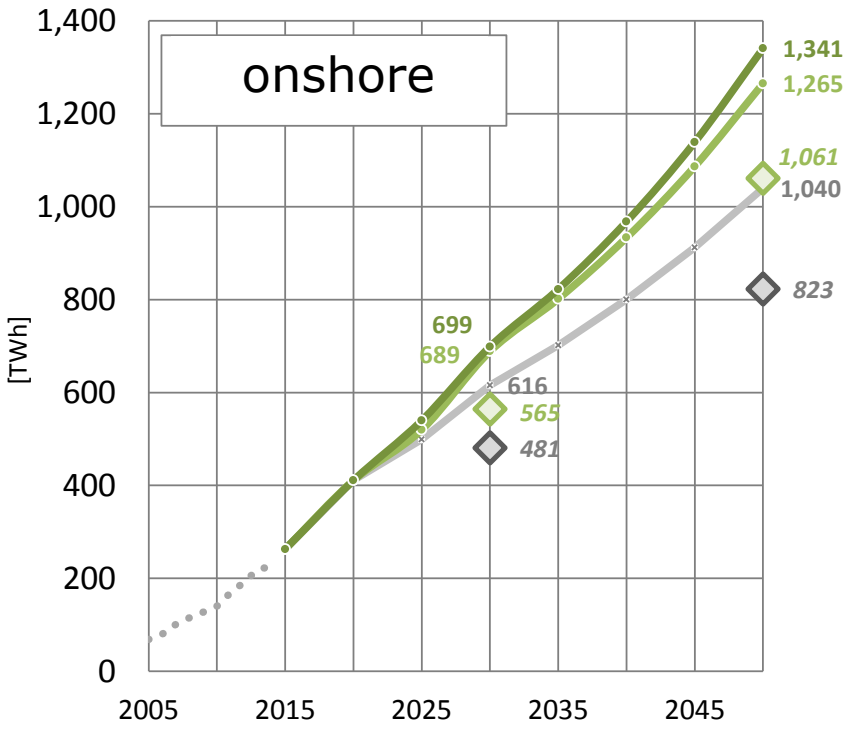
8. Data collection **scheme** for monitoring

Installed capacities are likely to rise strongly until 2030 (and after) >50 GW offshore, >280 GW onshore



Wind energy may deliver a quarter of electricity demand in EU by 2030





Green-X reference

Green-X moderate

Green-X ambitious

PRIMES reference 2016

PRIMES euco27

Historic data

Evolutionary technological progress will result in cost reductions – at least 15% onshore and up to 30% offshore

Levelised cost of energy (€/MWh)
for different representative projects (including grid connection)

		Innovations included: None	Innovations included: Technical
Onshore			
A	High wind	68.3	59.4
B	Low wind	97.4	84.8
C	Spatially constrained (medium)	75.3	64.9
D	Repowered (high wind)	64.2	55.8
E	Remote & complex (medium)	103.9	89.7

	Innovations included: None	Innovations included: Technical	Borssele I & II: Winning bid	Borssele I & II: + technical innovations
Offshore				
A 22 km, O&M land-based, HVAC	131.5	112.3		
B 40 km, O&M land-based, HVAC	130.2	92.7	88.0	60-65
C 80 km, O&M offshore, HVAC	139.6	99.2		
D 120 km, O&M offshore, HVDC	148.5	106.9		

Recent cost reductions for offshore wind arose primarily from system innovations

- Competitive subsidy scheme (auctions) reducing contract margins and lowering bid price, and as a result;
  - Impact on all equipment supply and installation costs
  - Sharper requirements on the rates of return on equity
- Reduced financing costs due to reduced interest swap rate
- Reduction in duration of project development phase due to one stop shop approach and streamlining of administrative issues during planning and permitting
- Better understanding of project risks due to increasing experience
- Reduced insurance costs
- Reduced steel pricing
- Third party WTG O&M resulting in reduced operating costs

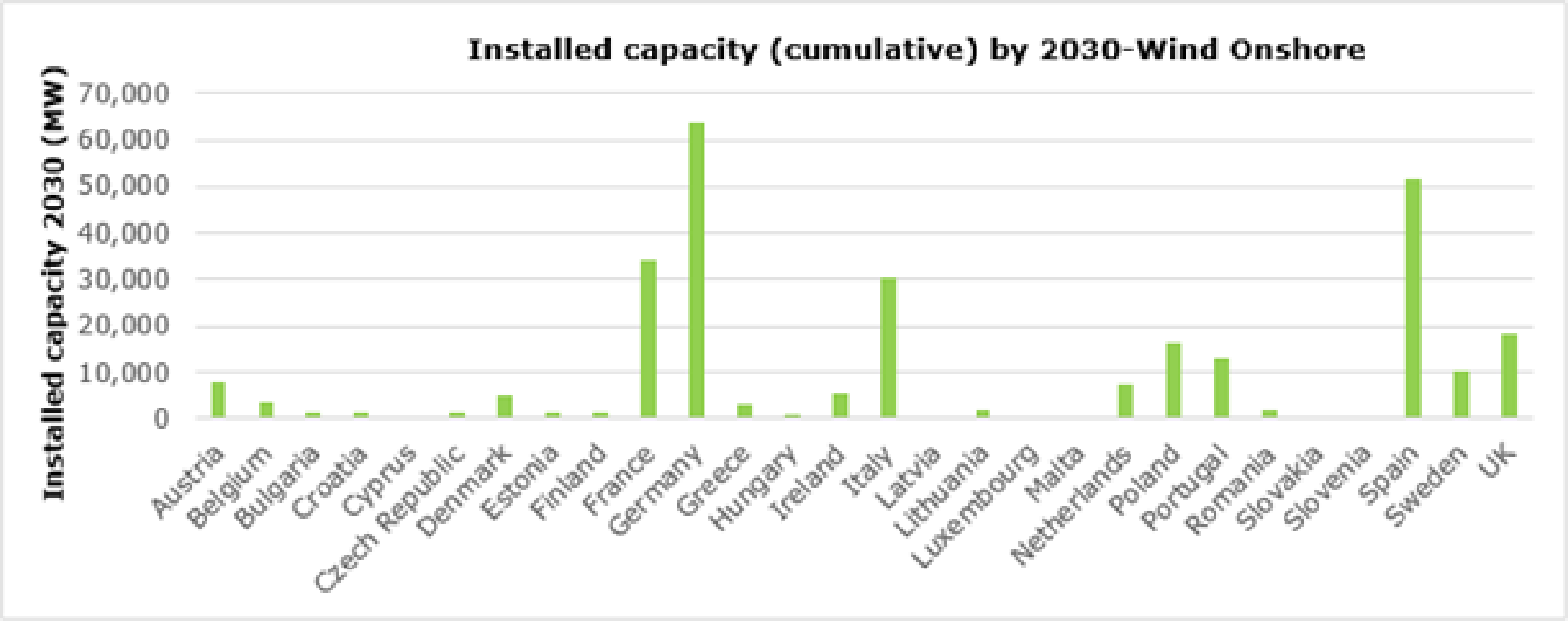
Rationale

> Continue to support long term policy framework

> Strong governance and monitoring

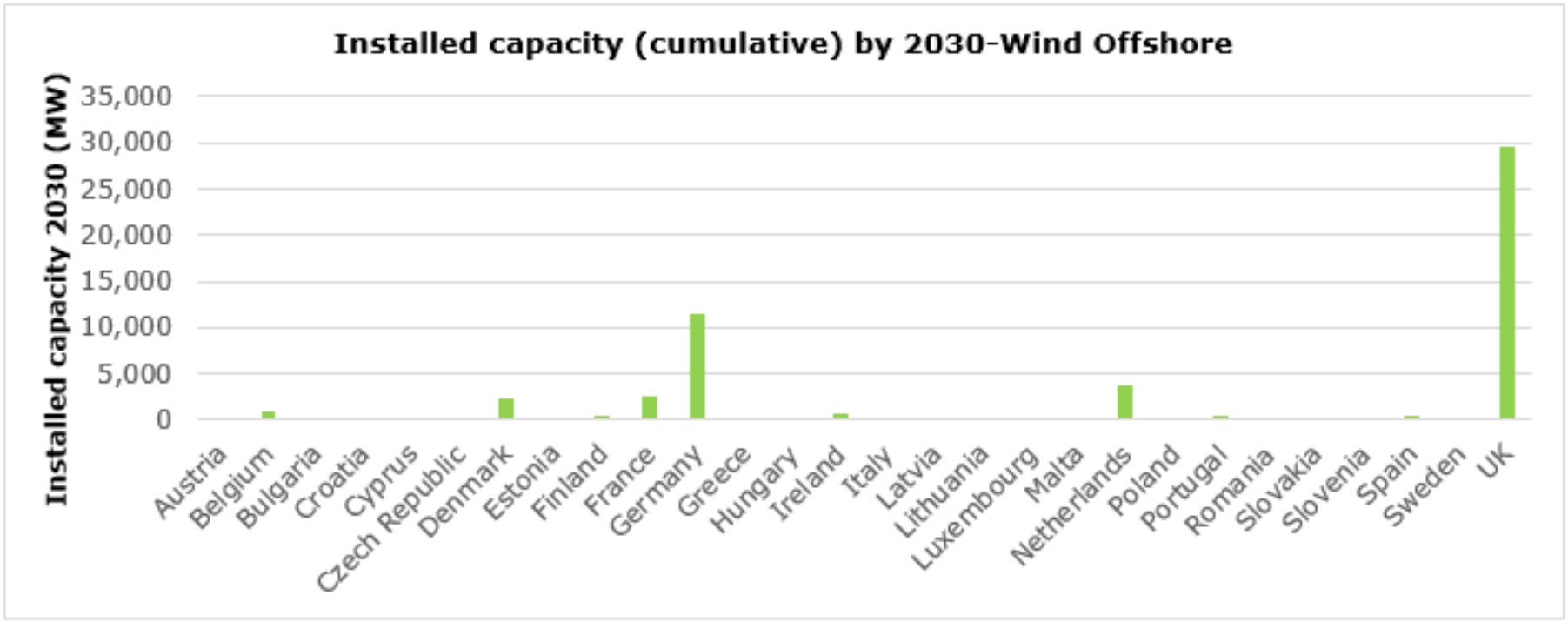
> Master Plan 2030 including a proposal for national and regional targets
  - Guidance for national energy and climate plans
  - National and regional targets / commitments to
    - Make optimal use of existing resources
    - Reduce inconsistencies
    - Generate certainty
    - Facilitate planning new capacity

ONSHORE capacity by Member State 2030



In an ambitious scenario onshore capacity would not be much larger.

OFFSHORE capacity by Member State 2030



In an ambitious scenario in particular DE and UK offshore capacity would increase (to resp 17 and 51GW).

Planning offshore

> EC ensures a regional perspective is held up, coordinate planning among Member States and ensure engagement across borders and economic offshore sectors

Planning onshore

> Environmental concerns are key → ensure a balance between distance requirements and safeguard of wind power potential.
> Consider using property from national government
> Coordinate across national and municipal borders

Permitting

> Develop European guidelines for national permitting procedures, as was done for network infrastructure under the TEN-E regulation
> Consider harmonized minimum standards for siting, spacing and noise, while allowing for stricter regulations if justified

Environmental Impact Assessment

> Promote timely public engagement in future updates of EIA, SEA, Habitats Directives to increase confidence in outcome
> Evaluate if the Cumulative Impact Assessment should be elevated from the individual project to the strategic level

Lifetime extension

> Develop improved methods for assessing remaining lifetime, and establish guidelines and standards for lifetime extension, to reduce costs
> Consider a dedicated lifetime-extension support scheme

Repowering

> Require Member States to inventory potential sites for repowering to optimize re-use
> Developing a guideline for repowering to advance harmonization

Decommissioning

> Harmonize requirements for decommissioning wind capacity reaching end of lifetime

Support schemes

- Highlight best practice examples and lessons learnt from national support schemes
- Foster institutional innovations that may help to reduce costs
- Consider promoting multi-national support schemes, e.g. through pilots
- Investigate if financial support schemes could target lifetime-extended capacity

Levering / reducing capital expenditures

- Consider supporting anticipatory investments for offshore wind, e.g. using the European Fund for Strategic Investments (EIB/EC)
- Consider establishing a cost reduction facility to limit policy risks and reduce WACC – EU institute refunds payments if national policies are withdrawn retroactively

- Market design and service remuneration are important to provide ancillary services (frequency stability, black-start capability, voltage control)
- Technical implications of fully inverter-based power systems need to be investigated in depth
- Collaboration for offshore grid connection is vital for bringing down costs, achieving sustainability targets and promoting economic growth
- Grid codes should be aligned to current and future system needs, harmonized and technology-neutral

Standardization

> Facilitate the establishment and moderation of a working group on standardization for the wind sector, with representation from Member States and industry
> Promote standardization in the wind sector by fostering partnerships that bring in new actors from other (offshore) sectors

Non-technological barriers

Complementary to national and EU regulations, these could be addressed by RTD on

> technology developments and innovations that reduce environmental impacts.
> European recycling routes for decommissioned wind turbine parts, especially for composite materials
> the relationship between local acceptance of wind capacity versus specific landscape attributes and wind farm characteristics.
> public participation as a factor for increasing local acceptance
> immature technologies that strengthen the flexibility of the energy system (ex. energy storage technologies), as well as optimum deployment of system friendly wind technologies.

Priority RTD topics by key area

> Many topics are relevant but less suitable for EU funding (intellectual property)

> For some topics collaboration is more important than extra research

Wind turbines & components	**Offshore technology**	**Resource assessment & spatial planning**	**Grid integration**
Methods and standards	Methods and standards	Methods and standards	Market design and frequency stability
	Modelling techniques & design	LCoE and social impact	Fully inverter-based power systems
	Lifetime extension, decommissioning	Site assessment and planning	Offshore grid connection
	Floating	Environmental impact	
		Smart wind farms	
		End-of-life strategies	

Test facilities

> Support research into more advanced and realistic methods and standards for testing wind turbine blades, as well as a baseline of methods and a first standard for testing nacelles, and ensure close cooperation and exchange between the test facilities.

> Consider funding an European offshore wind test field to lower the entrance barrier for new methods and products into the offshore wind market and increase the cooperation between the European test facilities.

> Fund initiatives between European test facilities to promote one European point of view when global standards are developed.

sustainable energy for everyone

Contact:
Heleen Groenenberg
h.groenenberg@ecofys.com

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION
PLATFORM ON **WIND ENERGY**

AOB

Meeting dates in 2017 and AOB

Secretariat suggest:

- 20 March 2017 in Bruxelles (one week after ETIPWind AG meeting);
- 20 June 2017 in Bruxelles (during European Sustainable Energy Week)
- 14 and 15 September 2017 in Bruxelles (dinner 14 September, meeting 15 September)
- 28-30 November 2017 in Amsterdam (during WindEurope Annual event).

ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION
PLATFORM ON **WIND ENERGY**

Thank you

Edit Nielsen, Content Coordinator for R&I activities – edit.nielsen@windeurope.org
Aloys Nghiem, R&I analyst & technical content developer – aloys.nghiem@windeurope.org