ETIP Wind

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

Presentation at
Industry meets Science, 25 Oct. 2016

John Olav Giæver Tande
ETIPwind Steering Committee member

Director NOWITECH
Chief Scientist/Research Manager
SINTEF Energy Research
john.tande@sintef.no

What are ETIPs?

European Technology and Innovation Platform's

"…European Technology Platforms are industry-led stakeholder fora recognised by the European Commission as key actors in driving innovation, knowledge transfer and European competitiveness. These platforms develop research and innovation agendas and roadmaps for action at EU and national level to be supported by both private and public funding. They mobilise stakeholders to deliver on agreed priorities and share information across the EU."

Estimated budget H2020 2018 –2020, €1,099.000.000 for non-nuclear low-carbon energy research and innovation

EU – Innovation Union

What are ETIPs?

- Advanced Fossil Fuel Power Generation
- Bioenergy
- Biofuels
- Carbon Capture Utilisation and Storage
- Cogeneration of Heat and Power
- Concentrated Solar Power
- Electricity Storage in the Power Sector
- Energy Efficiency in the Cement Industry
- Energy Efficiency in the Iron and Steel Industry
- Energy Efficiency in the Pulp and Paper Industry
- Fuel Cells and Hydrogen
- Geothermal Power
- Heating and Cooling Technologies
- Hydropower
- Nuclear Fission Power
- Nuclear Fusion Power
- Ocean Energy
- Road Transport Efficiency
- Smart Electricity Grids
- Solar Photovoltaic
- Wind Energy

ETIP Wind

etipwind.eu

Political momentum

"Europe is to become #1 in the next generation of renewables worldwide"

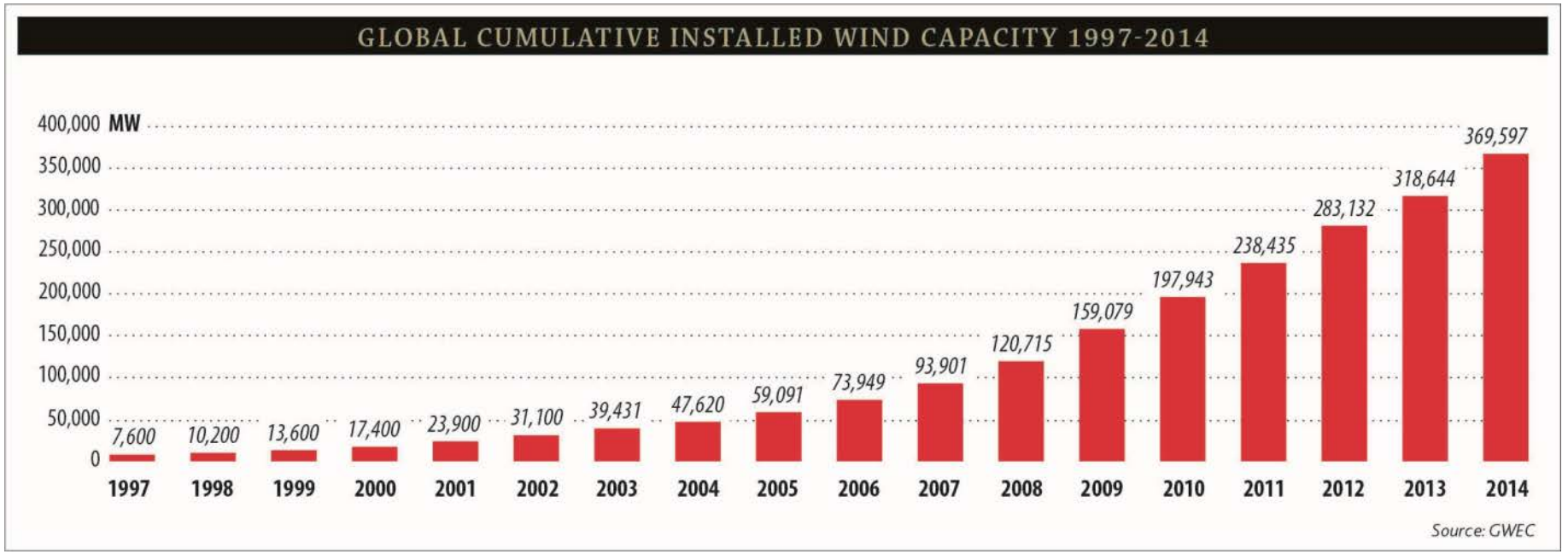
Jean Claude Juncker, EC President

COP 21 – Paris Agreement

ETIP Wind

etipwind.eu

Wind energy in very strong development



ETIP Wind

etipwind.eu

ETIPWind Structure

- ETIPWind Steering Committee

  The ETIPWind Steering Committee (SC) meet every 3 month in a discussion forum. The intent is to dialogue between key wind energy stakeholders on R&I priorities for wind energy. The objective is to communicate, coordinate and collaborate on R&I policy activities for wind energy.

- ETIPWind Advisory Group

  The ETIPWind Advisory Group meet twice a year in a discussion forum. The intent is to dialogue between key industrial decision makers from the wind industry and high level policymakers from the European Commission. The objective is to create a forum for a continuous dialogue where the current and future wind energy research and innovation priorities are discussed.

ETIPwind SRIA launched Sept. 2016

Strategic research and innovation agenda 2016

September 2016

https://etipwind.eu/files/reports/ETIPWind-SRIA-2016.pdf

ETIP Wind

etipwind.eu

Objectives of the SRIA 2016

Reduce costs

Facilitate system integration

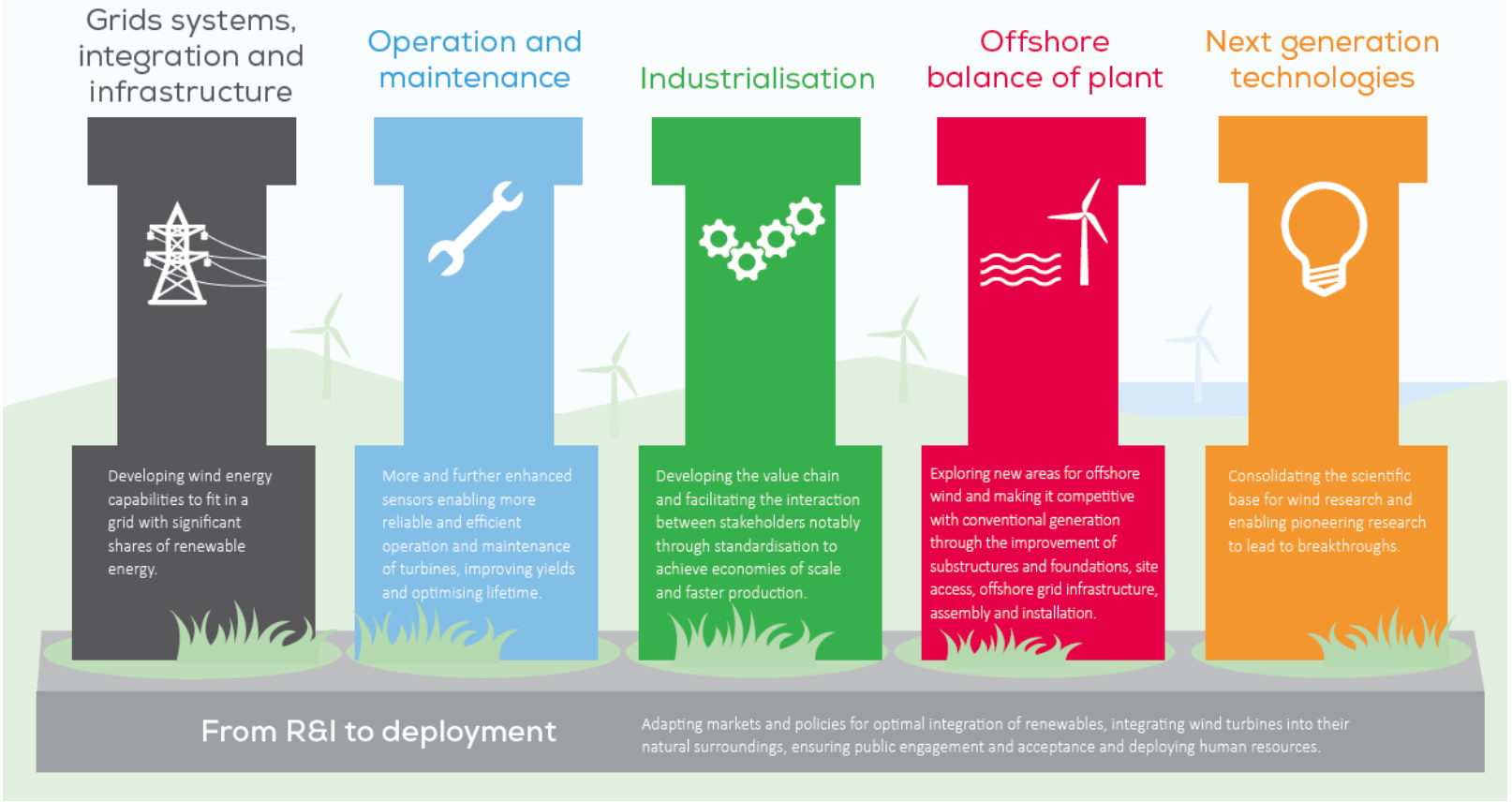
Reinforce European technological leadership

Ensure first-class human resources

ETIP Wind

etipwind.eu/sria

5 Pillars of research and innovation for wind energy



SRIA 2016 targets by pillar

Grid systems

- Develop wind farm capabilities to facilitate larger shares of renewables in the grid;
- Develop wind power to provide enhanced grid services;
- Improve the reliability of cables and other key grid components around the turbines; and
- Improve integration of wind energy through an enhanced interaction with energy storage, demand response and smart interconnection with other technologies.

Offshore BoP

- Achieve LCOE of €80/MWh (including grid connection) at FID[9] for all offshore wind power projects by 2025;
- Improve and standardise installation and assembly methods;
- Create optimised foundations at a lower cost;
- Define and develop the right electrical infrastructure with increased reliability for offshore wind power; and
- Bring floating offshore wind towards an industrialised competitive level.

O&M

- Capture more relevant data and improve the accuracy and reliability of data streams and improve analytical models;
- Achieve cost reduction in O&M due to improved data analyses;
- Improve energy yield through enhanced O&M procedures; and
- Increase or extend the lifetime of turbines and develop streamlined end-of-life strategies.

Industrialization

- Enhance better collaboration between all the different stakeholders of the value chain;
- Create common market requirements to trigger cost and time savings; and
- Develop cross-licensing as in other industries.

Next generation

- Open the possibility for breakthrough research and game changers;
- Develop intelligent materials for wind turbines;
- Consolidate the scientific base for wind energy to cement progress and educate the next generation of wind pioneers;
- Minimise the uncertainty associated with wind energy; and
- Improve testing and measurement of wind turbines.

Join the conversation

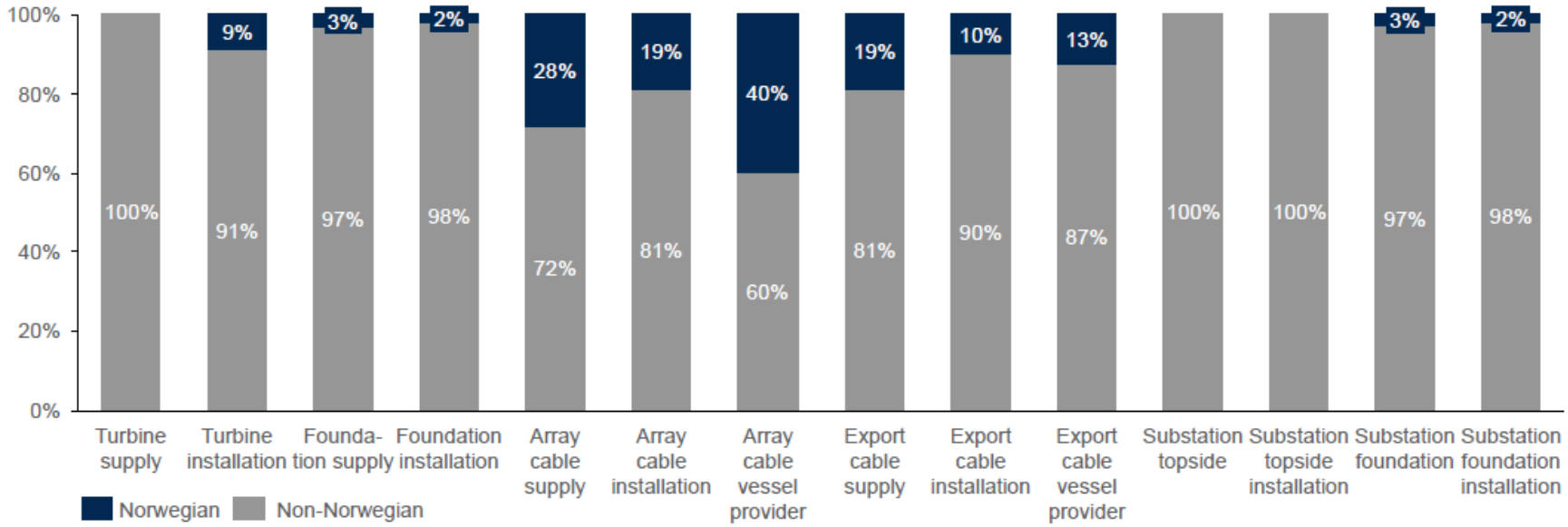
ETIPWind Steering Committee

https://twitter.com/etipwind
https://etipwind.eu/

Excellent Norwegian track record & opportunities

- Active in EERA, ETIPwind, EAWE, IEA, IEC
- Heading offshore works within EERA JPwind
- Partner in EU projects, e.g.: Twenties (2009-), DeepWind (2010-), HiPRWind (2010-), EERA-DTOC (2012-), InnWind (2012-), WindScanner (2012-), LeanWind (2014-), EERA IRP wind (2014-), BestPaths (2014-) , Lifes50+ (2015-), + more in preparation!
- Norwegian industry export to offshore wind NOK ~5 billion in 2015

Norwegian offshore wind market share in major segments



Note: Based on projects fully grid-connected by 2010-H1/2016.
Source: MAKE

International market growth 20-25% pa
Opportunities to increase Norwegian market share
http://intpow.com/index.php?id=3486&download=1

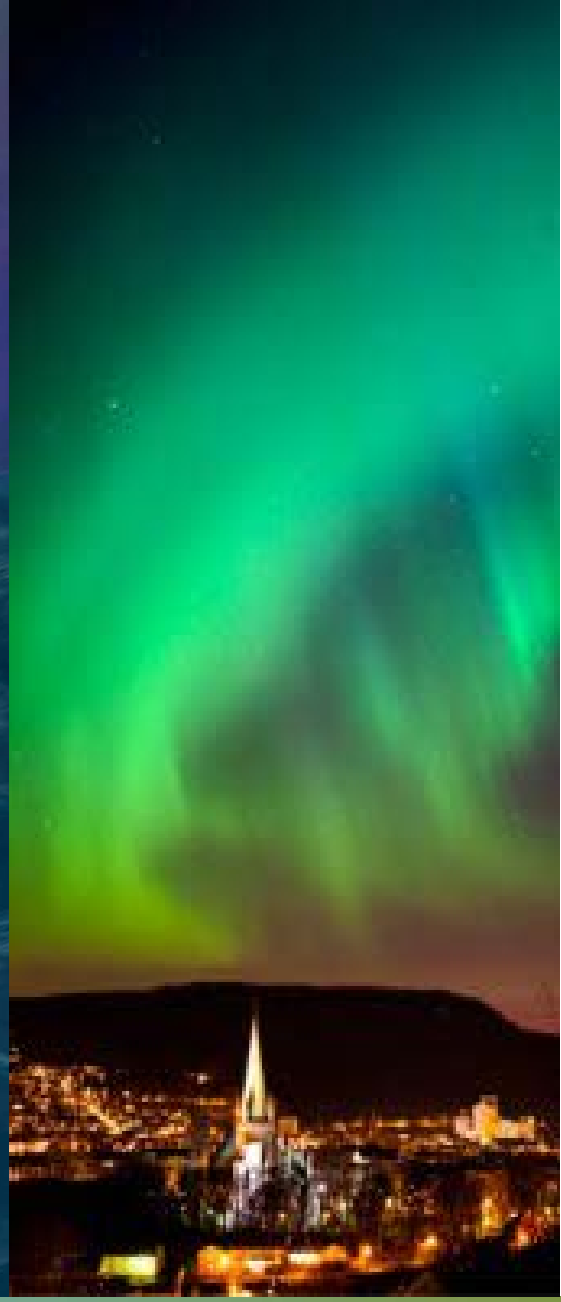
We make it possible!

www.NOWITECH.no

EERA DeepWind'2017

14th Deep Sea Offshore Wind R&D Conference

Trondheim 18-20 January, Norway



NOWITECH Norwegian Research Centre for Offshore Wind Technology

CENTRE FOR ENVIRONMENT-FRIENDLY ENERGY RESEARCH

ETIP Wind

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

Thanks for your attention

etipwind.eu