ETIP Wind

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

Executive Committee meeting

ETIPWind Secretariat
Alexander Vandenberghe

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04 April 2019

Agenda

TIMING	AGENDA ITEM
09:30 – 09:45	Welcome
09:45 – 10:00	Feedback from SETWind project
10:00 – 10:15	Feedback from Advisory Group
10:15 – 10:45	ETIPWind Factsheet – September 2019 (part 1)
10:45 – 11:00	**Coffee break**
11:00 – 11:30	ETIPWind Factsheet – September 2019 (part 2)
11:30 – 12:00	Technology roadmap
12:00 – 13:00	**Lunch**

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Welcome

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Engaging the wider energy R&I community

IRENA launches report on integration of variable renewables

Source: WindEurope ©

EERA
European Energy Research Alliance

ETIP SNET
PLAN. INNOVATE. ENGAGE.

Monday, 18 March 2019

EU Energy players discuss energy sector synergies and how to leverage new clean energy technologies in an integrated system

The European Technology and Innovation Platform for Smart Networks in Energy Transition held a high-level workshop on how to leverage the latest clean energy technologies and energy system initiatives to achieve energy systems synergies and decarbonisation in line with the ETIP SNET Vision 2050.

Brussels, 14 March 2019. The ETIP SNET workshop "**Leveraging the Clean Energy Technologies Potential through Integration into an Efficient System**" brought together experts and stakeholders of the different energy systems across Europe to discuss the achievements and challenges of the integration of the electricity networks with other energy carriers (gas, heating, cooling, water, transport etc.) and how to enhance the synergies between them in view of an overall optimisation and an

Source: ETIPSNET ©

Source: WindEurope ©

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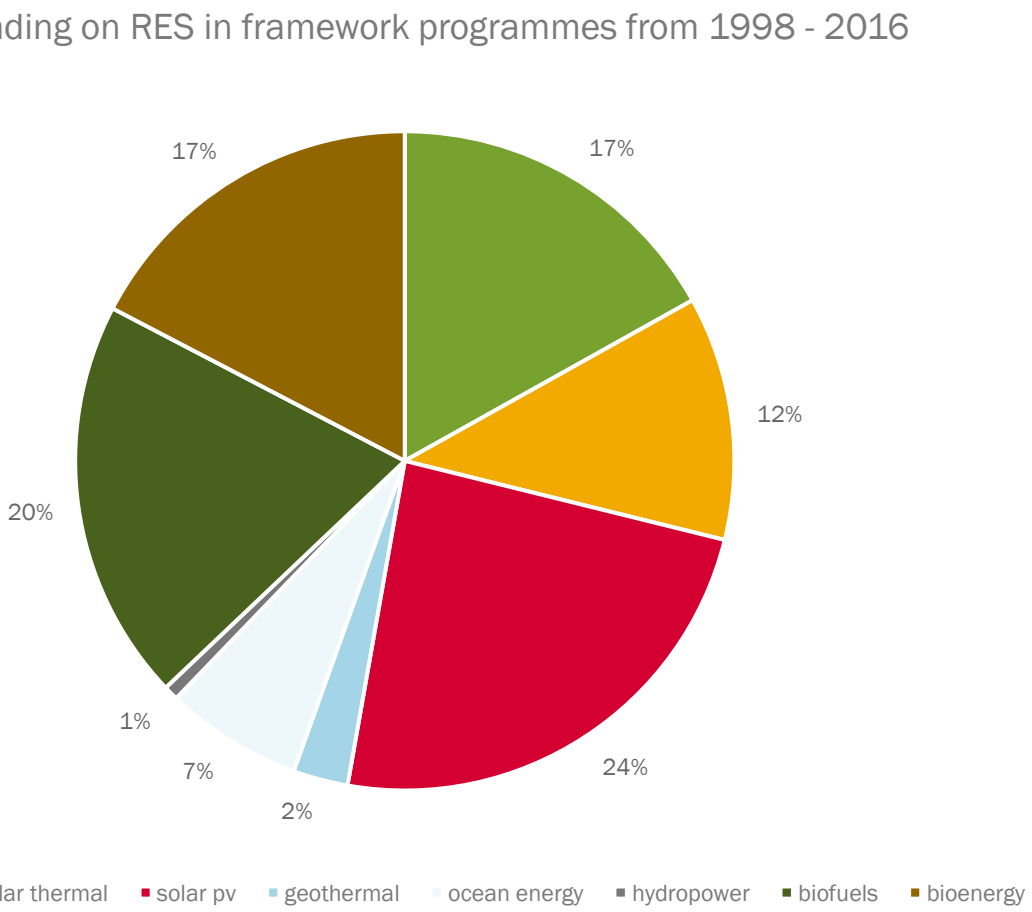
EU spending on renewable energy R&I*



*Analysis of EU spending in Framework Programmes (FP5 – H2020) performed by Trinomics on behalf of the European Commission.

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EU spending on renewable energy R&I*

	wind power	solar thermal	solar pv	geothermal	ocean energy	hydropower	biofuels	bioenergy
EU funding in million €	565	400	800	90	225	24	660	580
% electricity consumption (2016)	9.6	0.17	3.6	0.21	0	10	0	5.4
% heat consumption (2016)	0	0.4	0	0.15	0	0	0	17
turnover in billion € (2016)	40	3.4	11	1	0	8	13	40
average exports in billion € (2011 – 2016)	9	2	5	0.25	0	0.56	5.5	6
Number of EU jobs (2016)	300,000	29,000	100,000	8,600	0	107,000	205,100	450,000

*Analysis of EU spending in Framework Programmes (FP5 – H2020) performed by Trinomics on behalf of the European Commission.

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SETWind & ETIPWind – Synergies

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Advisory Group – meeting outcomes

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Horizon Europe – a provisional deal

- General features
  - 35% earmarking for climate action.
  - 1 climate, energy & mobility cluster.
  - More emphasis on “widening” and bridging the R&I divide.
  - Exact budget to be defined later on (at the end of the year).

New

- Fast track to research & innovation instrument
  - Bottom-up application process.
  - 6 months to grant.
  - 6 partners maximum.
  - Maximum EU contribution of 2.5 million .

- Strategic planning
  - Basis for the work programmes.
  - Looking up to 4 years ahead.
  - Mandatory multi-stakeholder consultation process.
  - To be approved by Member State representatives.

New

- Missions
  - Adapting to climate change.
  - Cancer.
  - Healthy oceans, seas, coastal and inland waters.
  - Climate-neutral and smart cities.
  - Soil health and food.

Horizon Europe – next steps

European Parliament

- ITRE committee vote this week (01-02 April).
- Plenary vote in week of 15-19 April.

Council of the EU

- COREPER (permanent representatives) vote 29 March or 03 April.
- Council meets in May.

Discussion outcomes

A 100% Renewables-based energy system

- Q1: what are the weaknesses of the existing infrastructure? What solutions need to be developed to mitigate those weaknesses in and to maximise the availability of the existing grid?
- A1:
- ACTION:

Discussion outcomes

A 100% Renewables-based energy system

- Q2: What energy vector should the wind energy sector support to:
  - a) increase the market;
  - b) crack the code for seasonal storage; or
  - c) also deliver green, renewable feedstock.
- A2:
- ACTION:

Discussion outcomes

Industrialisation

- Q1: For which methods (testing, certification manufacturing processes…) will standardisation have the biggest impact? For which future emerging technologies would a common industrial approach be beneficial?
- A1:
- ACTION:

Discussion outcomes

Industrialisation

- Q2: In which sectors do supply chains need to develop further in order to achieve large scale industrialisation? Where should the EU invest to develop a globally competitive supply chain?
- A2:
- ACTION:

Discussion outcomes

Sustainability

- Q1: Do you have any procedures, best practices, lessons learnt related to blade waste management? What research is needed to deliver on blade material recycling?
- A1:
- ACTION:

Discussion outcomes

Sustainability

- Q2: Apart from blade recycling, what are the industry's long term recycling priorities? What is the most valuable to recycle and what is the most challenging from a technological perspective?
- A2:
- ACTION:

Discussion outcomes

Globalisation

- Q1:? Would the inclusion of EU standards for wind energy in EU trade agreements with third countries help to increase the export capabilities of the sector?
- A1:
- ACTION

Discussion outcomes

Globalisation

- Q2: What measures are needed to establish a healthy and competitive European supply chain in a global market and ensure that European wind turbines are still built with equipment that is “made in Europe”?
- A2:
- ACTION

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Fact-sheet 2019

Sabina Potestio
Project Manager- Energy Policy

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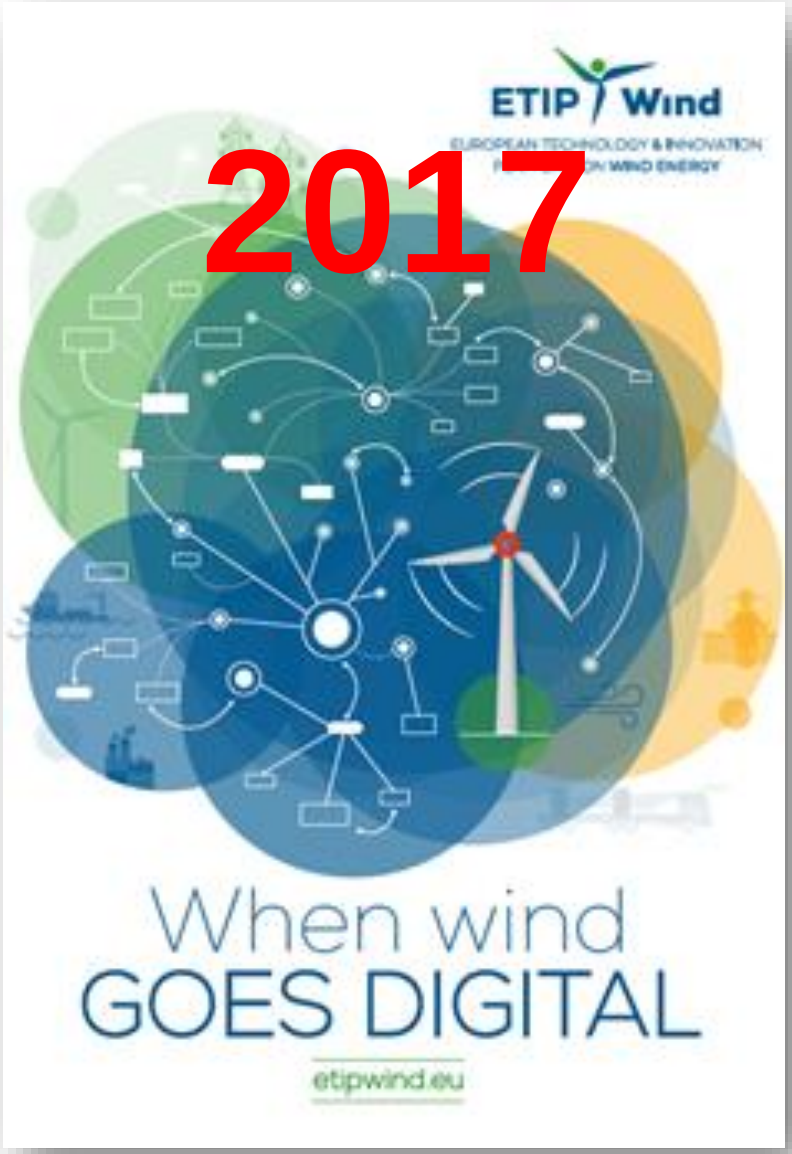
April 2019



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2019 ETIPWind fact-sheet

- **1st Fact-sheet of the renewed ETIPWind project**
- **Due:** end of September
- **Purpose:** Dissemination of thematic R&I topics for the wind energy sector
- **Audience:** policy makers, other relevant sector stakeholders, wider wind energy community

Steps Fact-sheet

Step 1	• The Advisory Group provides detailed suggestions through the Secretariat to the Executive Committee
Step 2	• The Secretariat consults the Executive Committee on the content
Step 3	• The Secretariat carries out desk research
Step 4	• The Executive Committee validates the results of the above steps
Step 5	• The Secretariat articulates all the input gathered in the different steps and completes the factsheets
Step 6	• The Secretariat organises a dedicated communications activity to present the factsheet to policy-makers

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Advisory Group suggestion – blade circularity

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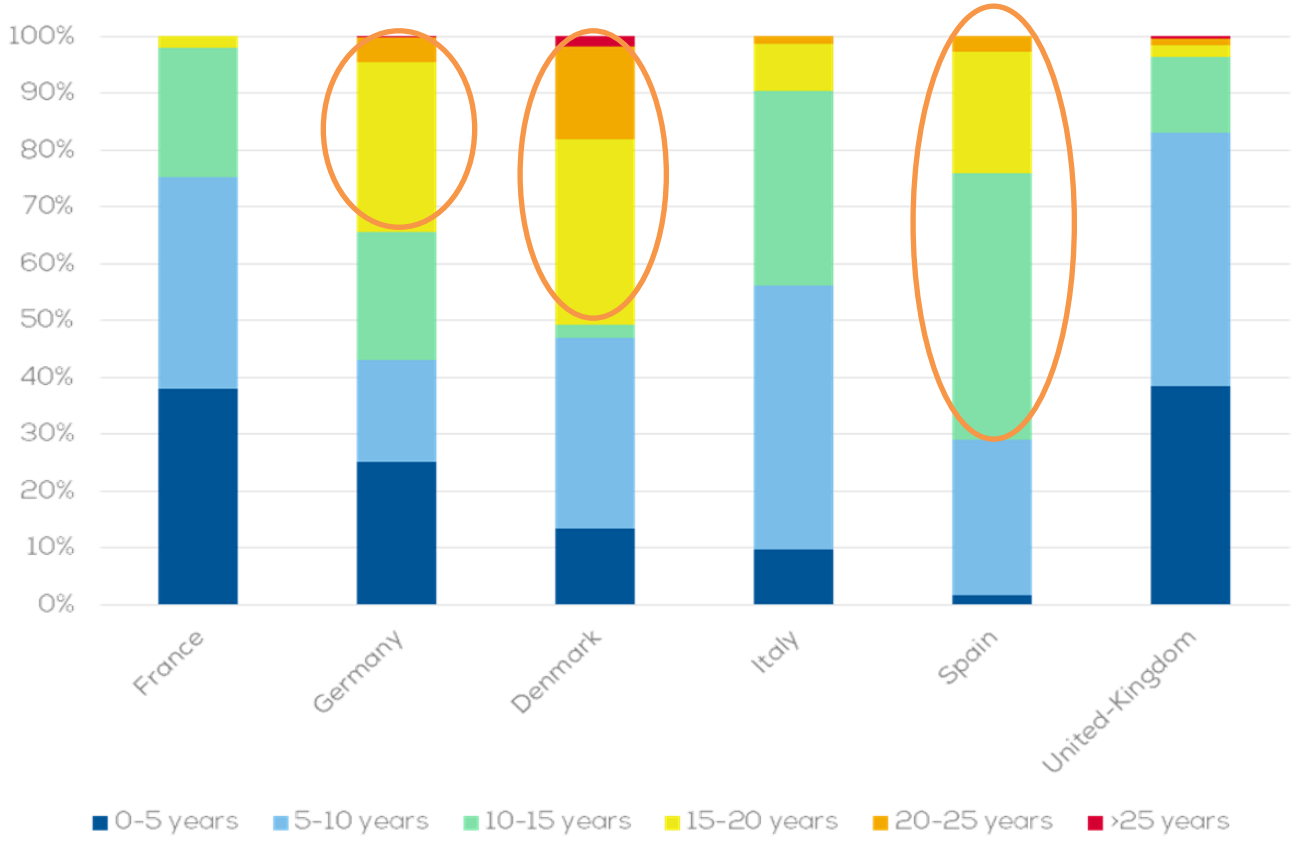
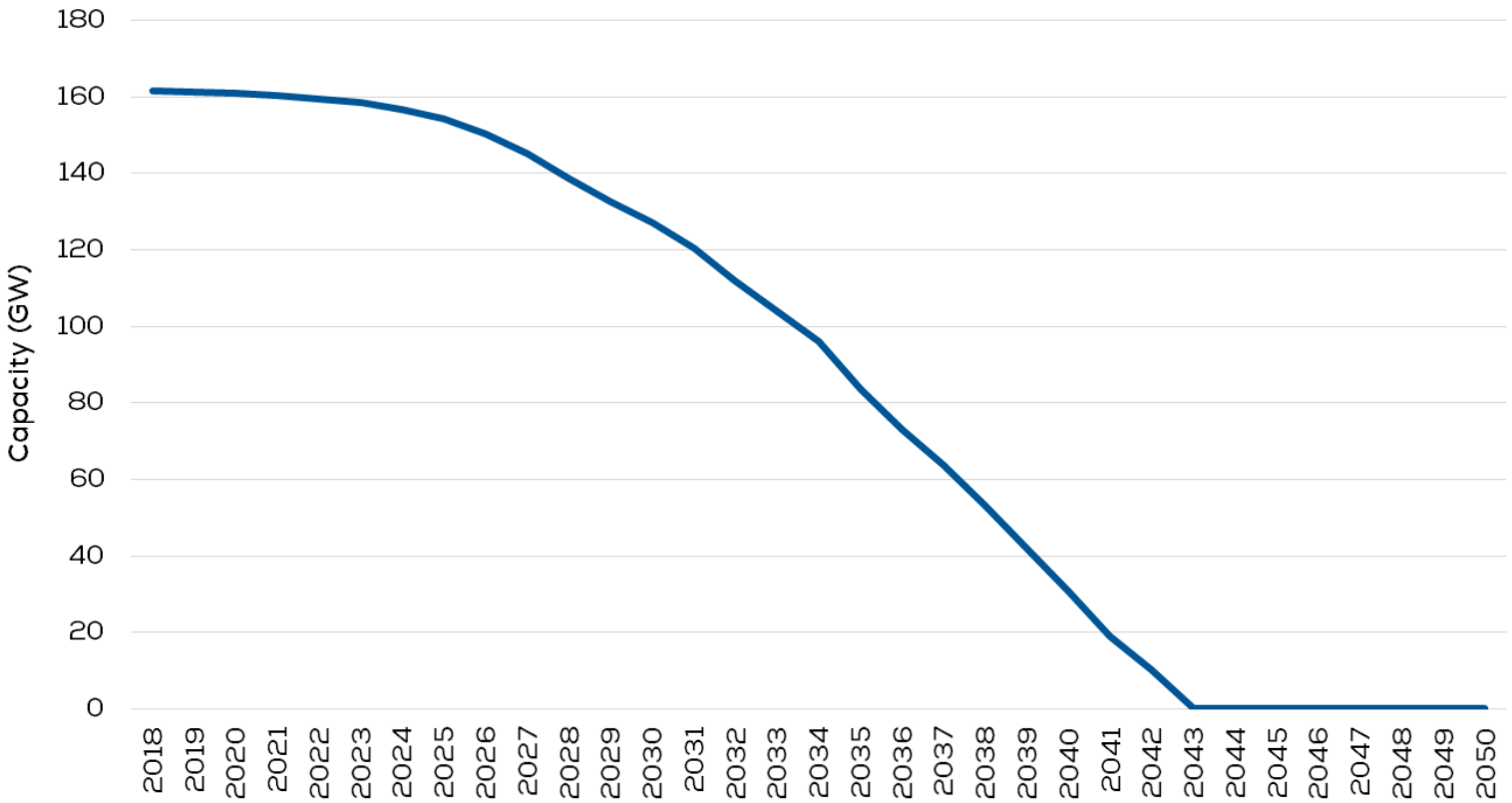
Ageing fleet in Europe



Source: WindEurope

Today's onshore fleet will disappear by 2043



Source: WindEurope

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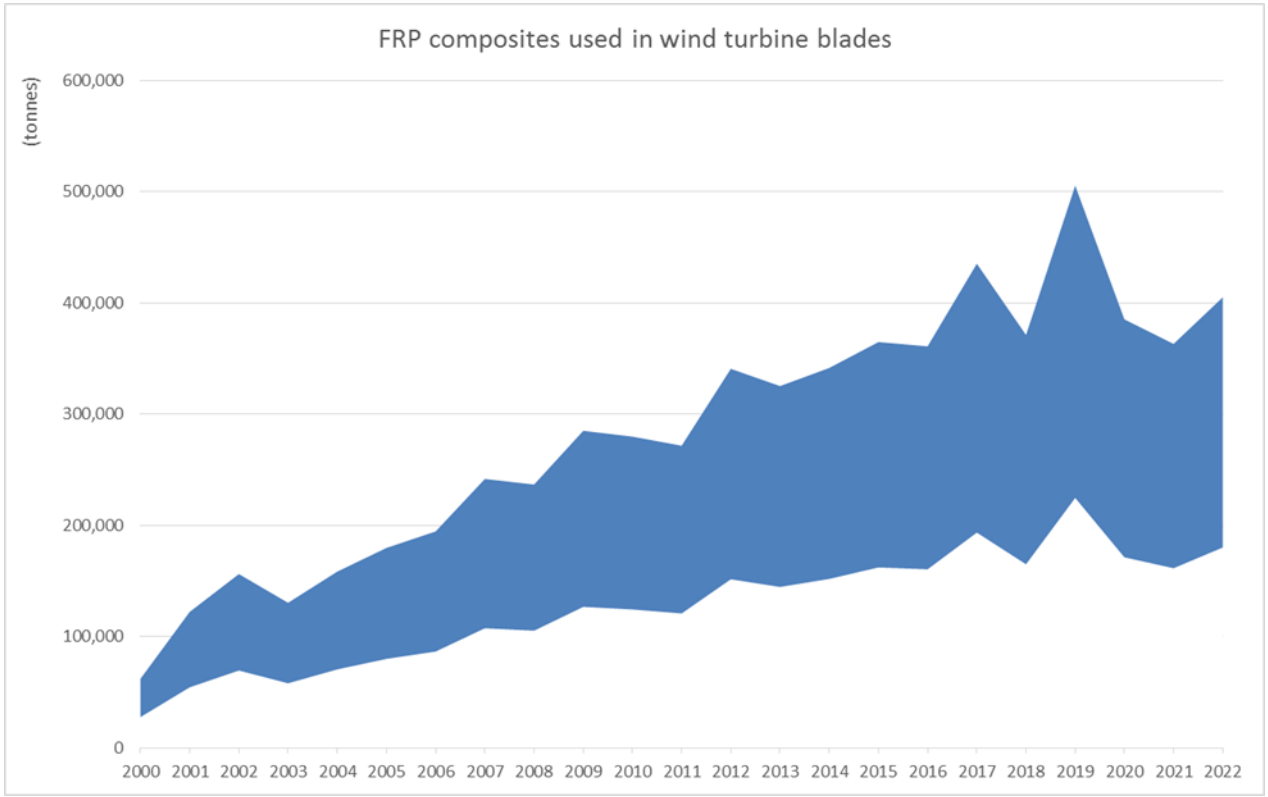
Upcoming volumes of composite waste



Source: WindEurope ©

2000: 27,000 to 34,000 tons

2017: 193,000 to 242,000 tons

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Blade circularity, a must win topic (1)

- WindEurope Board
  - "Set a consolidated industry approach/guidelines to recycling blades and other key components…"
- CEOs retreat
  - "Recycling must be treated as one of the industry's top priorities. Visible effort needs to be made here to show that we are a sustainable industry…"
- ETIPWind SRIA
  - *"…Industry-wide strategies for recycling scarce materials will be key in creating a circular economy of significant scale. Blade recycling in particular is an industry priority"*
- ETIPWind Advisory Group
  - " …The sector is working towards a more sustainable and circular wind energy supply chain, but this poses significant technological challenges in particular for blades."

Fact-sheet objectives

- **Provide** detailed **information on blade technology** so that discussions on end-of-life are fact-based and technology driven

- Highlight opportunities for the sector to **achieve circularity** in blade design and manufacturing

- **Compile R&I topics on blade recycling** and new materials suited to cross-sector collaboration and/or public funding

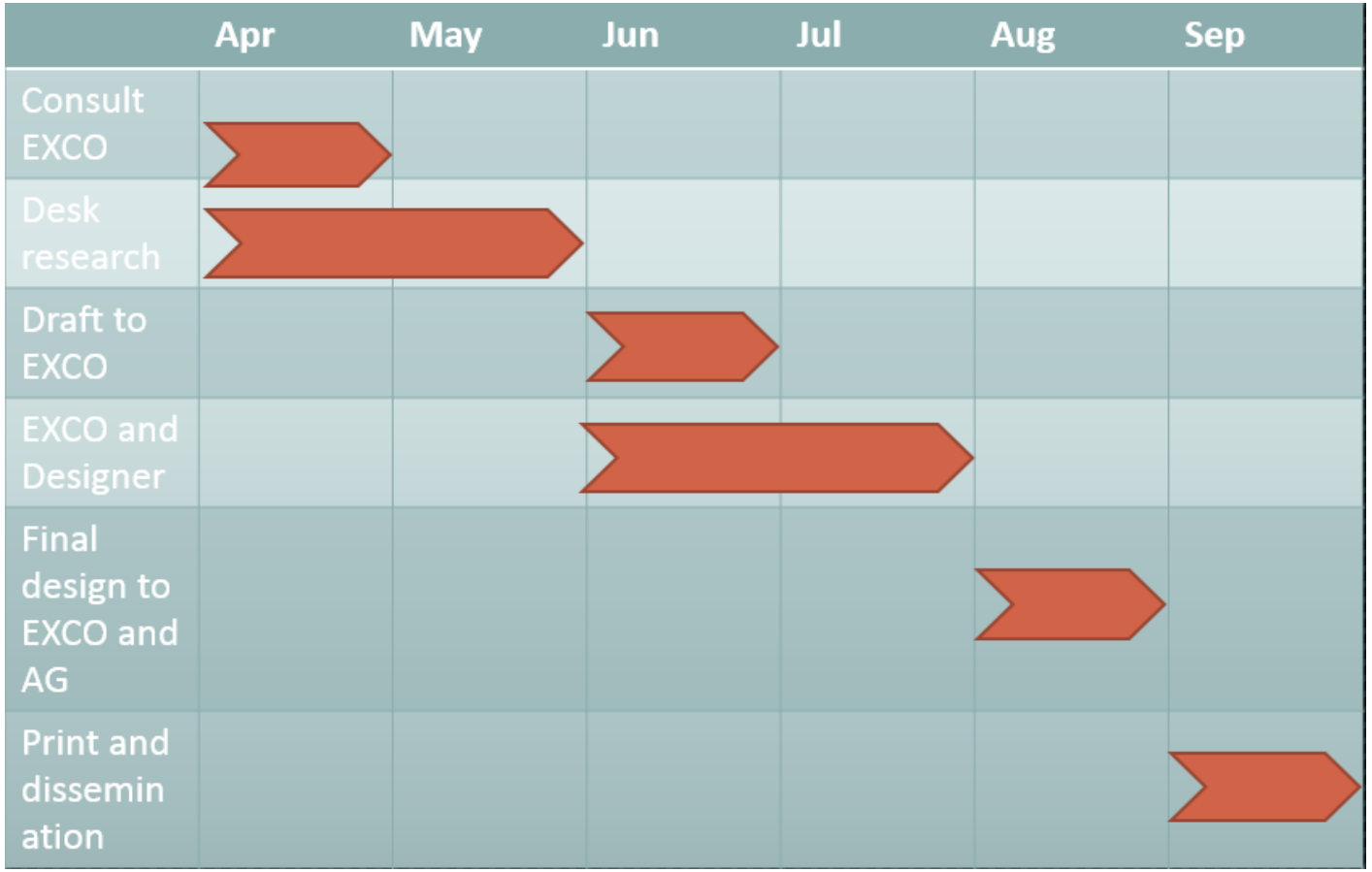
Concept for fact-sheet

- **Different steps in the lifetime** of the blade from design to end-of-life
- **Today vs. Tomorrow**
- Focus on **opportunities for research** to make technological advances in recycling

Design for fact-sheet

- **Phase 1: Design** (e.g. materials used, models)
- **Phase 2: Manufacturing** (e.g. standards, processes)
- **Phase 3: Installation** (e.g. transportation, installation methods)
- **Phase 3: Lifetime** (e.g. performance management, repair, decommissioning)
- **Phase 4: End-of-life** (e.g. recycling, repowering)

Timeline


Apr
May
Jun
Jul
Aug
Sep
Consult EXCO
Desk research
Draft to EXCO
EXCO and Designer
Final design to EXCO and AG
Print and dissemination

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Thanks for your attention

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Technology roadmap – structure & narrative

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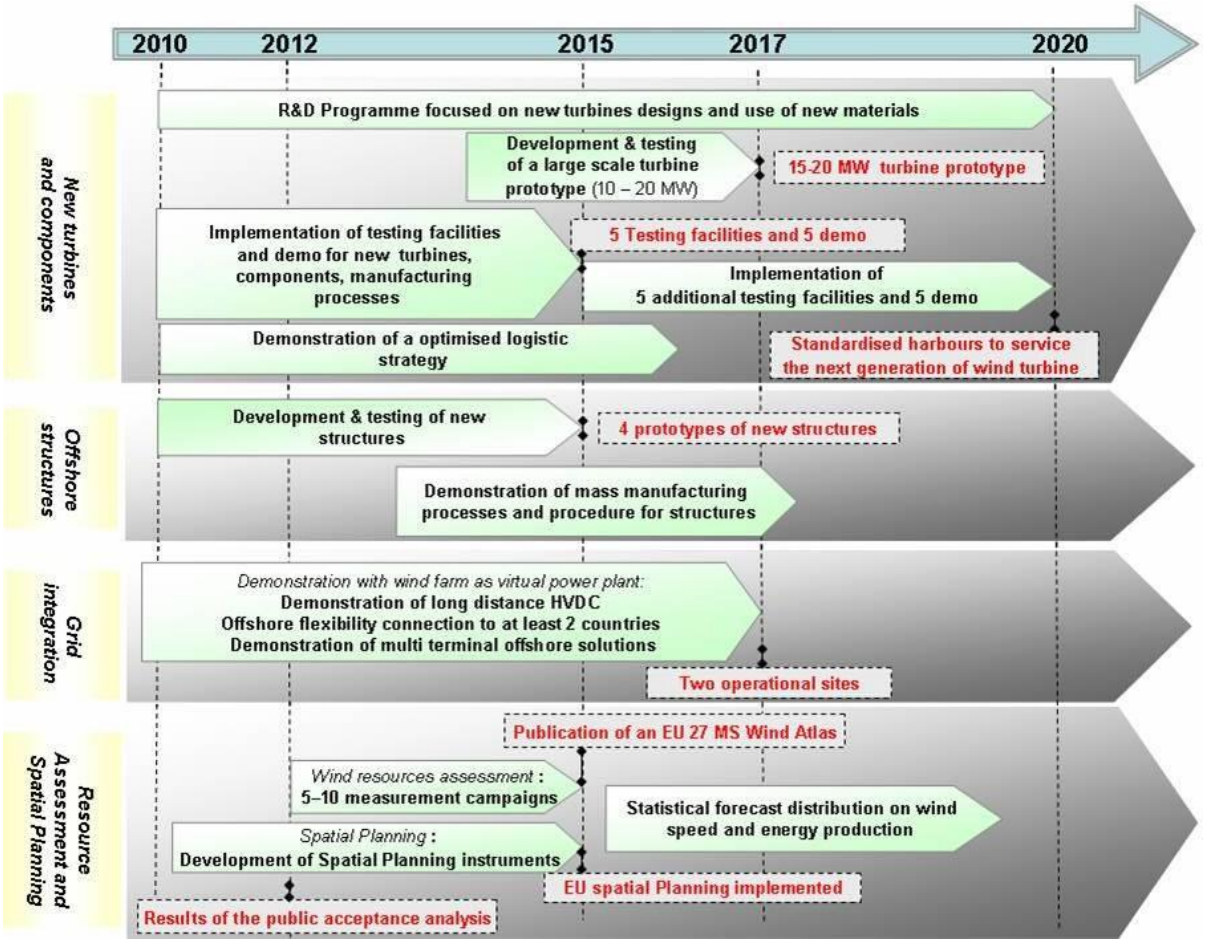
Structure of the Roadmap

- Introduction (+-1 page);
- Context (+-4 pages);
  - Policy background;
  - Relation to 2018 SRIA, EERA JP Wind agenda & EAWE strategy;
  - ETIPWind process; and
  - Definitions & how-to-read.
- (Historical) overview of wind energy roadmaps (+-6 pages);
- Added value of ETIPWind roadmap (+-2 pages);
- Implementation (+-2 pages);
- Roadmap per pillar (12 pages); and
- Research ID kits (22-33 pages).

Wind energy technology roadmaps (1)



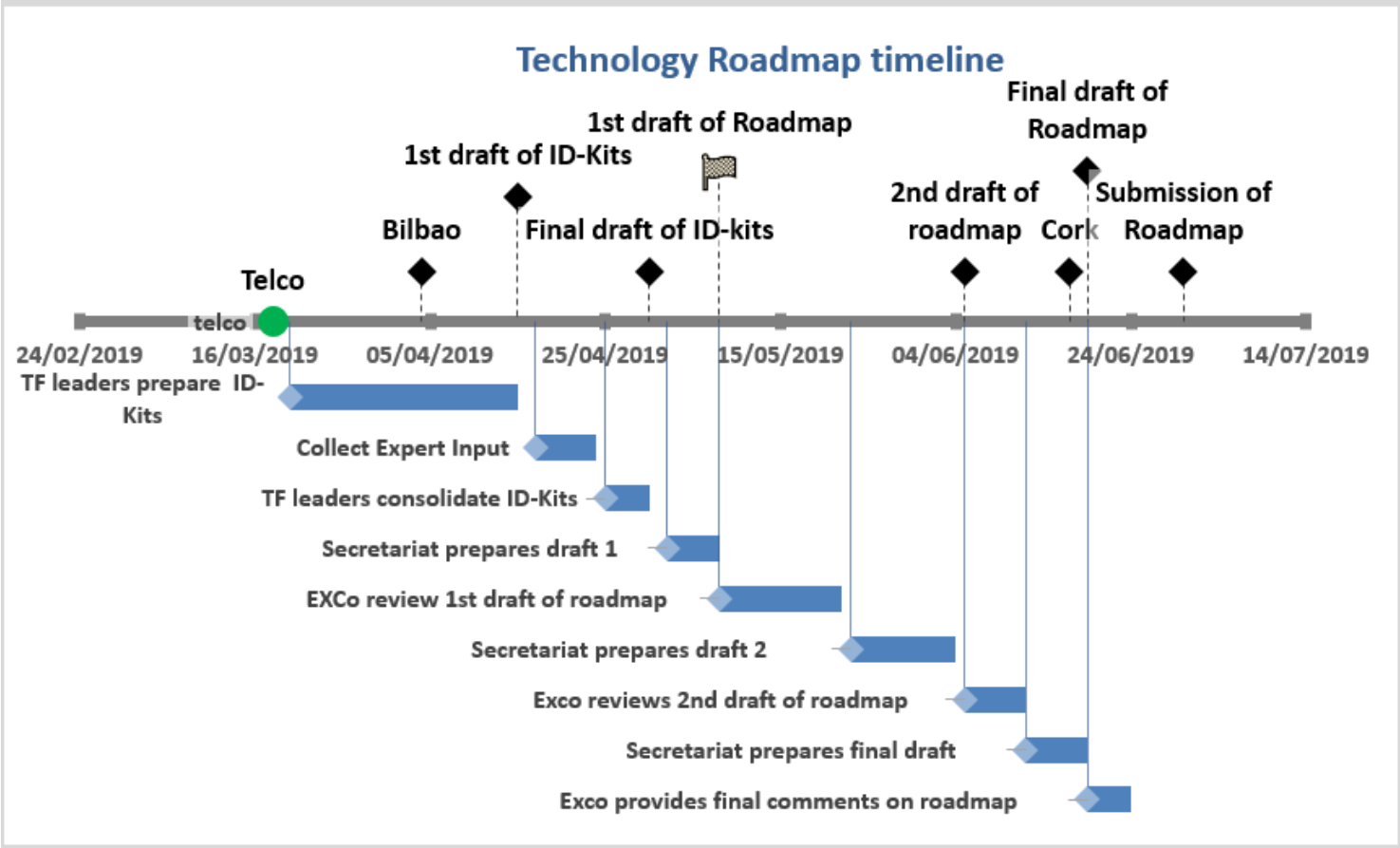
Source: SETIS ©

https://setis.ec.europa.eu/european-industrial-initiative-wind-energy
http://www.ewea.org/fileadmin/files/library/publications/reports/EWI_2013.pdf

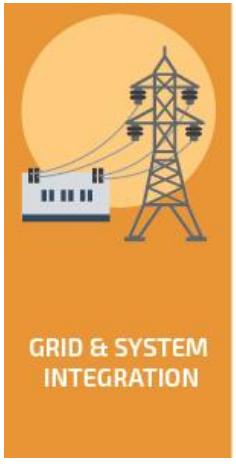
Wind energy technology roadmaps (2)

- European Industrial Initiative on Wind Energy (2013)
  - https://setis.ec.europa.eu/european-industrial-initiative-wind-energy
  - http://www.ewea.org/fileadmin/files/library/publications/reports/EWI_2013.pdf
  - https://ec.europa.eu/research/participants/portal/doc/call/fp7/fp7-energy-2011-1/30129-2009_comm_investing_development_low_carbon_technologies_roadmap_en.pdf
- IEA Technology roadmap (2009, 2013 2014)
  - https://www.iea.org/publications/freepublications/publication/How2GuideforWindEnergyRoadmapDevelopementandImplementation.pdf
  - https://emis.vito.be/sites/emis.vito.be/files/articles/1125/2013/Wind_2013_Roadmap.pdf
  - https://webstore.iea.org/technology-roadmap-wind-energy-2009
- InnoEnergy RES strategy and roadmap (2014)
  - https://investmentround.innoenergy.com/files/InnoEnergy_Renewable_Energies_Strategy_and_Roadmap_2016.pdf
- JRC wind energy materials roadmap (2011)
  - http://publications.jrc.ec.europa.eu/repository/bitstream/JRC68191/reqno_jrc68191_set-plan%20materials%20pdf.pdf
- Offshore wind Innovation Hub (2018)
  - https://offshorewindinnovationhub.com/about-roadmaps/
- Smart Wind Roadmap – US (2016)
  - https://distributedwind.org/wp-content/uploads/2016/05/SMART-Wind-Roadmap.pdf
- Wind Vision roadmap – US (2008, 2017)
  - https://www.energy.gov/sites/prod/files/wv_chapter4_the_wind_vision_roadmap.pdf
  - https://www.energy.gov/sites/prod/files/2018/05/f51/WindVision-Update-052118-web_RMB.pdf

Timeline for task forces



Task Forces



IBERDROLA RENOVABLES

ENERCON
ENERGY FOR THE WORLD

ABB

Vestas

LM WIND POWER

eawe
european academy of wind energy

Norwegian Energy Partners

equinor

SINTEF

enel
Green Power

DNV·GL

e·on

CATAPULT
Offshore Renewable Energy

SIEMENS Gamesa

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Research priority ID-kit (template)

Insert name of the Topic			Insert "urgency"	Insert "criticality"
DESCRIPTION OF THE PRIORITY (200 words) **Part A: generic description (100 words max)** im et velit aeterno. His ea molestie incorrupte. Sumo docendi hendrerit ut vel. Cum in brute impedit, vel elitr laudem ocurreret an, at ridens laoreet duo. Placerat disputando ad vim, simul disputationi nec ea. Et mollis appellantur quo. **Part B: specific research actions (100 words max)** • ad veniam atomorum voluptatibus pro, • sea ne quaestio adipiscing. • Prima qualisque necessitatibus ne est, • vix ut quis debitis ullamcorper, augue simul id vim. • Ut duo mazim mnesarchum			MILESTONES • Vel splendide moderatius eu. • Pro eros vidisse deserunt ad, • te cum modo mollis	
COST REDUCTION 	GRID INTEGRATION 	EU LEADERSHIP 	FUNDING 	WHO LEADS 

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Impact criteria – to be defined

- Retaining EU technology leadership in the global market.
  - *How will developing this technology strengthen the EU wind energy sector?*
  - *What is the market potential and what is the state-of-art?*
- Towards wind energy being competitive in a merchant price world.
  - *How will this technology drive costs down and how much?*
- Providing 30% of power demand by 2030.
  - *How will this technology help the final use of wind power?*

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