ETIPWind Steering Committee + CTOs meeting

ETIP Wind
EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY

Funded by the European Union

20 March 2024 – 14:00-17:00

Bilbao Exhibition Centre, Room 1B, Level 5

Welcome & Introduction

Adrian Timbus
Vice President Portfolio and Market Strategy, Hitachi Energy
ETIPWind Chair

European Wind Energy Charter

European Wind Charter signing, December 2023

- **Wind Power Package**: 15 immediate actions to strengthen the competitiveness of Europe's wind value chain:
  - European Commission
  - European Investment Bank
  - National governments
  - Wind industry
- **26 EU Energy Ministers** and more than **300 wind companies** endorsed the European Wind Charter.

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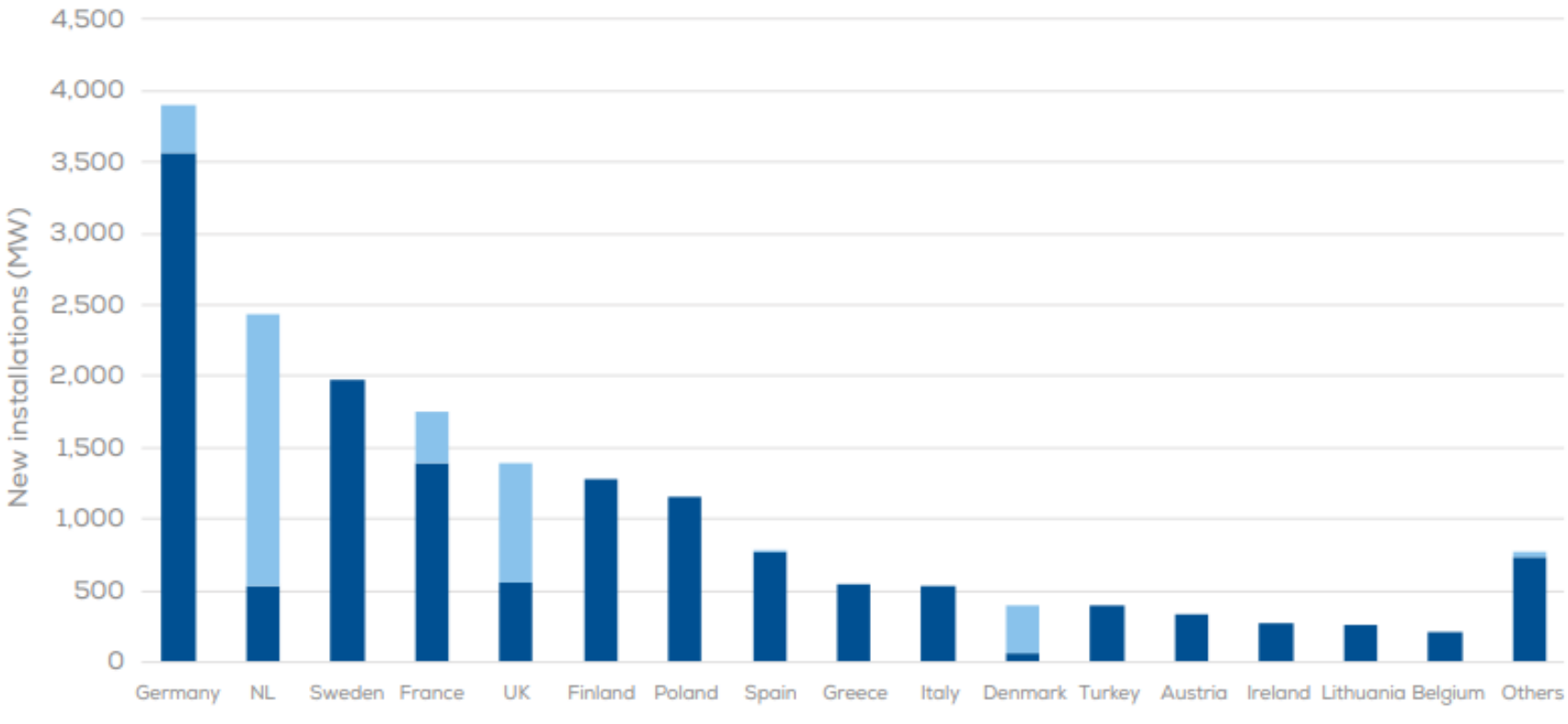
The wind industry can deliver the volumes...

- A record of **18.3 GW new capacity** was installed in Europe in 2023.
- Meeting **20%** of the electricity demand in Europe.

FIGURE A. New onshore and offshore wind installations in Europe in 2023



	Germany	NL	Sweden	France	UK	Finland	Poland	Spain	Greece	Italy	Denmark	Turkey	Austria	Ireland	Lithuania	Belgium	Others
Onshore	3,567	527	1,973	1,385	553	1,278	1,157	762	543	525	54	397	331	275	262	203	730
Offshore	329	1,906	0	360	833	0	0	2	0	0	344	0	0	0	0	0	35

Source: WindEurope

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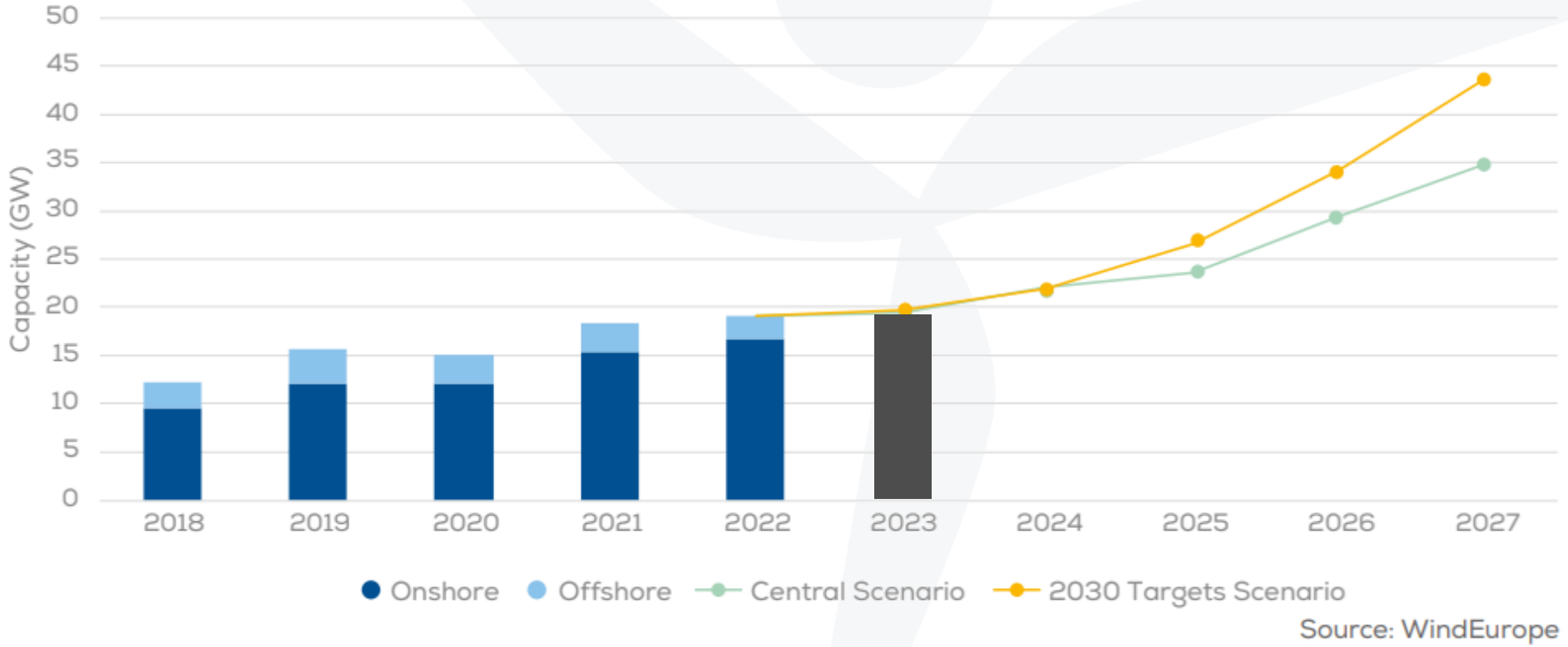
… But R&I is key to step up installations and deliver the targets

- Faster deployments
- More annual energy production
- More reliable wind power



Source: WindEurope

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ETIPWind Strategic R&I Agenda 2025-2027

5 R&I areas

23 R&I priorities

€1.8bn of public investment needs from 2025 to 2027

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What's next?

- We need **to channel public investments** to support the competitiveness of European wind energy technologies.
- We need **targeted calls for proposals** for wind energy EU projects.
- We need EU Member States to implement strategic wind energy **projects at the national level**.

Agenda

14:00-14:05	**Welcome & Introduction**	Adrian Timbus, ETIPWind Chair
14:05-14:15	**Keynote speech from the European Commission**	Bernd Biervert, Head of Unit “Clean energy transitions”, DG RTD – European Commission
14:15-15:00	**Advocacy of our R&I priorities 2025-2027** *-Horizon Europe, other EU funding programmes, national governments*	Adrian Timbus, ETIPWind Chair + Secretariat
15:00-15:20	**Update on ETIPWind activities and objectives for 2024** *-Presentation of key achievements and next objectivesimeline of activities / work programme*	Adrian Timbus, ETIPWind Chair + Secretariat
15:20-15:40	*Coffee break*	
15:40-15:55	**EERA’s long term research programme and synergy with ETIPWind SRIA and Tech Roadmap**	Ignacio Marti, EERA JP Wind’s Coordinator, ETIPWind Vice-President
15:55-16:55	**Strategic projects for wind energy – Why EU funded projects are worth it** *-3 EU funded projects: 5mn presentation / project + 10mn Q&A session* *-35mn discussion*	EU project coordinators + Moderator: Adrian Timbus, ETIPWind Chair
16:55-17:00	**Next steps and Conclusion**	Adrian Timbus, ETIPWind Chair

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Changes in the Secretariat

2022-2023

Director of Innovation

Project Manager

2024-2025

Head of Innovation

Project Manager

EU Projects Communications Officer

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Keynote speech

Bernd Biervert, Head of Unit “Clean energy transitions”, DG RTD
European Commission

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Advocacy for R&I priorities 2025-2027

Adrian Timbus, ETIPWind Chair
Capucine Vannoorenberghe, ETIPWind Secretariat

ETIPWind Strategic R&I Agenda 2025-2027

- Establishes a **vision for wind energy** in Europe.
- Summarises **short-term R&I priorities** for industry and research.
- Estimates **public investments** needed to address effectively the recommended R&I priorities.

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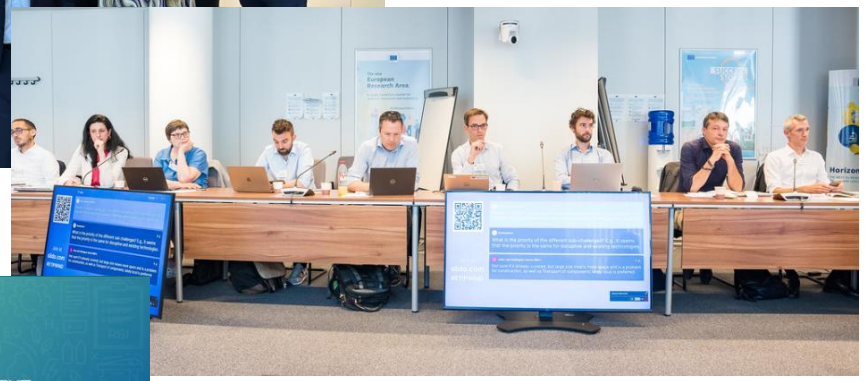
ETIPWind Strategic R&I Agenda 2025-2027



- **Consultation process** (inc. online survey, public workshop)
- Developed by **5 Working Groups**
- Reviewed and endorsed by **Chief Technology Officers**
- Close collaboration with **EERA JP Wind**
- Overall, more than **190 experts** consulted

ETIPWind's vision

To ensure wind energy will become the leading solution to deliver the resilient, affordable, and sustainable energy transition in Europe we need to:

1 Speed-up

We need to speed-up the **mass-production** of wind turbine components. **Automation** and robotisation will enable **serial production** and build the gigafactories Europe needs to install 30 GW a year between now and 2030.

2 Scale-up

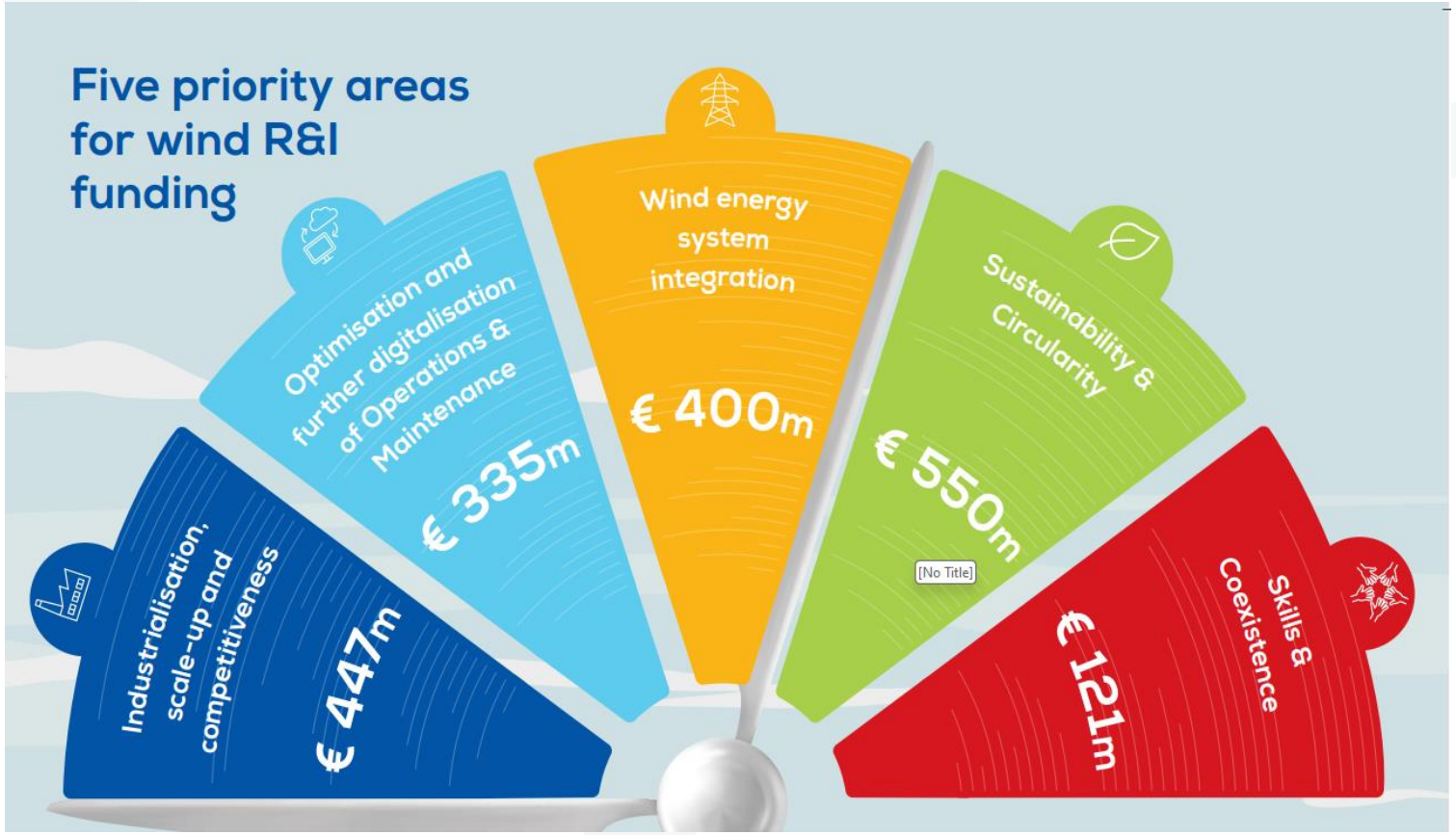
We need to scale-up **installation methods** for large turbines, the **recycling processes** for critical raw materials in wind turbine components, as well as the solutions for **autonomous Operations & Maintenance.**

3 Expand

We need to expand Europe's power system and ease wind energy's integration with improved **grid infrastructures and capabilities**, new **digitalised solutions**, and advanced technologies such as **High Voltage Direct Current** technologies.

4 Enhance

Research & Innovation will provide the solutions to enhance wind energy's positive impact on **biodiversity** and society. Including new ways to **engage with citizens** or with standardised **education programmes** adapted to the future workforce.



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ETIPWind advocacy activities

Advocacy targeting Horizon Europe

- Members of the **Horizon Europe Programme committee**
- Selected **EU policymakers**
- **Public consultation** (beginning of April)

HORIZON EUROPE

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ETIPWind advocacy activities

Advocacy targeting other EU Funding programmes

- **Innovation Fund** (clean tech manufacturing window)
- **Clean Energy Transition Partnership** (small scale projects)
- **Connecting Europe Facility** (e.g. for grid connections)
- **European Maritime and Fisheries Fund** (e.g. for ports)

Cet Partnership

EMFF
European Maritime and Fisheries Fund

ETIPWind advocacy activities

Advocacy targeting national governments

- **National funding programmes** (meeting with Ministries)
- **Implementation of strategic wind projects** (collaboration with IWG Wind)
- **European wide collaboration for wind R&I** (European Centre of Excellence)

Wind industry's R&I priorities

- Key priorities for next Horizon Europe Work Programme 2025

Large-volume manufacturing and solutions for mass-production

Deliver the volumes to achieve EU targets

Material substitution and scale-up of recycling technologies

Sustainable supply chain and reduced dependency on critical raw materials

Advanced grid forming capabilities for wind power units

100% renewable based power system

Large-scale collaboration for wind energy R&I in Europe

Excellence of European wind energy projects

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Discussion

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ETIPWind activity update and 2024 objectives

Adrian Timbus, ETIPWind Chair
Capucine Vannoorenberghe, ETIPWind Secretariat

Key achievements since our last meeting

Copenhagen, 27 April 2023

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Key achievements since our last meeting

ETIPWind public workshop co-organised with the European Commission

75 participants

To discuss the results of online survey on wind energy R&I priorities

Publication of our annual wind energy competitiveness report 2022

Overview of progress made towards key competitiveness indicators: wind energy installations, contribution to EU GDP, R&I investments.

Key achievements since our last meeting

ETIPWind Steering Committee meeting at EERA's Wind Innovation Forum

To endorse the R&I priorities identified during the consultation process

IWG Wind defined new SET Plan targets for wind energy

6 SET Plan wind energy targets focusing on R&I actions to accelerate wind energy deployment in Europe (R&I funding, system integration, manufacturing, recycling, R&I facilitating permitting, skills).

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Key achievements since our last meeting

Joint ETIPWind / IWG Wind meeting

To consult IWG Wind members on the alignment between ETIPWind R&I priorities and their national research agendas.

ETIPWind CTOs meeting at LM's facilities

To discuss **first draft of the ETIPWind's SRIA** and endorse the 23 R&I priorities.

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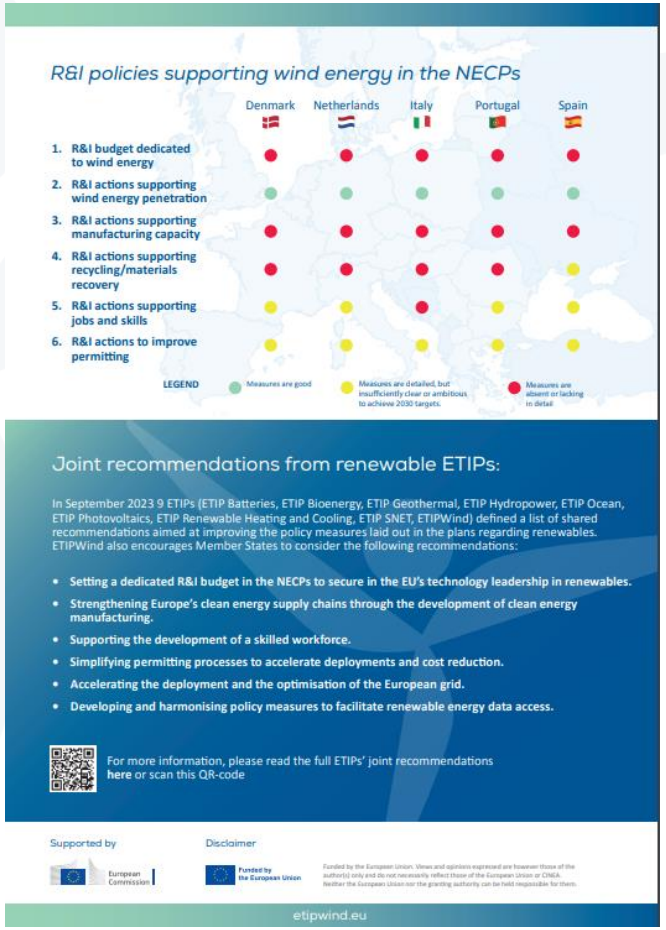
Key achievements since our last meeting

ETIPWind at the SET Plan Conference in Spain

Participation in 2 sessions on R&I in NECPs and offshore floating wind.



ETIPWind factsheet on NECPs

Analysis of the R&I policies supporting wind energy in the NECPs and joint recommendations from 9 ETIPs.

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Key achievements since our last meeting

Publication of ETIPWind's SRIA and launch event at ZF's facilities

73 participants and key representatives from EU and national institutions

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Time to share your feedback!

Please use Slido.com to provide your feedback

Join at

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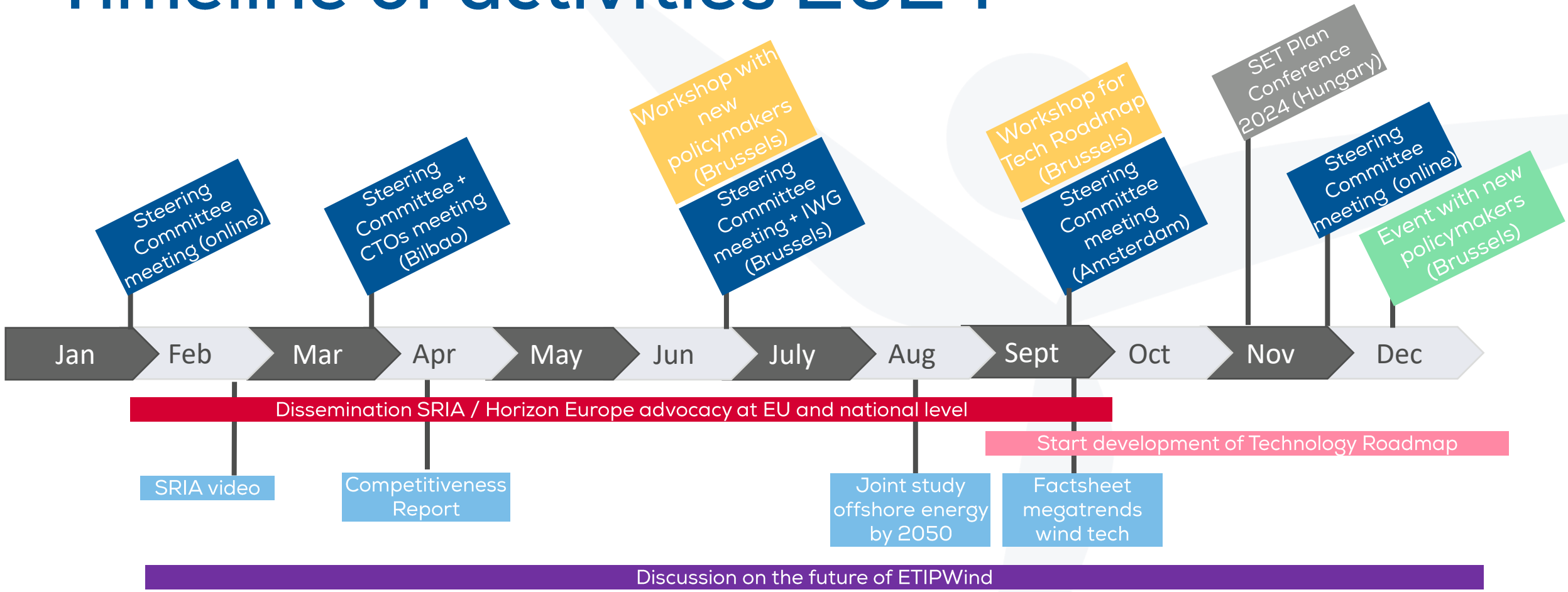
2024 objectives

1. Secure public funding for our 2025-2027 R&I priorities
2. Ensure more EU / national projects focus on strategic R&I topics
3. Strengthen our communication and dissemination of the wind industry and research's needs.
4. Continue to provide targeted and commonly agreed R&I recommendations
5. Define a sustainable solution for ETIPWind's financial sustainability

Timeline of activities 2024



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ETIPWind Steering Committee Vice-Chairs

Jacob Edmonds, Ørsted
Industry Vice-Chair

Ignacio Marti, DTU Wind
Research Vice-Chair

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ETIPWind Steering Committee Vice-Chairs

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Time to vote for the new Vice-Chairs

Please use Slido.com to vote

Join at
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The vote is open only to the Steering Committee members!

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Picture and coffee time!

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EERA's Long term research programme and synergy with ETIPWind

Ignacio Marti
Head of Division Wind Energy Materials and Components, DTU
ETIPWind Vice-Chair

EERA
European Energy Research Alliance
JP WIND



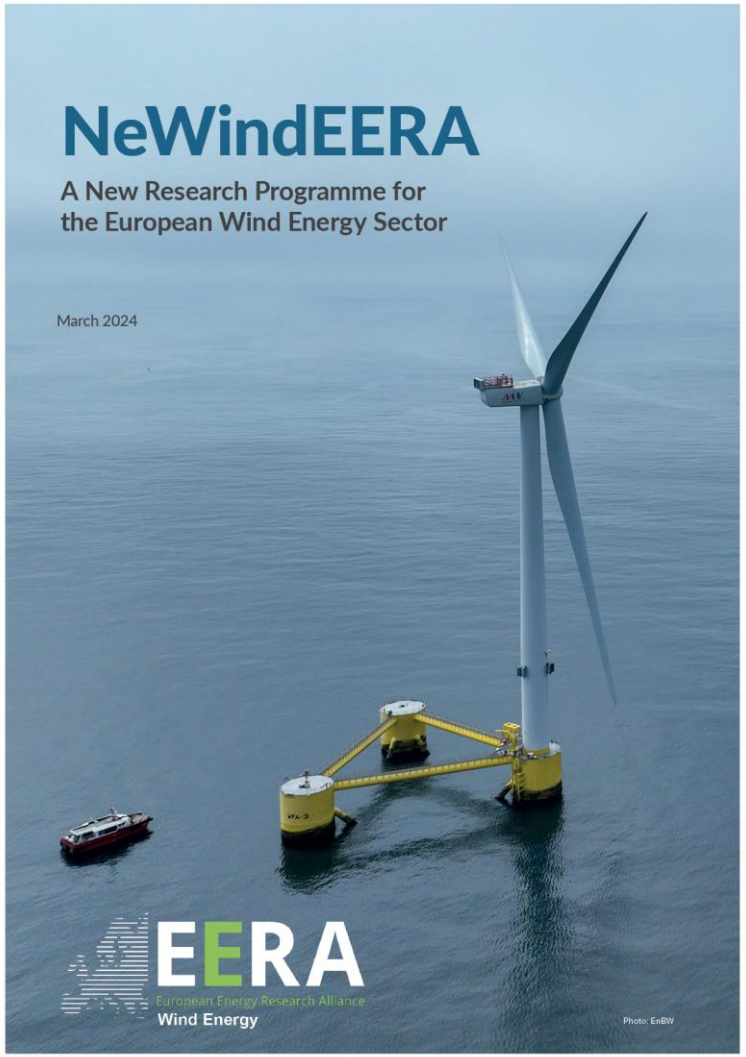
NeWindEERA research program for wind energy

Ignacio Marti, Paul McKeever
Coordinator, Project Manager NeWindEERA
EERA JP Wind

Wind EUROPE ANNUAL EVENT 2024 BILBAO 20-22 MARCH

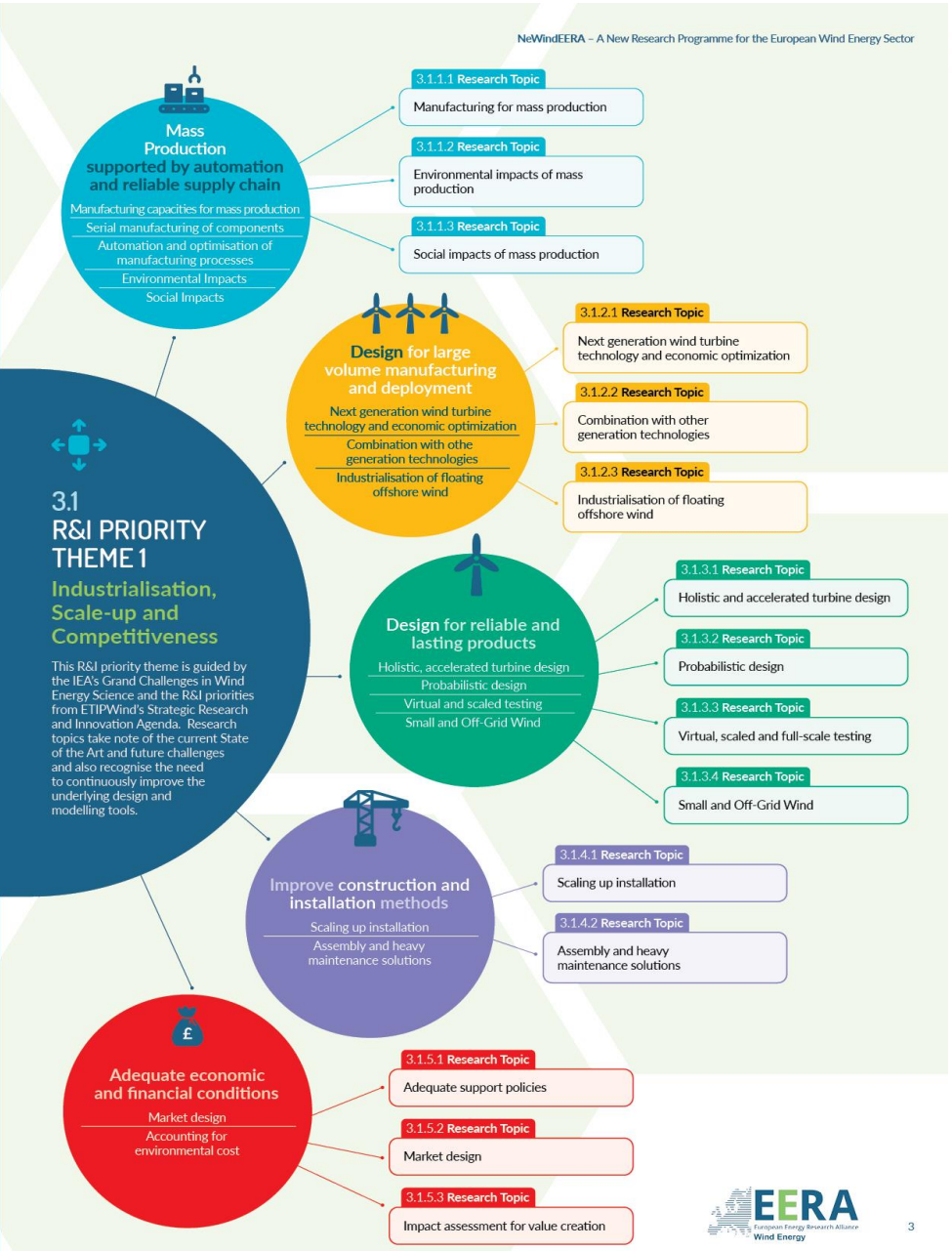
NeWindEERA research program for wind energy

- NeWindEERA research program for wind energy spans from today to 2050, designed to ensure 2030, 2040 and 2050 Green Energy Transition goals are met (RePowerEU, NetZero)
- Has been developed by EERA JP Wind community with contributions from more than 50 research organizations in Europe
- NeWindEERA builds on the Strategic Research Innovation Agenda (SRIA), developed by ETIPWind
- Organised in six key research themes, which are shared with SRIA
- The program includes a timeline of research activities, outlining expected milestones to guide research fund decisions
- NeWindEERA builds upon the legacy of EERA JP Wind's research activities, ensuring continuity and progress
- Stands as a pillar of the ***European Centre of Excellence for Wind***



Dive into our brochure for a visual overview, available on www.eera-wind.eu.

Industrialisation, Scale-up and



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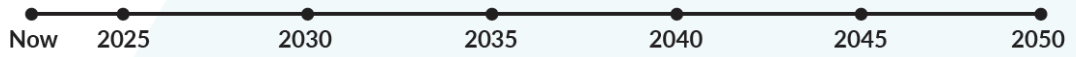
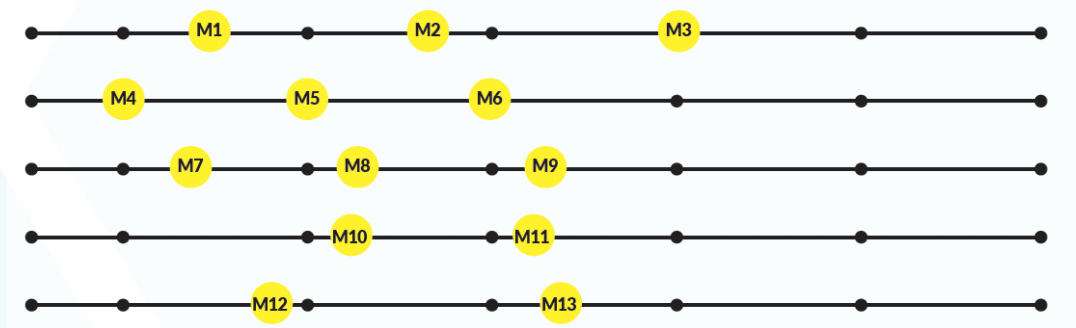
Theme 1 – Industrialisation, Scale-up and Competitiveness

- M1 European certification standard for robust supply chains
- M2 Pilot implementations of innovative factories for future serial manufacturing
- M3 Full scale commercial deployment
- M4 Ideal balance between turbine power and quantity
- M5 Economically and technically feasible Hybrid Projects
- M6 Standardized design and large series production of floating offshore wind
- M7 Scaling method for complete components
- M8 Standardized holistic design approaches
- M9 Standardized test methods based on scaled, virtual and full scale tests
- M10 Implementation of new construction strategies and contracts with different suppliers
- M11 Infrastructure ready for large scale deployment
- M12 Robust policy framework
- M13 Full integration of environmental costs for decision-making

TIMELINE



Theme 1 – Industrialisation, Scale-up and Competitiveness



Operation, Maintenance and Digitalisation

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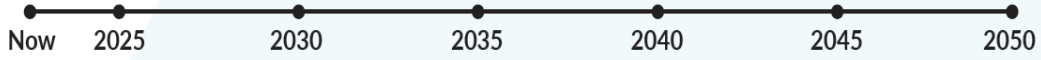
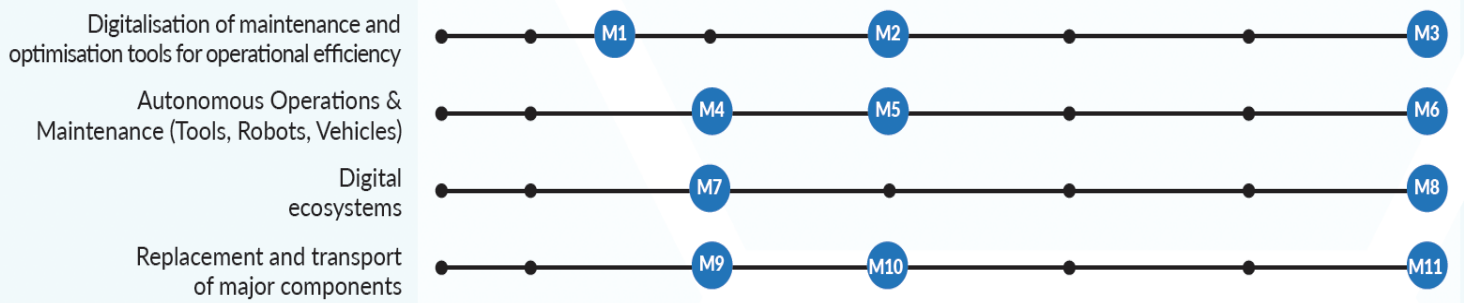
Theme 2 – Optimisation and further digitalisation of Operations & Maintenance

- M1 Advanced AR/VR and AI tools are developed & validated for several aspects of O&M
- M2 Advanced digital tools are fully implemented into O&M workflow for better performance overall
- M3 Climate (Change) resilience and advanced energy control systems are validated
- M4 Enhanced robotics for blade servicing and semi-automated inspections are in use
- M5 Offshore repair methodologies and autonomous vehicles for marine operations are advanced
- M6 Autonomous wind installation, O&M and decommissioning
- M7 Integration of Industrial IoT, cloud analytics, advanced communication technologies, and cybersecurity measures into safe operation
- M8 Holistic analysis of natural systems through advanced sensors and digitalization, and environmental data-driven spatial planning for human and ecological needs
- M9 Demonstration and qualification of major component replacement solutions onshore and offshore, including floating wind
- M10 Quick connect/disconnect systems for mooring lines and inter-array cables are in place
- M11 Autonomous and digitalized port operations with novel fuel alternatives

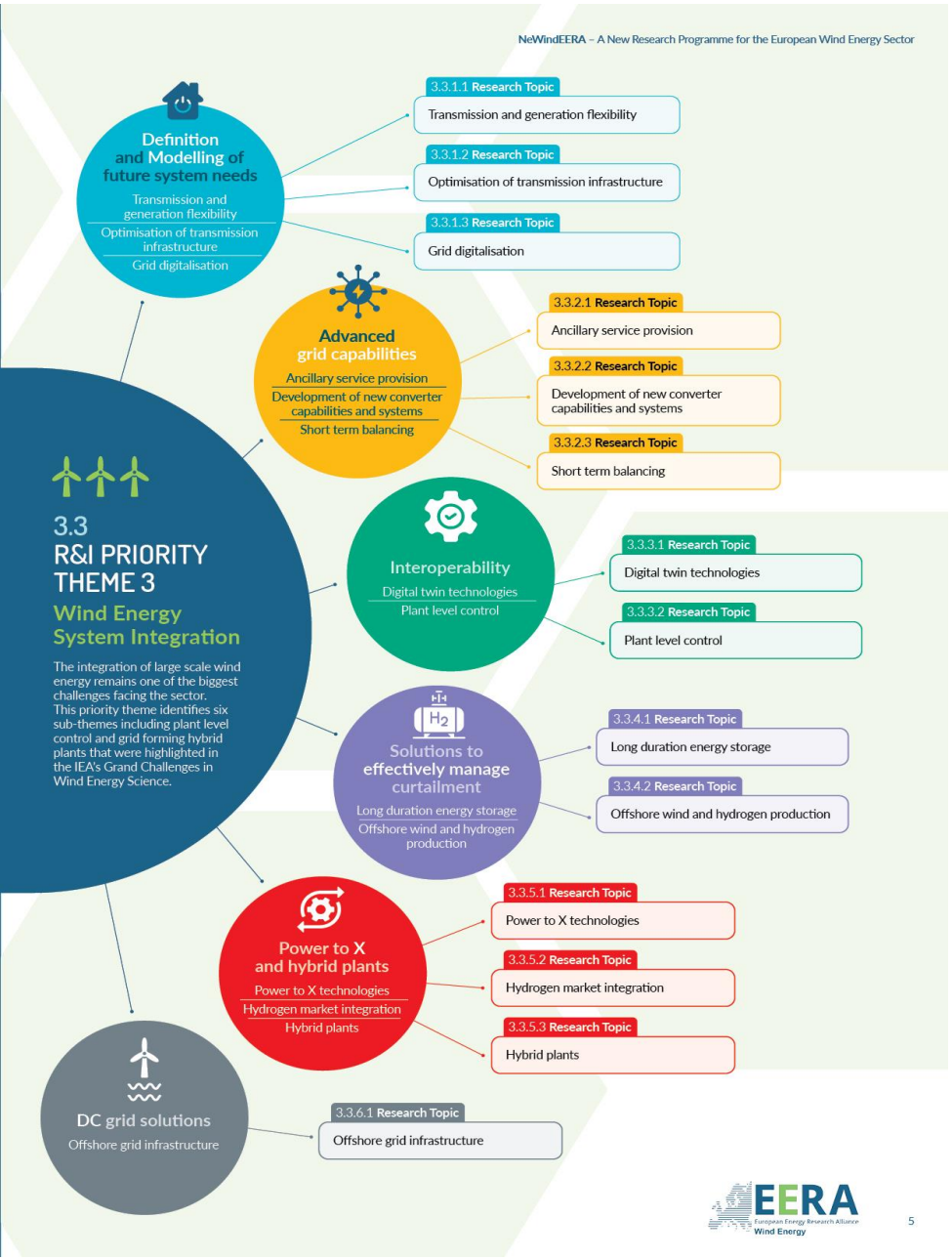
TIMELINE



Theme 2 – Optimisation and further digitalisation of Operations & Maintenance



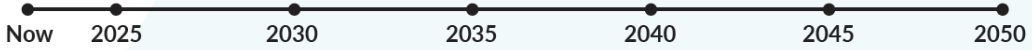
Wind Energy System Integration



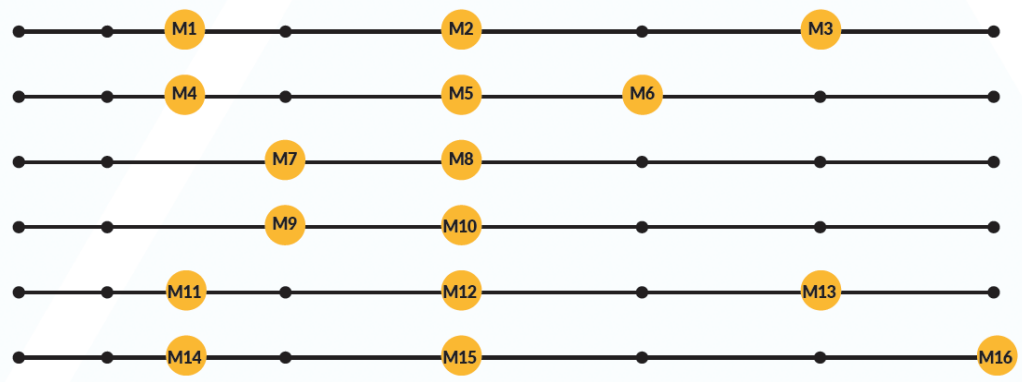
Theme 3 – Wind Energy System Integration

- M1 Next generation modelling tools developed
- M2 Grid digitalisation widely implemented
- M3 Transmission infrastructure fully optimised
- M4 Refined ancillary service provision achieved
- M5 New converter capabilities implemented
- M6 Robust enhanced grid services established
- M7 Plant level control demonstrated
- M8 Digital twin technologies fully established
- M9 Offshore wind/hydrogen production demonstrated
- M10 Long duration energy storage implemented
- M11 Early power to X technologies demonstrated
- M12 Hydrogen market integration established
- M13 Hybrid plants fully realised
- M14 Planning & optimisation tools developed
- M15 Energy hub/island demonstrators established
- M16 DC grid network fully implemented

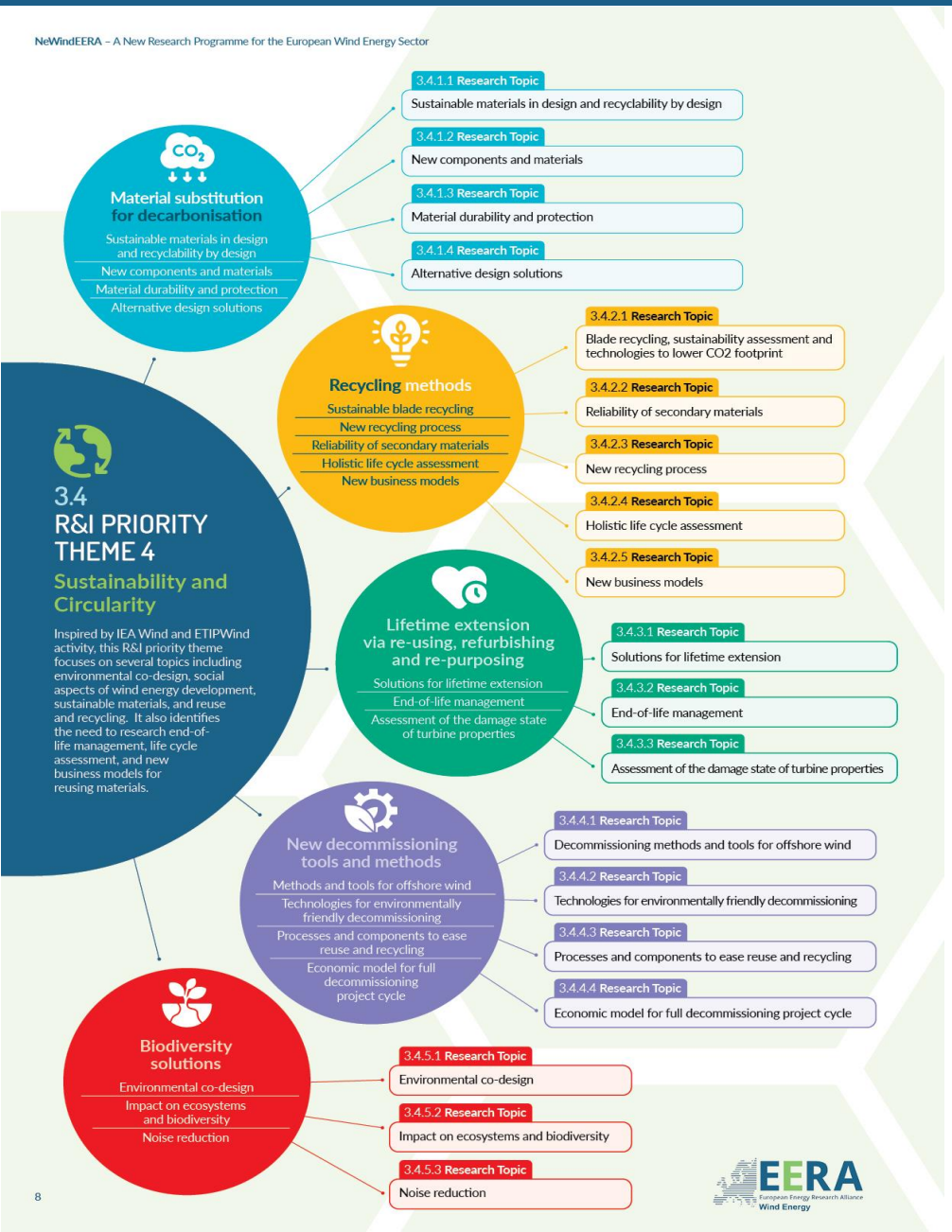
TIMELINE



Theme 3 – Wind Energy System Integration



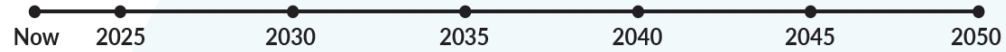
Sustainability & Circularity



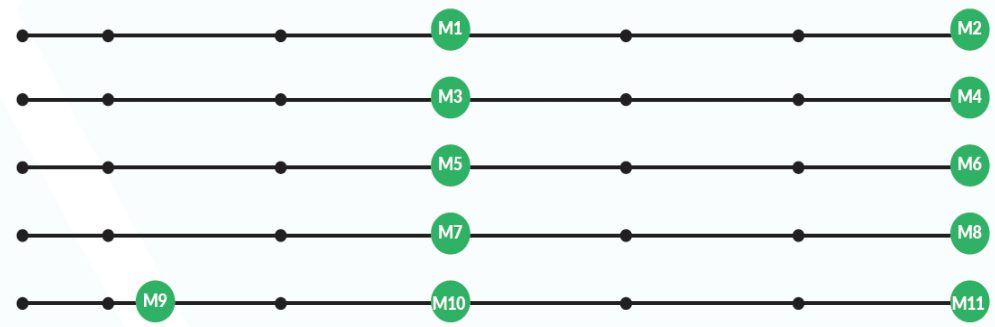
Theme 4 – Sustainability and Circularity

- **M1** Validation of blades with new materials and more circular coatings
- **M2** Validation of new concept of WT with new materials
- **M3** Maximize the benefits of material at the end of life
- **M4** 100% wind turbine recyclability with the lowest CO2 footprint
- **M5** LCA of all the influences among WT and environmental processes
- **M6** Quasi-Zero environmental co-design WT procedure
- **M7** LCA methodology
- **M8** Digital twinning and use of AI fully established
- **M9** New methods and tools for offshore wind
- **M10** Economic model for full decommissioning project
- **M11** New technologies for effective and environmentally friendly decommissioning

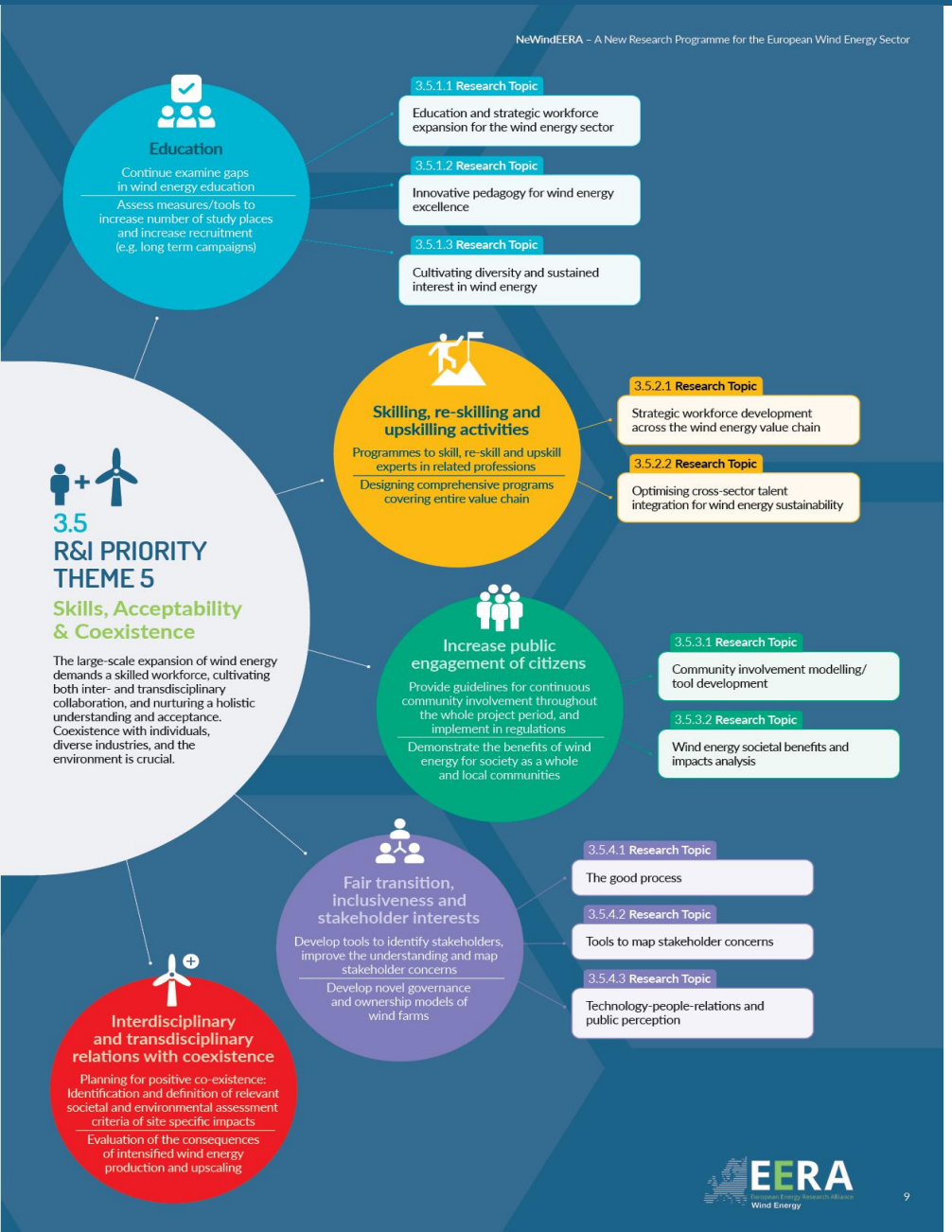
TIMELINE



Theme 4 – Sustainability and Circularity



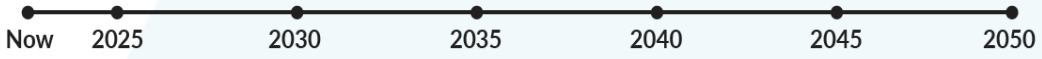
Skills and Co-existence



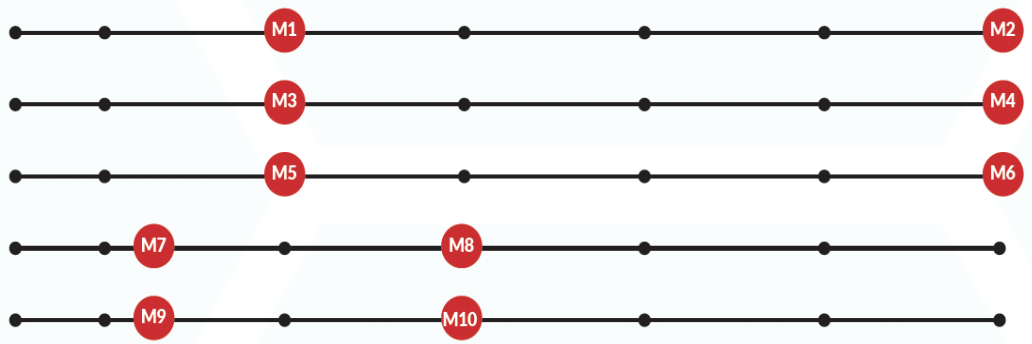
Theme 5 – Skills, Acceptability & Coexistence

- M1 Establish a robust interdisciplinary wind energy education framework
- M2 Achieve industry-wide continuous learning, fostering adaptability and sustainable expertise
- M3 Establish comprehensive wind energy skilling programs for diverse competences.
- M4 Majority of professionals in the sector have received ongoing skilling, re-skilling, and upskilling
- M5 Pilot projects with enhanced community involvement established
- M6 All European wind project developments follow good practices of community involvement
- M7 Governance models developed
- M8 Implementation and assessment of governance models in wind energy projects
- M9 Systematic method to identify relevant stakeholders and their (competing) interests in specific projects
- M10 Assessment criteria of balanced coexistence

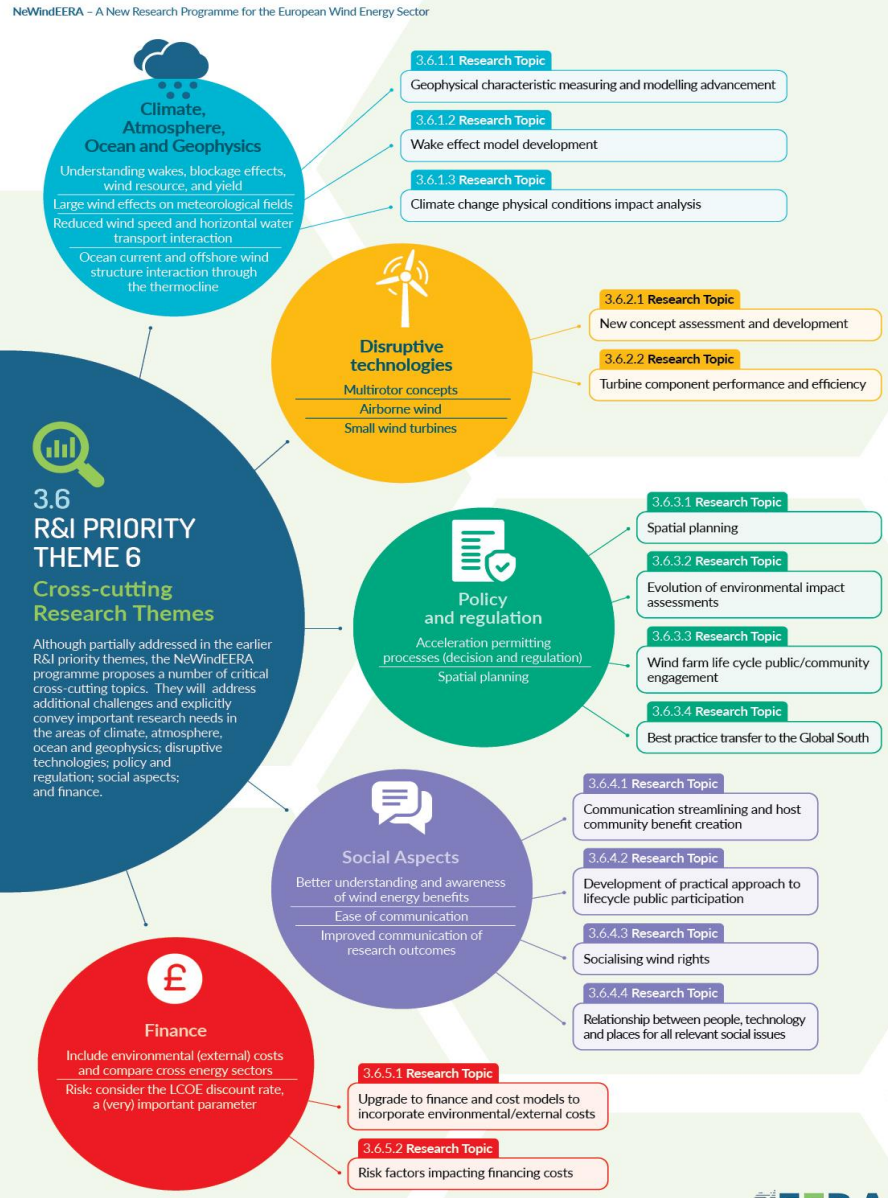
TIMELINE



Theme 5 – Skills, Acceptability & Coexistence



Cross-cutting themes



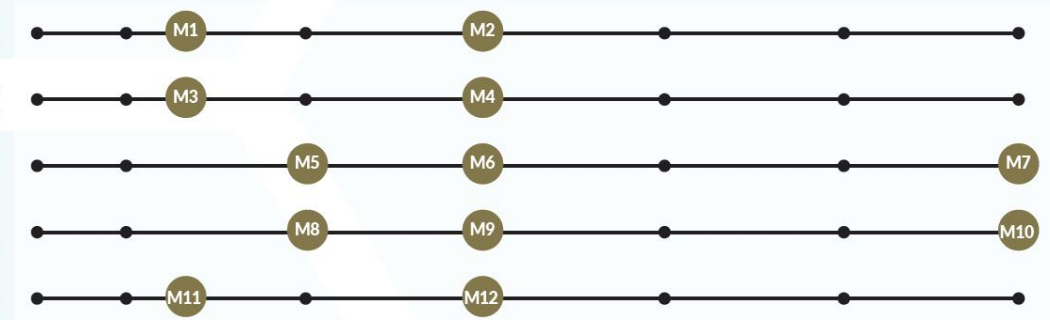
EERA European Energy Research Alliance Wind Energy

Theme 6 – Cross-cutting Research Themes

- M1 Accurate validated models of wind farm cluster wake effects
- M2 Comprehensive operational collaboration with weather and climate centres
- M3 "Watch-list" established on most promising disruptive technologies
- M4 Disruptive technology innovation validated
- M5 Experimental assessment of novel approaches
- M6 New engagement and assessment methods verified in different contexts
- M7 Regulatory implementation across Europe
- M8 Approaches for creating tangible benefits identified
- M9 New governance models assessed and developed
- M10 Regulatory implementation in all wind energy projects
- M11 Risk factors impacting financing costs understood
- M12 Updated finance and cost models fully implemented

TIMELINE

Theme 6 – Cross-cutting Research Themes



Timeline

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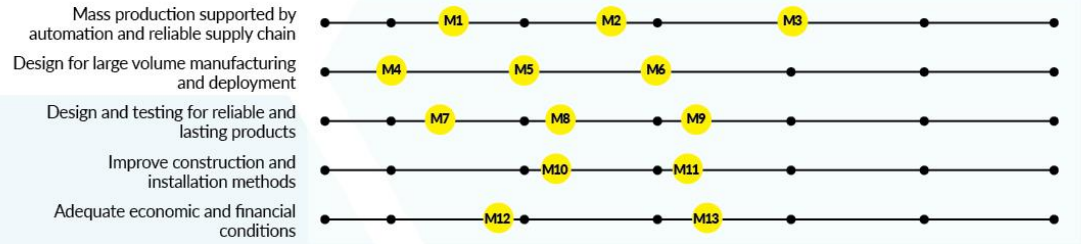
Wind Energy

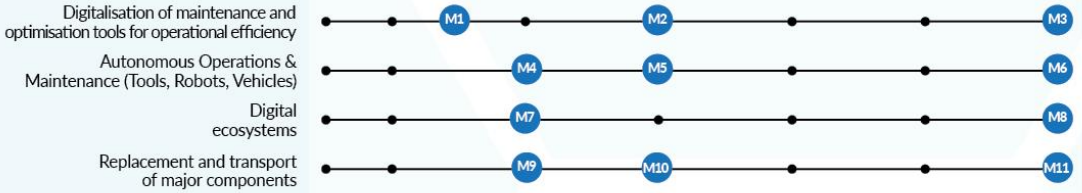
TIMELINE

Now 2025 2030 2035 2040 2045 2050

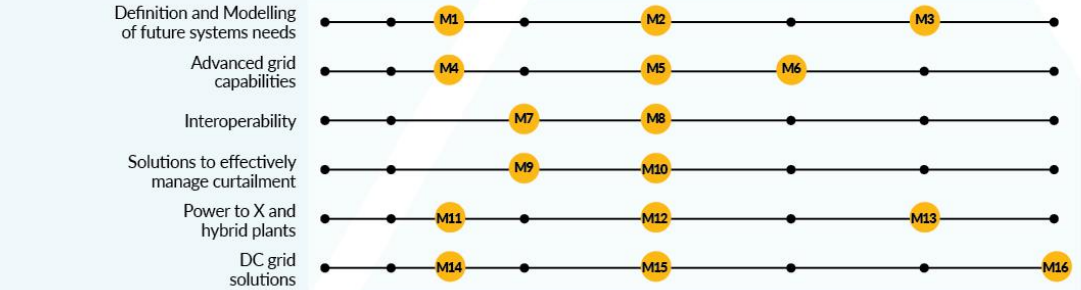
Theme 1 – Industrialisation, Scale-up and Competitiveness



Theme 2 – Optimisation and further digitalisation of Operations & Maintenance



Theme 3 – Wind Energy System Integration

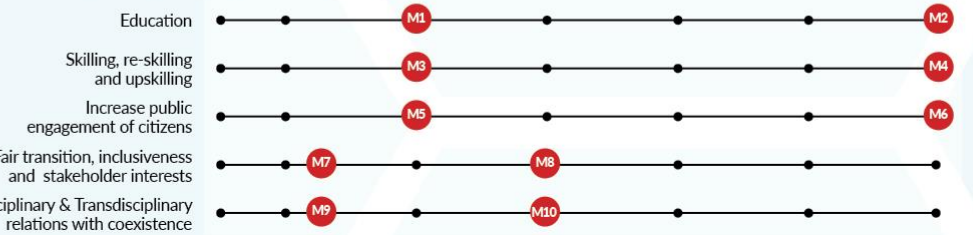


TIMELINE

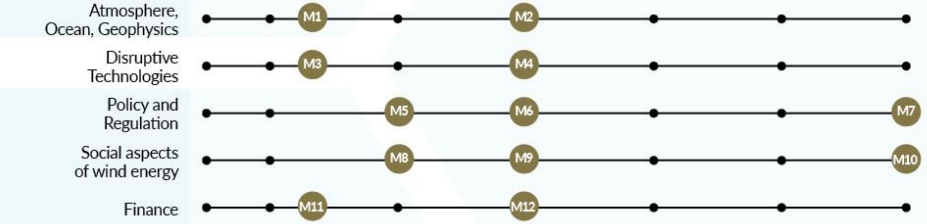
Now 2025 2030 2035 2040 2045 2050

Theme 4 – Sustainability and Circularity

Theme 5 – Skills, Acceptability & Coexistence



Theme 6 – Cross-cutting Research Themes



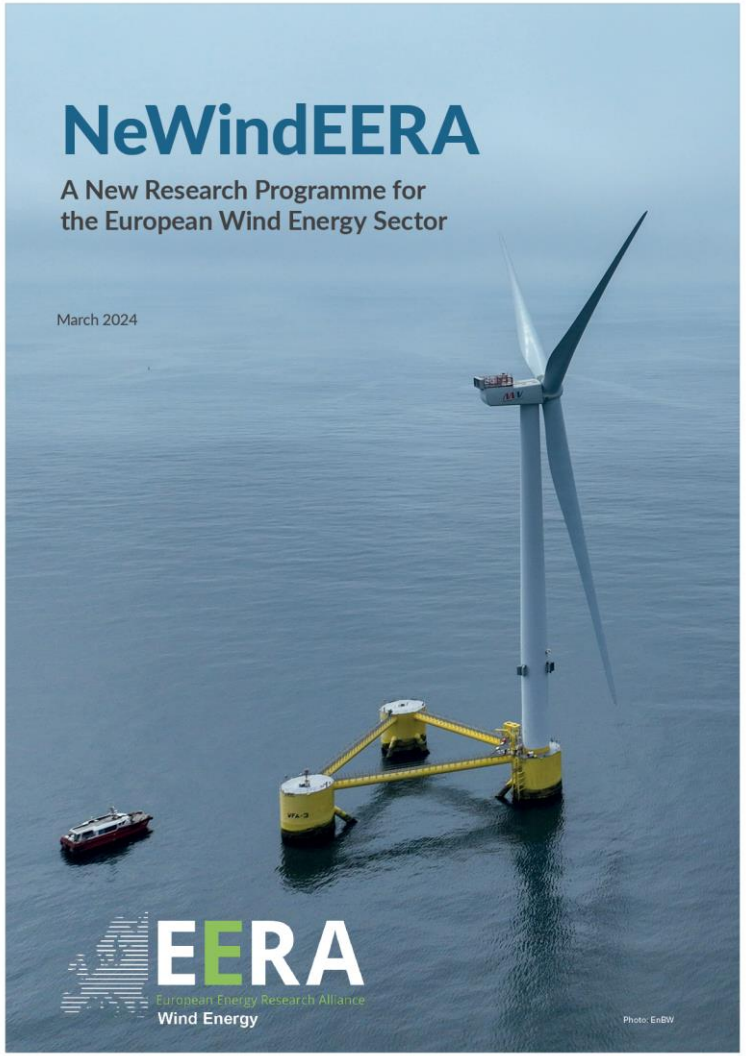
It is time to invest in wind energy research!

EERA
European Energy Research Alliance
Wind Energy

Wind energy research is more needed than ever

- To reach the volume of green electricity needed from now to 2050
- To keep short and long term European industry and research leadership

Now we know how wind energy research will take us there!



EERA
European Energy Research Alliance
Wind Energy

Thank you !

Strategic projects for wind energy

Why EU funded projects are worth it

etipwind.eu

The BLADES2BUILD project

- John Korsgaard, LM Wind Power

ETIP Wind
EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY

Funded by the European Union

Blades2Build project is funded by the European Union under the Grant Agreement no. 101096437. Views and opinions expressed in this presentation is the view of the author only.

THE POWER TO DELIVER

lmwindpower.com

STRATEGIC PROJECTS FOR WIND ENERGY – WHY EU FUNDED PROJECTS ARE WORTH IT

ETIPWind CTOs + SC meeting - Bilbao - 20. March 2024

By John Korsgaard

LM WIND POWER

ETIPWind Roadmap (Nov. 2019) vs. HORIZON-CL5-2022-D3-01

ETIPWind Roadmap – Next generation technologies

Recommended research actions

- Development of financial model for recycling of wind turbine blades.
- Assessment of different methods of recycling of wind turbine blades according to developed financial model.
- Demonstration of industrialised recycling of wind turbine blades scalable to the coming volumes of end-of-life blades.
- Demonstration of re-use of materials from recycled blades.

Milestones

- Industrial scale demonstration facility of composite waste recycling dedicated to wind turbine blades by 2022.
- Cross-sectoral pilot project on the re-use of recycled composite materials from wind turbines by 2024.

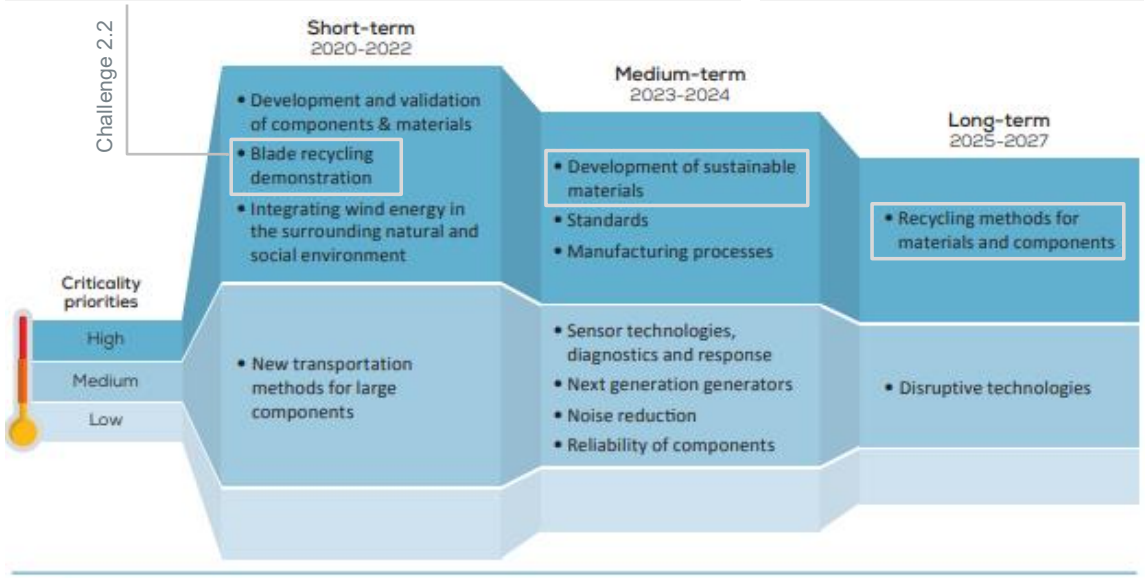


Figure 1 Research & Innovation action areas for next generation technologies

HORIZON-CL5-2022-D3-01-02: Demonstration of innovative materials, supply cycles, recycling technologies to increase the overall circularity of wind energy technology and to reduce the primary use of critical raw materials (14-10-2021/26-04-2022)

The proposal is expected to address one of the following activity areas:

1. On the development of large-scale industrial demonstration of composite material recycling technologies to increase the circularity of wind technology, proposals are expected to demonstrate recycling technologies at large-scale in an operating environment. The proposed solution will be a flexible production line, able to deal with a large amount of material (including, for example, coatings, paints, etc.) and applicable to several manufacturers and possibly to other sectors. The proposed solution should also have a long-term plan, with a business plan, beyond the life of the project. The proposals will also build a knowledge hub within the sector and with other sectors to transfer information and to promote recycling in the renewable energy sector and 'circularity by design' as a solution.

REFRESH

Partners:	11
Total:	€15,52M
EU:	€11,46M
Start:	01-01-2023
End:	31-12-2026

EoLO HUBS

Partners:	15 + 3 = 18
Total:	€12,09M
EU:	€9,99M
Start:	01-01-2023
End:	31-12-2026

BLADES2BUILD

Partners:	14
Total:	€15,49M
EU:	€12,36M
Start:	01-01-2023
End:	31-12-2025

BLADES2BUILD: Recycle, repurpose and reuse end-of-life wind blade composites – a coupled pre- and co-processing demonstration plant

Project facts and concept

Call: HORIZON-CL5-2022-D3-01: Sustainable, secure and competitive energy supply (14-10-2021/26-04-2022)

Topic: HORIZON-CL5-2022-D3-01-02

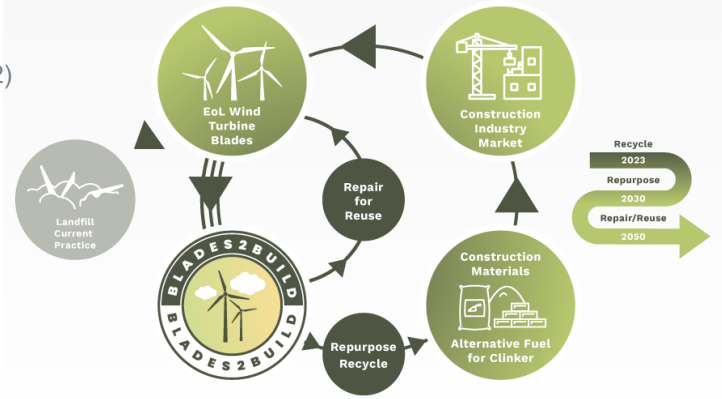
Funding rate: 70-100% (IA)

Start Date: 01-01-2023

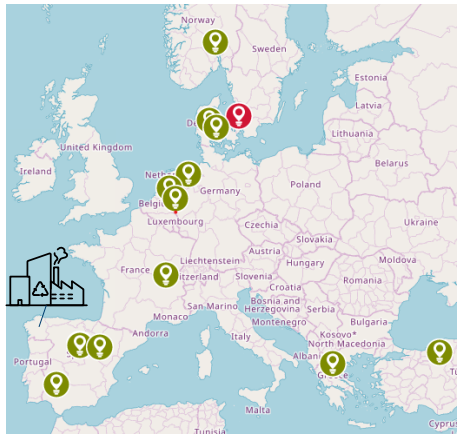
End Date: 31-12-2025 (36 months)

Total cost: €15,49M

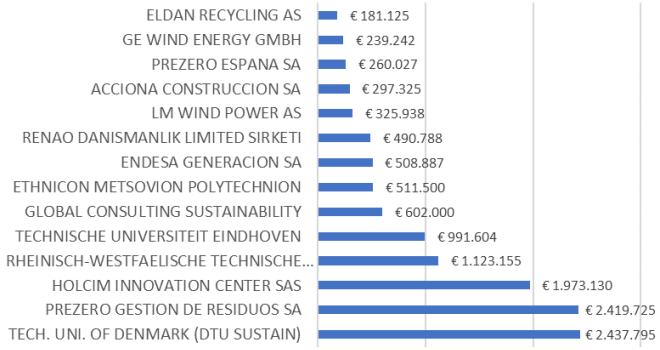
EU contribution: €12,36M



Project Partners and EU Contribution



EU Contribution: € 12.362.240



Project objectives

1. Identify, categorise materials, and create a flexible recycling road-map for end-of-life WTB (WP1)
2. Test EOL wind blades for downstream process recycling/repurpose/reuse (WP2)
3. Develop circular construction materials with the materials produced from the recycling (clinker) and repurpose (aggregate, fibres, or others) routes (WP3)
4. Achieve all the sustainability, engineering, and financial requirements to initiate the large-scale demonstration plant (WP4)
5. Demonstrate at TRL7 the pre-treatment of EOL wind blades to be used downstream in recycling and repurposing (WP5)
6. Develop a virtual Hub/platform to facilitate knowledge exchange and promote circularity within the wind energy sector and other sectors (at first automotive, naval) (WP6)
7. Project management (WP7)

Expected impact

1. BLADES2BUILD aims to transform wind power into a circular, zero-waste energy production enterprise.
   - **70% reduction of waste production by 2030**
   - **Zero-waste by 2050**
2. BLADES2BUILD stems from the need to make the wind energy industry sustainable in its resource consumption/disposal efficiency.
   - **90% decrease of landfill disposal by 2030**
   - **100% decrease by 2050**
3. BLADES2BUILD demonstrates at TRL7 a circular solution for end-of-life blades in Southern Europe, providing the first recycling station for Spain & local revenue prospect growth of at least 5%.

Blades2Build project is funded by the European Union under the Grant Agreement no. 101096437. Views and opinions expressed in this presentation is the view of the author only.

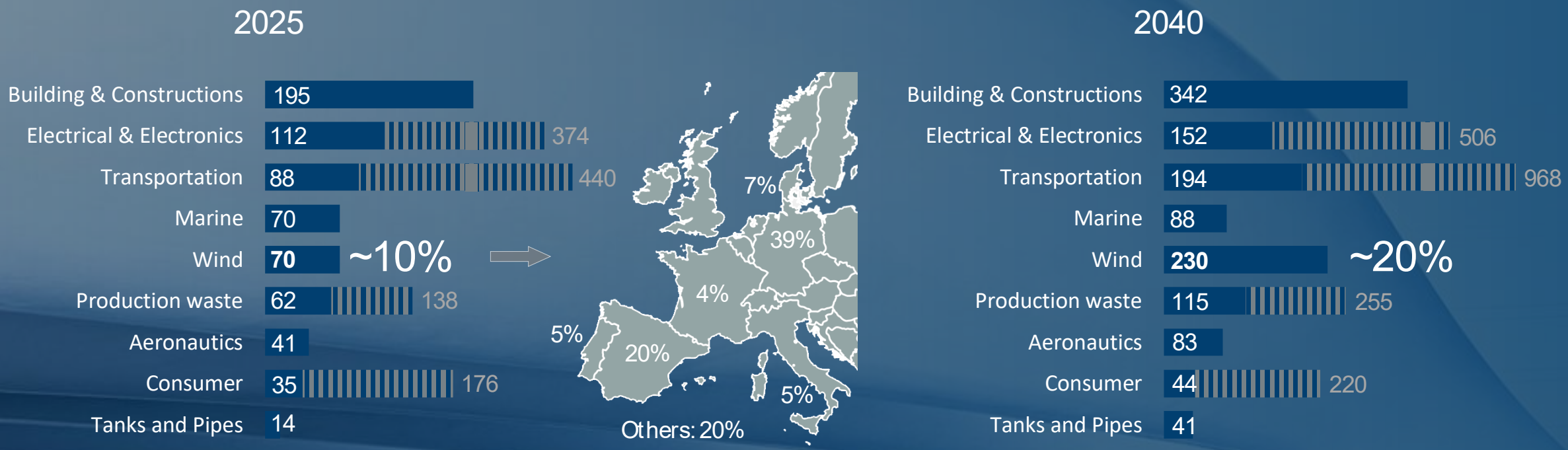
Composite waste is a cross sector challenge

Europe

Volume?

Estimated composite waste per sector (ktons)

Thermoset
Thermoplastic

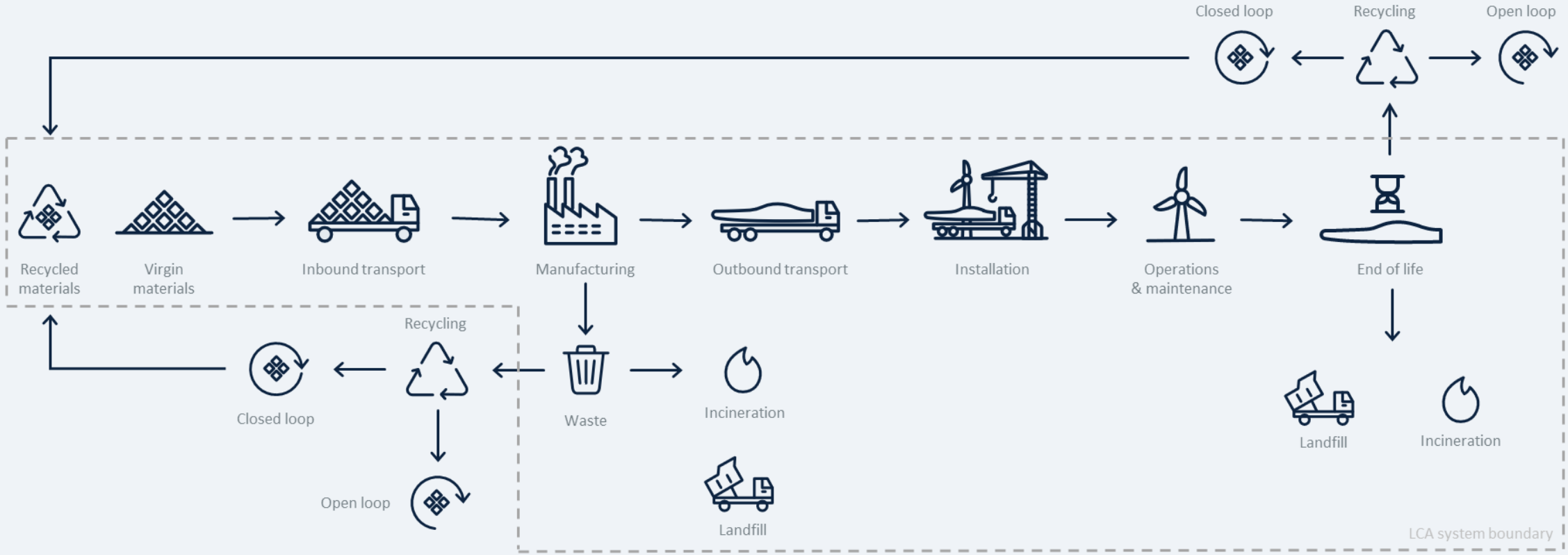


Decommissioned blades will represent an increasing part of the composite waste stream in Europe

LM WIND POWER

Data based on:
Wind Turbine Blade Waste in 2050 by Pu Liu – 2017
EuCIA report: Estimation of composite waste streams via GDP method by Ben Drogt, Version 4, February 2019

Enabling a circular economy



The InterOPERA project

- Hamza Kazmi, Ørsted

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Ørsted

InterOPERA

Enabling Offshore Grids of Tomorrow

A 70 mEur Horizon Europe project set to demonstrate Europe's first multi-vendor multi-terminal HVDC system by 2026

Syed Hamza Kazmi
Project Manager
Strategy & Innovation

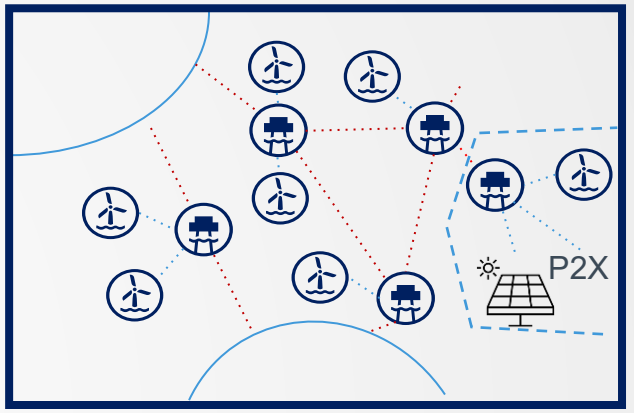
Context: Need for Multi terminal HVDC systems in Europe

EU objective: Develop & integrate **300 GW of offshore wind** in the European electricity system by **2050**

The offshore & onshore **transmission infrastructure** will be directly impacted.

Massive deployment of **offshore wind** in conjugation with increased **distributed generation**

Consequence: Development of **Multi-terminal offshore hubs** based on **HVDC** delivered by **multiple vendors**

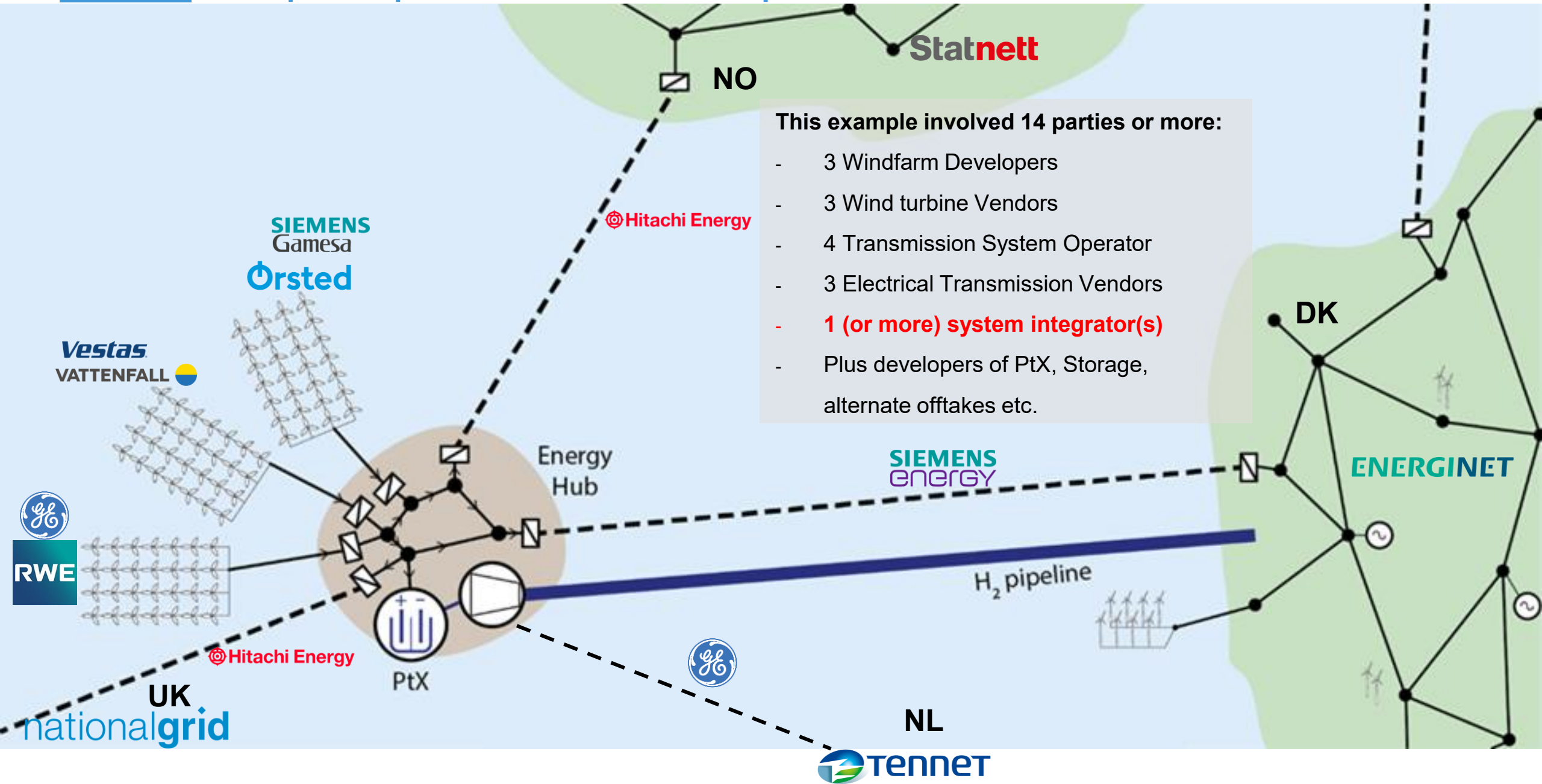


The upcoming situation:

Meshed offshore hubs & grids
(TSOs + Vendors + Developers)

Ørsted

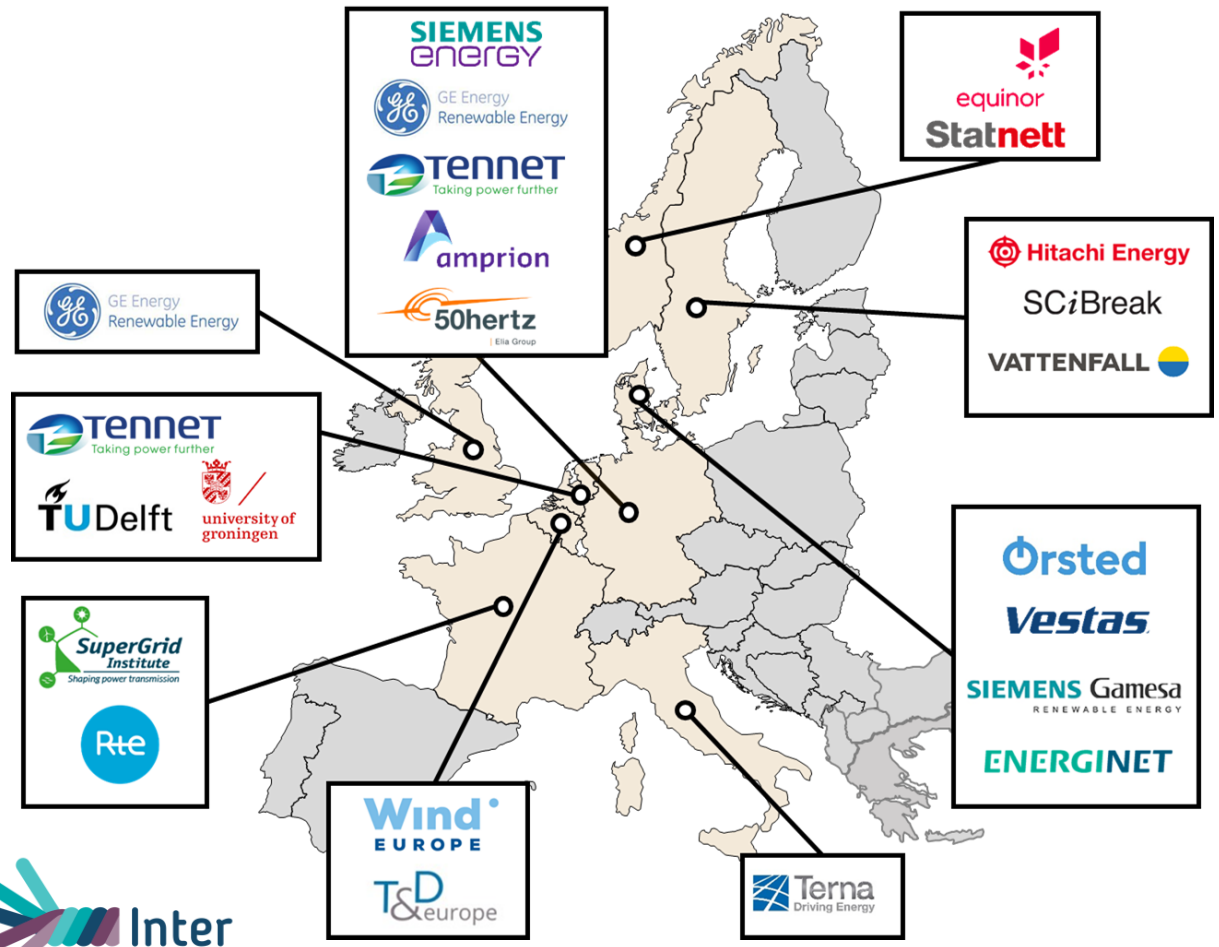
Building, operating & expanding Offshore Energy Islands and Offshore Meshed Transmission Systems will require unprecedented levels of cooperation and interaction



This example involved 14 parties or more:

- 3 Windfarm Developers
- 3 Wind turbine Vendors
- 4 Transmission System Operator
- 3 Electrical Transmission Vendors
- **1 (or more) system integrator(s)**
- Plus developers of PtX, Storage, alternate offtakes etc.

Project consortium



Inter OPERA
Enabling multi-vendor HVDC grids

InterOPERA in numbers:

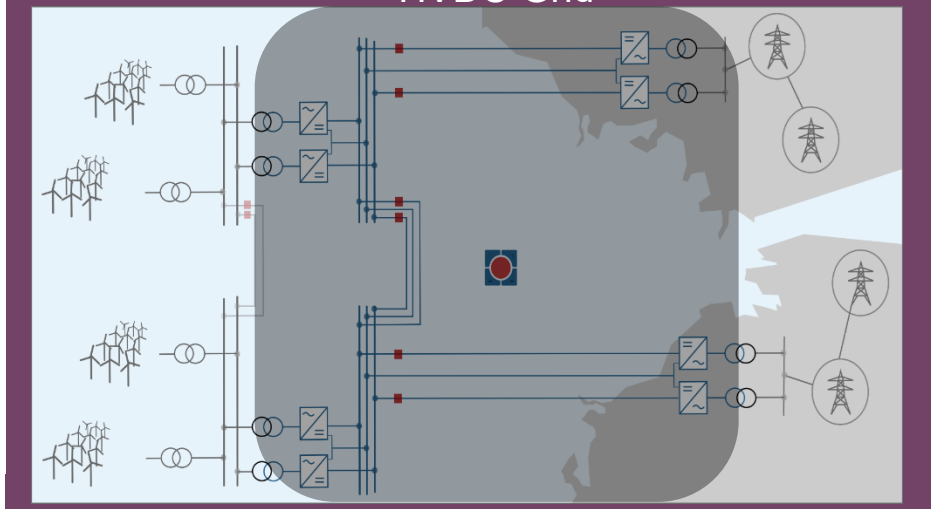
- 11 European countries
- 4 Year Commercial Scale Project (2023-26)
- >70 MEur of funding plus in-kind contributions
- 23 Organizations
  - Electrical HVDC Vendors
  - Wind Turbine Vendors
  - Transmission system operators
  - Windfarm Developers
  - Research Institutes
  - Test Labs
- 7 Work Packages, 2 Project Phases, 1 real-life demonstrator
- >200 Contributors

This project aims to transform the offshore HVDC industry in Europe

interopera.eu

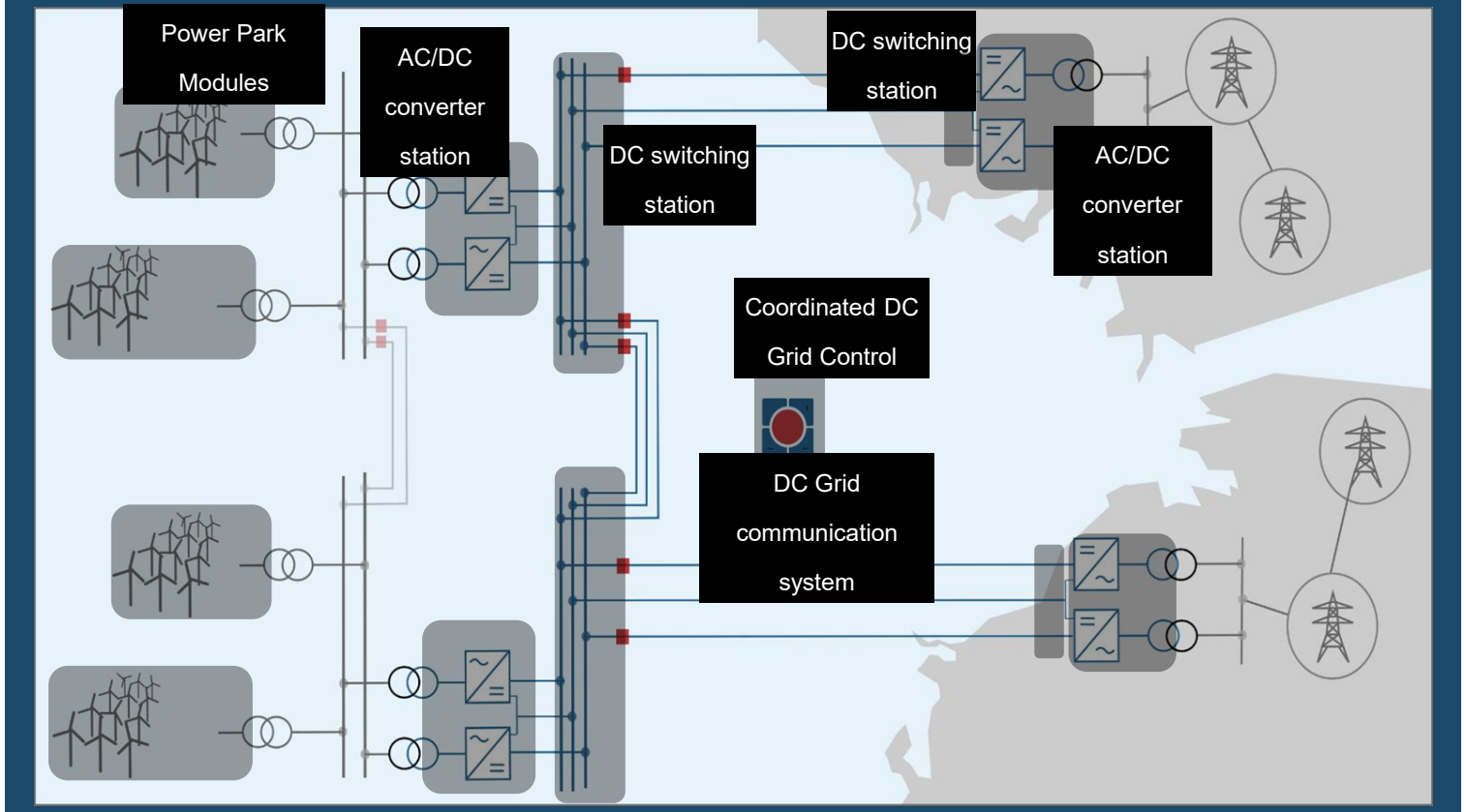
Key Objectives 1/3 : Make HVDC Grids Modular & Interoperable by design

Turnkey integrated
HVDC Grid



Monolithically structured technologies
incompatibility between different vendors

Today



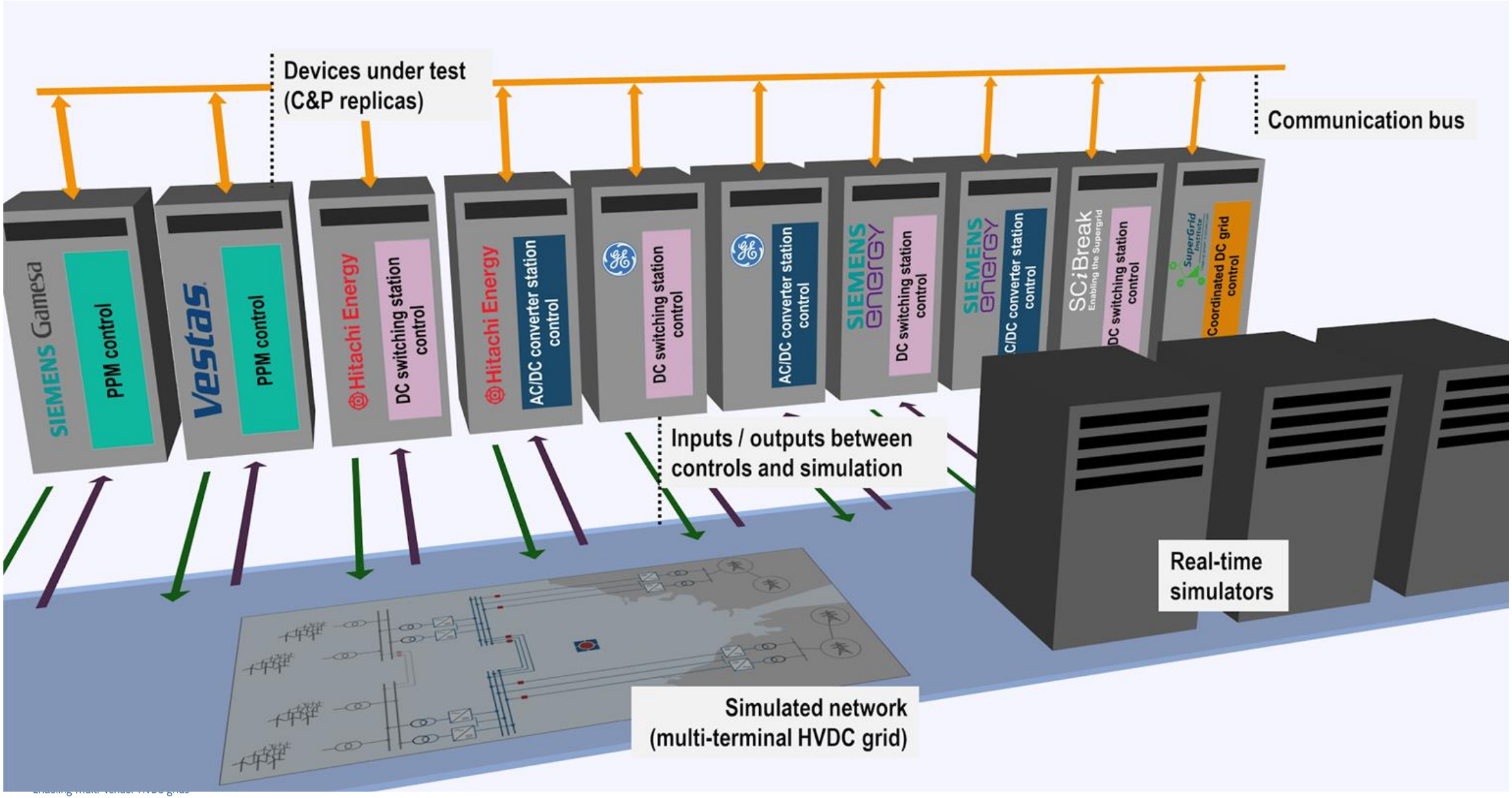
Modular HVDC building blocks with standard interfaces

Interoperability by design
Validated multi-vendor multi-terminal HVDC functional specs

Target

Inter OPERA
Enabling multi-vendor HVDC grids

Key Objectives 2/3 : Perform a real-time physical demonstrator

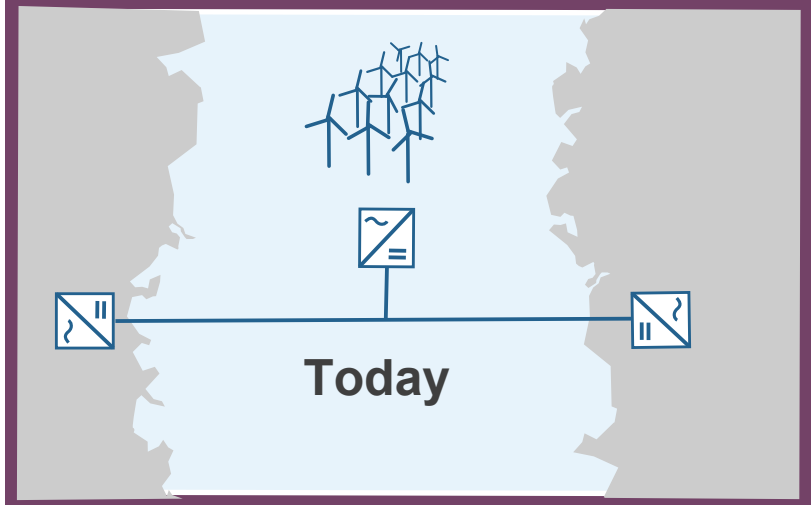


Key Objectives 3/3 : Pave the way for MVMT HVDC w. Future Expandability

2023 → 2025 → 2027

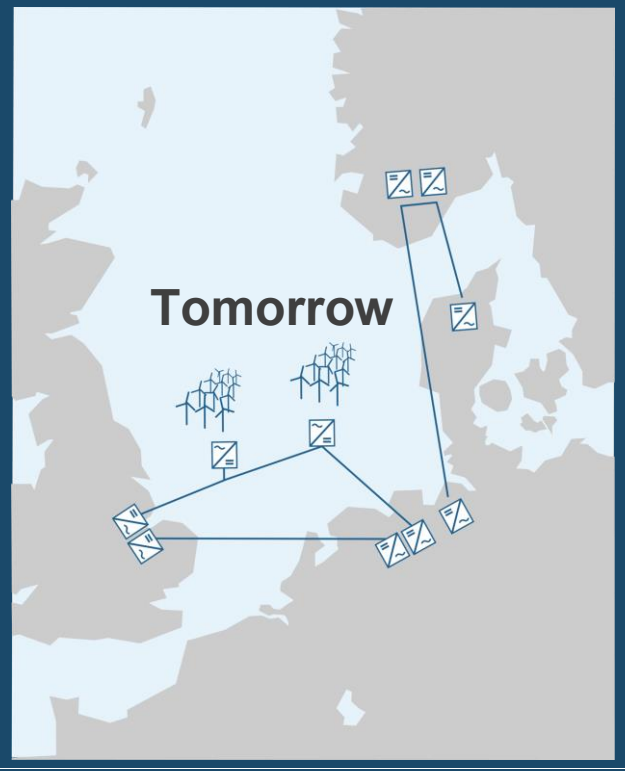
Forward-looking offshore grid design – Demonstrator definition and guidance for coordinated HVDC system planning

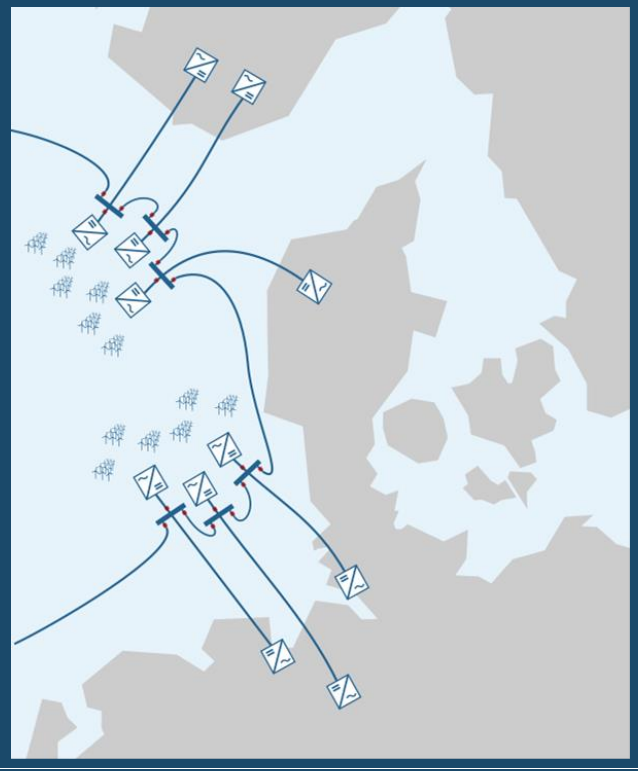
Usable procurement documents, tender processes & governance frameworks



First single-vendor hybrid multi-terminal HVDC links

Expandability hindered by lack of coordination in power system planning





Offshore grid expansion enabled by sufficient level of coordination in system planning - compatibility between HVDC projects

Thank you and please reach out!

Syed Hamza Kazmi

WP Leader

Ørsted

Lead Governance and Cooperation in InterOPERA

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Ørsted

The ReaLCOE project

- Lorena Perez Redondas, GE Vernova *(remotely)*

REALCOE – PARTNERING FOR INNOVATION

- **RealCoE – Driving technology innovation to move offshore wind industry forward**
- Offshore wind industry enters a reset – **Right turbine at the right time**
  - *Proven Performance*
  - *Impressive features*
  - *Even more Energy*
- **Haliade-250 – GE Vernova's next generation workhorse turbine**

Questions?

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Discussion

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Time to share your thoughts!

Please use Slido.com to answer to the questions

Join at

slido.com

#ETIPWind

ETIP Wind

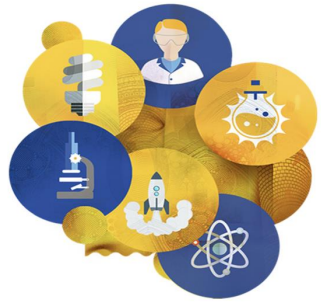
EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY

Next steps & Conclusion

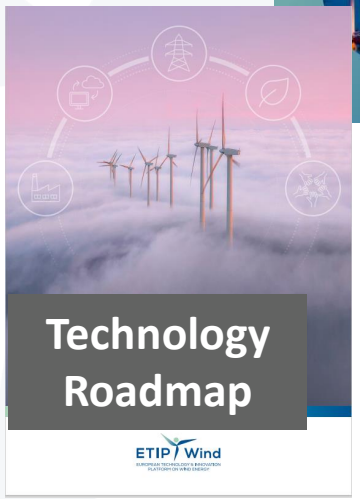
Adrian Timbus
Vice President Portfolio and Market Strategy, Hitachi Energy
ETIPWind Chair

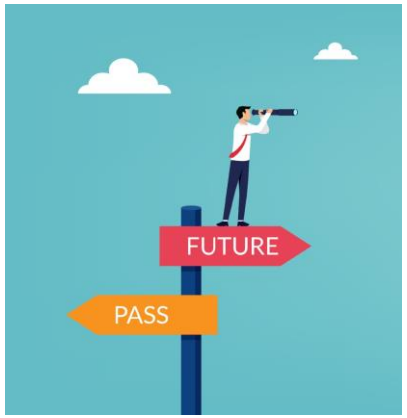
Next steps

- **Advocacy R&I priorities 2025-2027** (Horizon Europe, other EU funding programmes, national governments) – **until September 2024**
- **Dissemination of the wind industry's priorities** (communication campaigns, external events) - **continuous**
- **Elaboration of the Technology Roadmap 2028-2032** – **starting from September 2024**
- **Discussion on the future of ETIPWind** – **from now until December 2024**



HORIZON EUROPE





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THANK YOU

Contact: secretariat@etipwind.eu

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Join us at WindEurope's stand for the opening reception! (starts at 18:00)

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