

PARLIAMENTARY BREAKFAST

FROM RESEARCH TO DEPLOYMENT OF
INNOVATIVE RENEWABLE ENERGY TECHNOLOGIES (IRETS):
POWERING EUROPE'S COMPETITIVENESS THROUGH THE NEXT MFF

Airborne Wind Europe 

 EUREC

 FCA
Future
Cleantech
Architects

 ETIP Wind
EUROPEAN TECHNOLOGY & INNOVATION
PLATFORM ON WIND ENERGY

HOSTED BY:



**NICOLÁS
GONZÁLEZ
CASARES**

S&D MEP



13 MAY



08:00 - 09:00
(WELCOME 07:45)



ASP 00 G MEP Salon des Députés (TBC)
EUROPEAN PARLIAMENT
BRUSSELS

AGENDA

08:00 – 08:05 Opening Remarks by MEP Thomas Pellerin-Carlin

08:05 – 08:10 Setting the Scene: What's at Stake for innovative renewables in Europe by Future Cleantech Architects

08:10 – 08:20 EU Support for iRETs: Current Actions and Future Perspectives by Mr. Patrick Brenier, Advisor for the European Research Area and open science at European Commission - DG RTD, and Ms. Paula Rey Garcia, Deputy Head of Unit for Renewables and Energy System Integration Policy – DG Energy

08:20 – 08:40 The EU Potential of Innovative Renewable Technologies

- Airborne Wind Energy – Kristian Petrick, Airborne Wind Europe
- ETIP Wind – Capucine Vannoorenberghe, Wind Europe
- Geothermal – Sanjeev Kumar, European Geothermal Energy Council
- Ocean Energy - Soenke Jordan, Ocean Energy Europe
- PV – Greg Arrowsmith, EUREC

08:40 – 08:55 Roundtable Discussion with Members of the European Parliament and audience participation

08:55 – 09:00 Closing Remarks by MEP Nicolás González Casares
Invitation to the Kite Exhibition by Airborne Wind Europe

Innovative renewable technologies

What is at stake for Europe

Brussels, 13th of May 2025

What we do

Our mission:

Closing the toughest innovation gaps in hard-to-abate sectors.

Our principles:

- Non-profit.
- Independent.
- Science-based.



Marlène Siméon

Head of EU Policy

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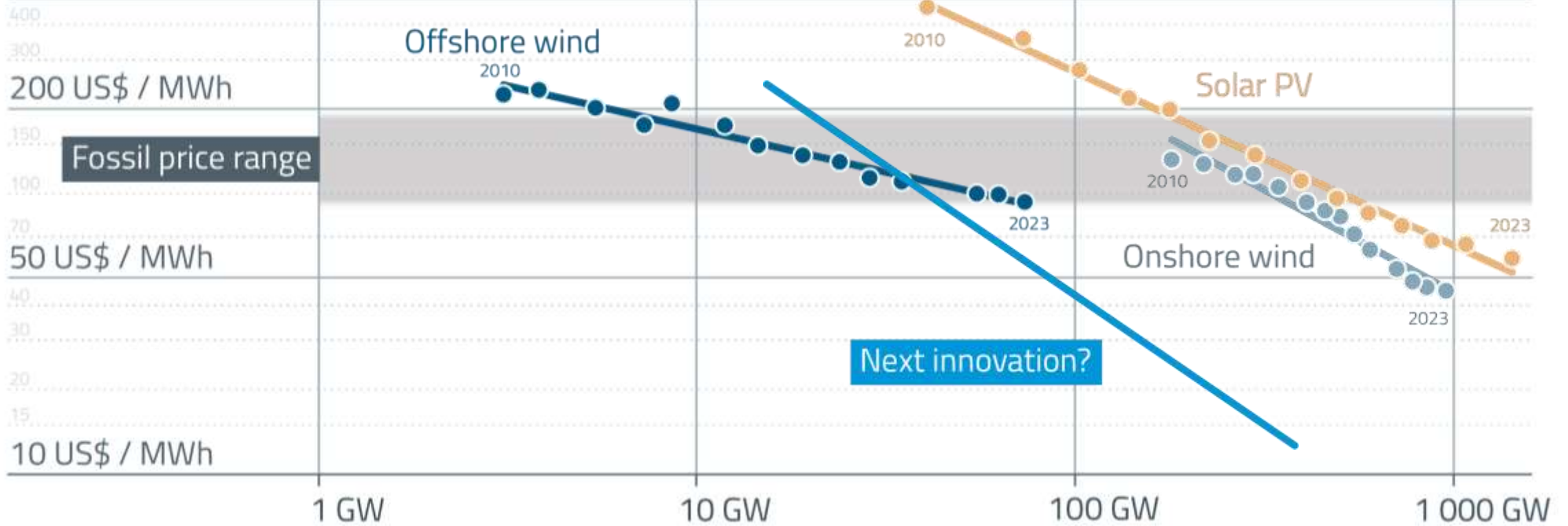
Future
Cleantech
Architects

Renewables: The cheapest electricity of all times

Levelized cost of electricity

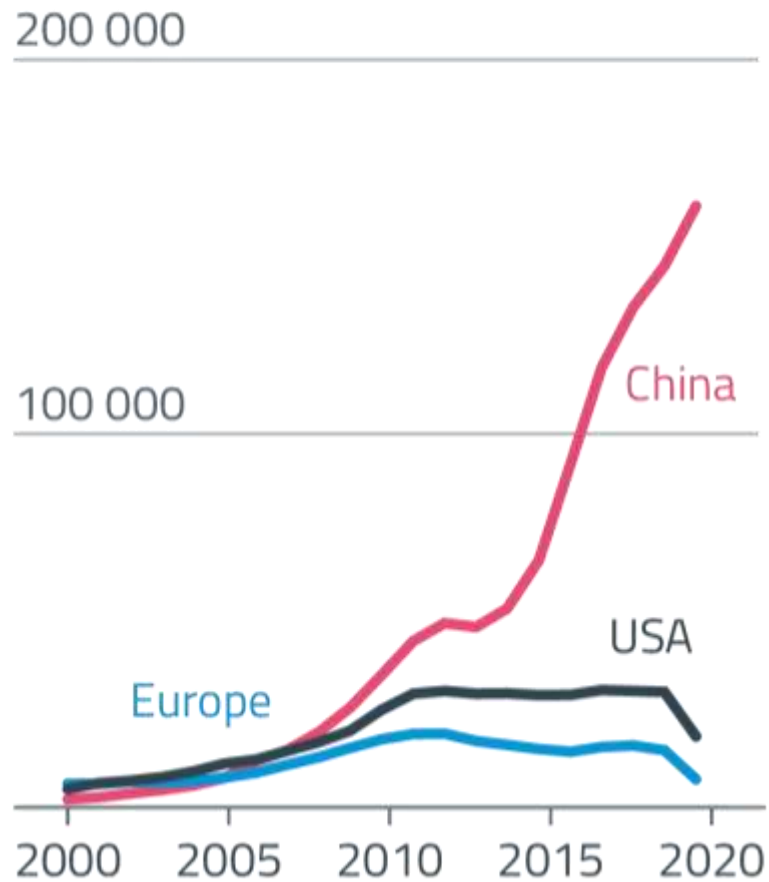
World average

500 US\$ / MWh

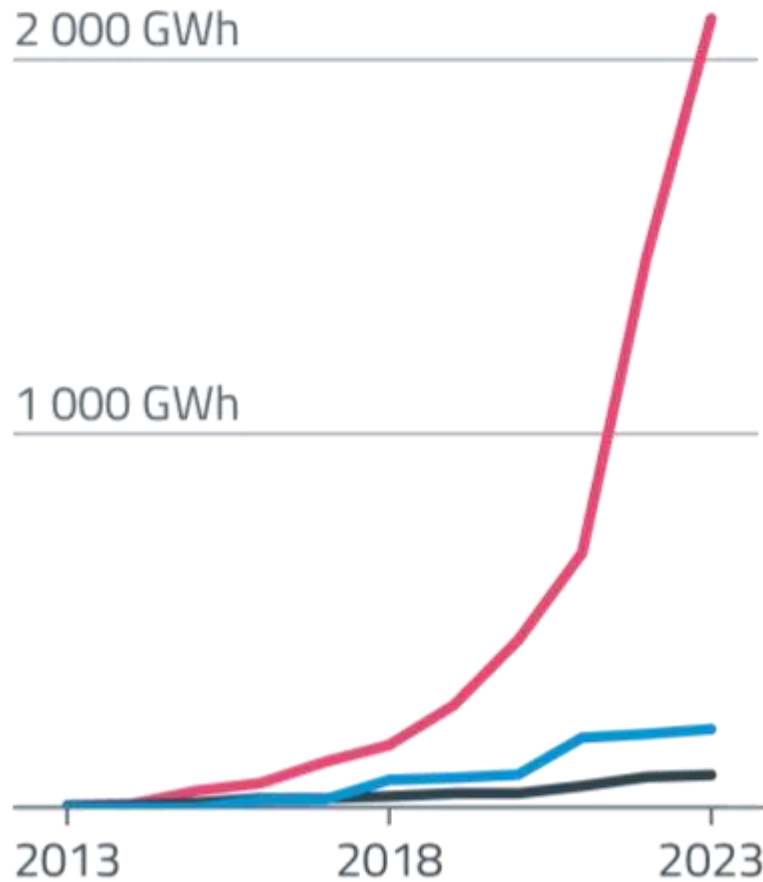


Why innovative renewables? – Dependency vs. competitiveness

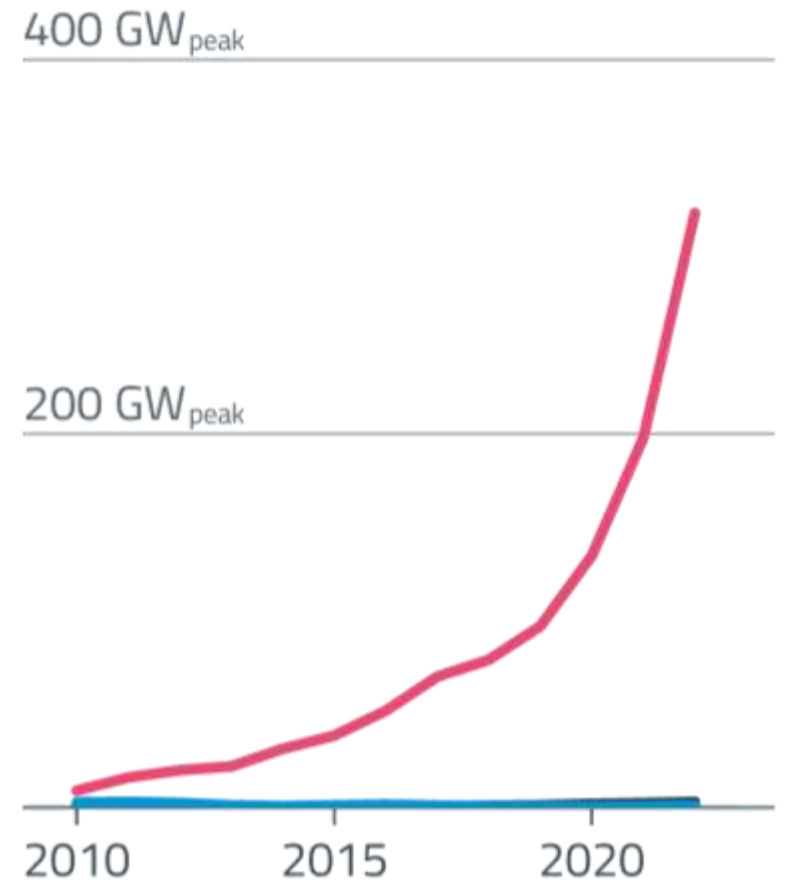
Cleantech patents



Battery manufacturing capacity



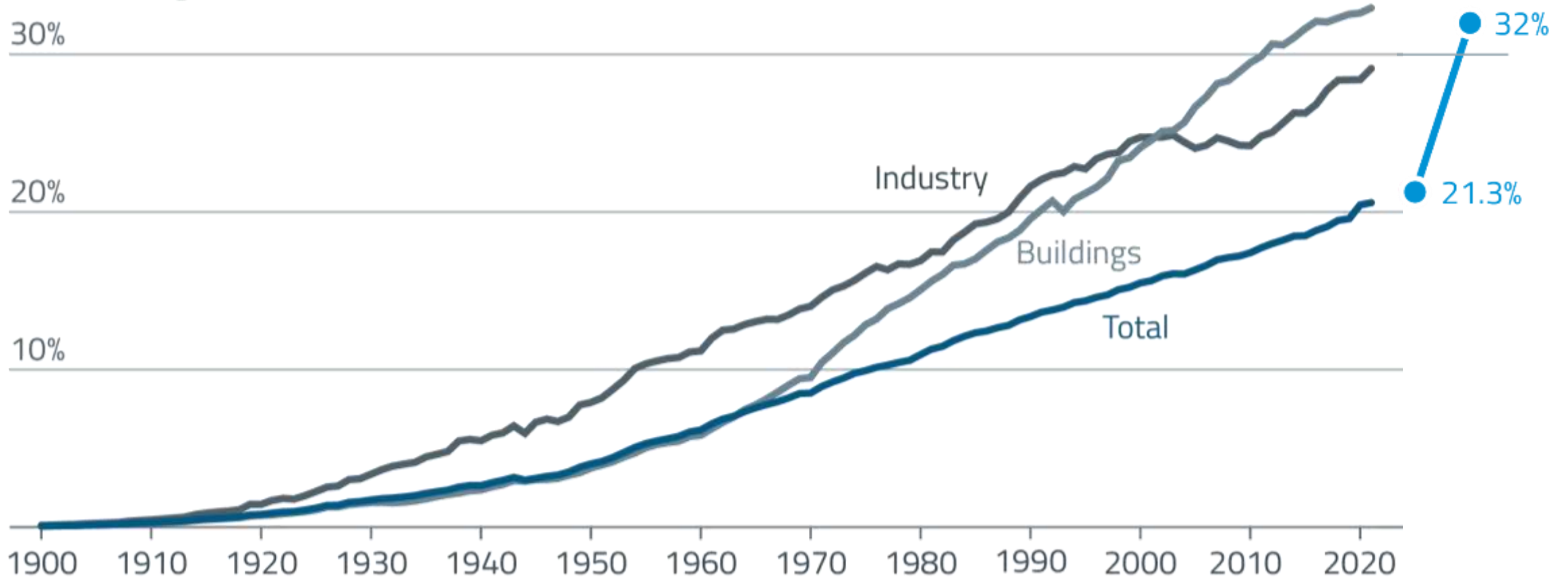
Annual solar PV production



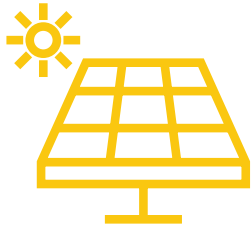
Why innovative renewables? – Modernization is electrification

Electricity as share of final energy demand
World average

EU electrification KPI



What is 'innovative'? – Capacity factors & complementarity



Higher output:

*Panel efficiency
from 20% to 26%*



More consistent supply:

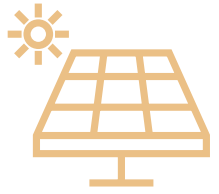
*Wind capacity factor
from 30% to 50%*



Matching other renewables:

*Flexible geothermal output
with integrated storage*

What is 'innovative'?



Solar



Geothermal

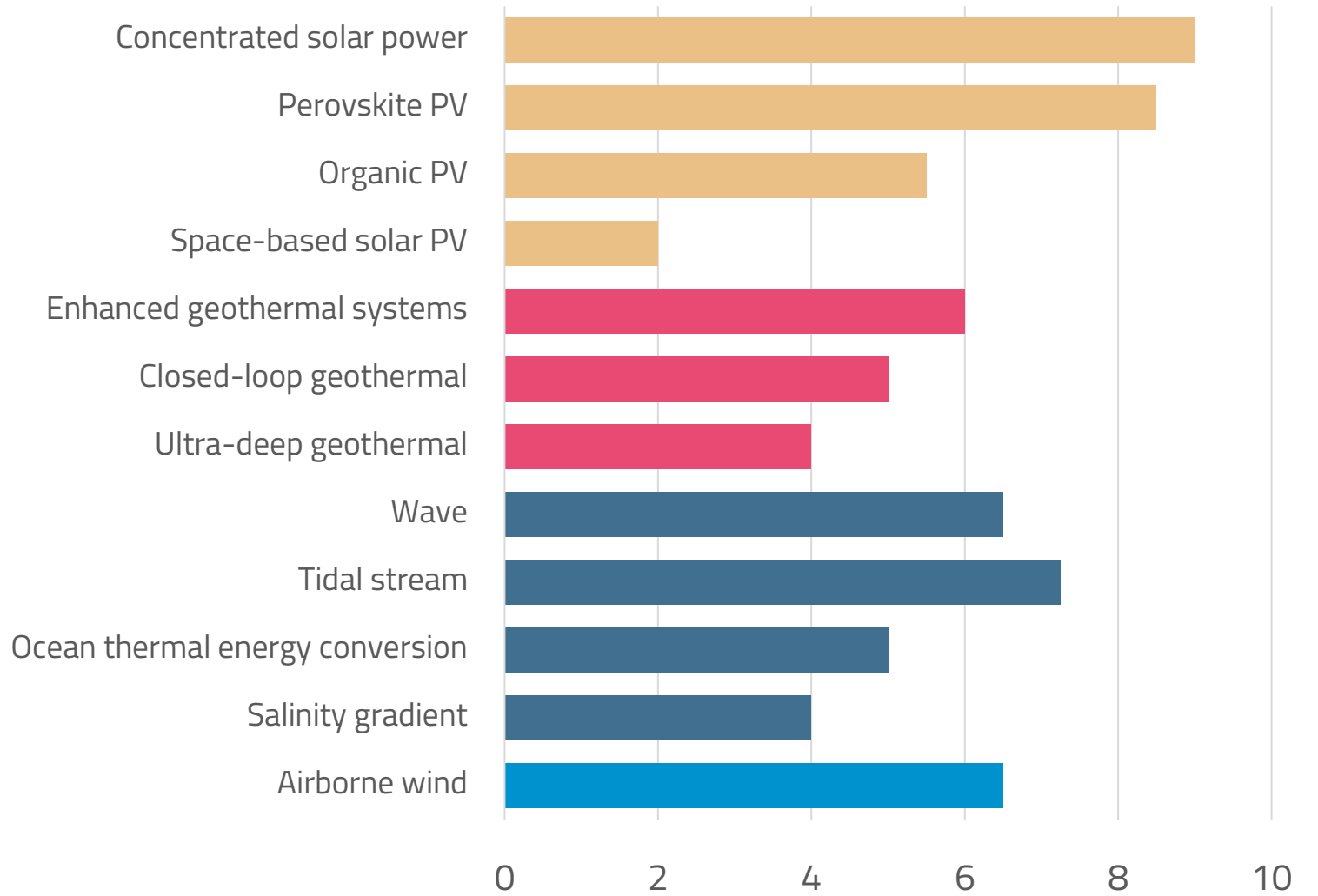


Ocean

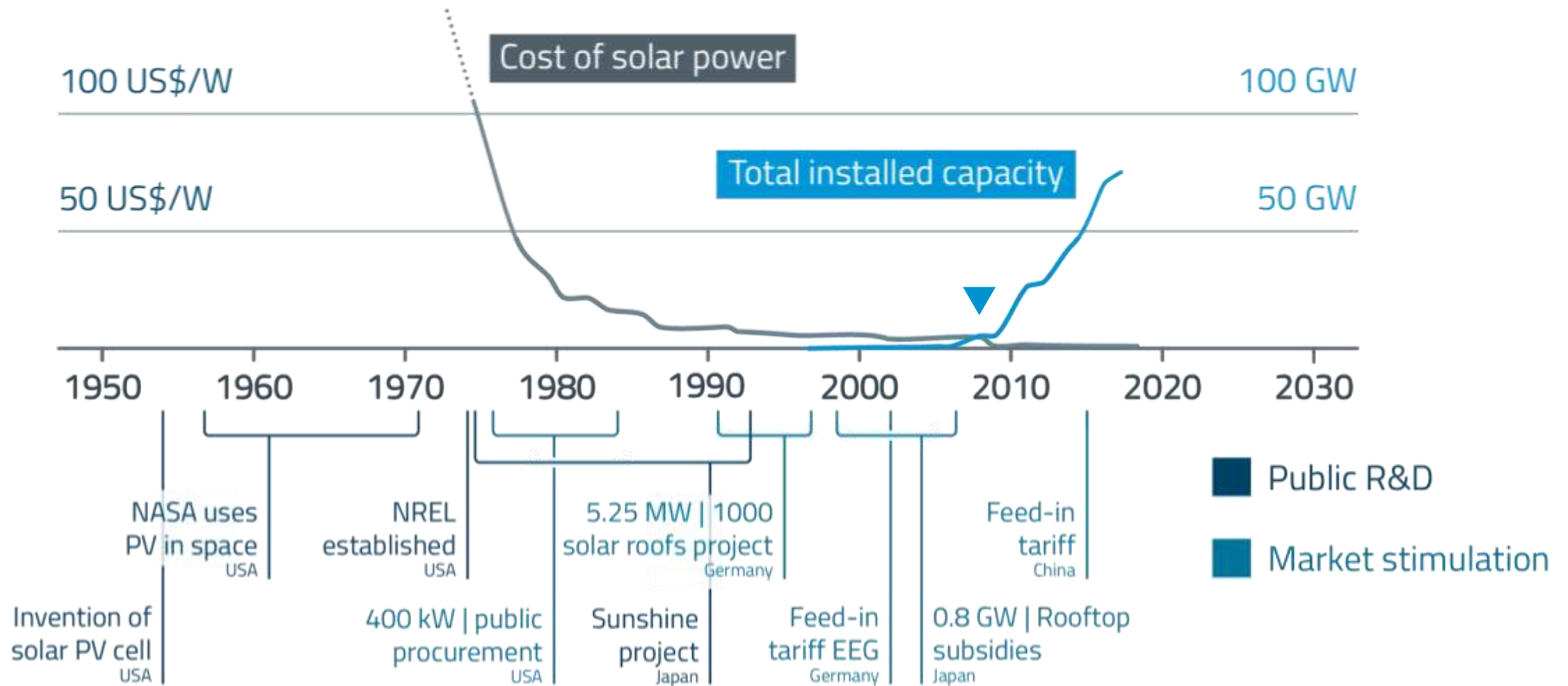


Wind

Technology readiness



Lessons from solar: Target techno-economic tipping points



Achievements and next steps

5% of new installed capacity must be innovative under REDIII

Include innovative renewables into:

- the upcoming EU electrification Action Plan
- the 2028-2034 EU research and innovation program
- the future EU 2040 target



RED I (2009)
20% renewable energy share by 2020

RED II (2018)
32% renewable energy share by 2030

RED III (2023)

- Agreement to raise 2030 target to 42.5%
- **5% of new installed capacity for innovative tech**



Airborne Wind Energy for Europe

Comments from the Airborne Wind Energy sector



Funded by the
European Union

Airborne Wind Europe 

Parliamentary Breakfast

13 May 2025

Kristian Petrick

Secretary General, Airborne Wind Europe

Interreg  Co-funded by
the European Union
North-West Europe

DEM-AWE



 **MERIDIONAL**



iea wind

Task 48

Airborne Wind Europe – members and collaboration

Airborne Wind Europe

Members and collaborators include: SkySails Power, KiteMill, EnerKite, KitePower, CT, TU Delft, Universidad Carlos III de Madrid, Universiteit Gent, Politecnico Milano 1863, KITE//KRAFT, SOMEAWE, KITEDYNAMICS, uc3m, U.PORTO, TWINGTEC, wind fisher, kitenrg, Windswept, Dinef, HEADUP services, DTU, Universität Stuttgart, FSD, and RWTH Aachen University.

Member of:

Wind
EUROPE
MEMBER

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European Entrepreneurs

eawe
european academy of wind energy

CLEAN ENERGY
FOR EU ISLANDS

Alliance for
Rural
Electrification
Shining a Light for Progress

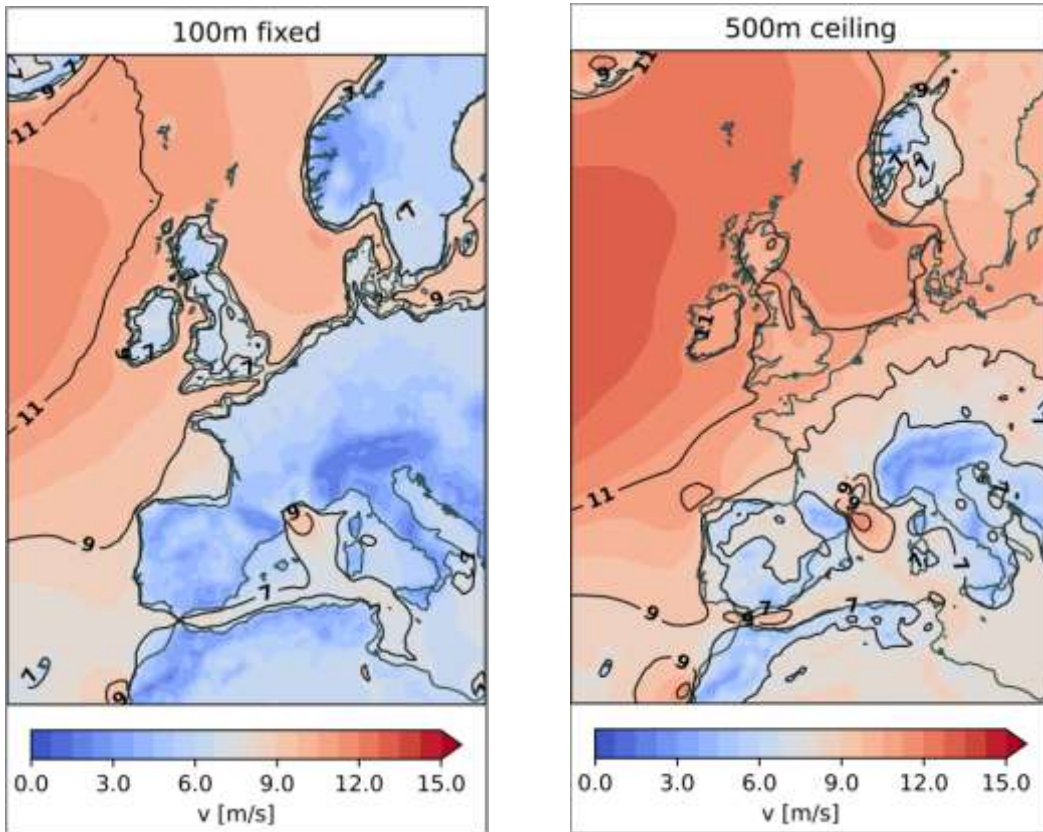
BWE
Bundesverband WindEnergie

AWE systems are at the brink of commercialization with an LCOE of 20 ct€/kWh



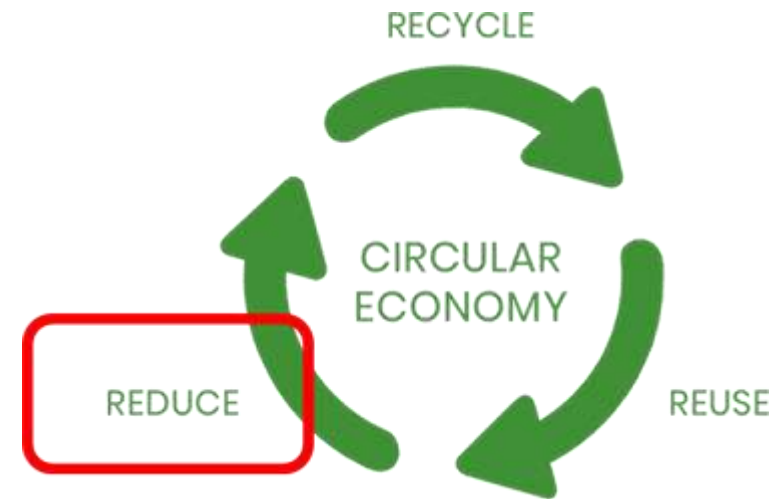
Tapping into high-altitude wind resource with very low material input: Increasing accessible RE potential, ease of logistics and mass production

Accessing higher wind speeds



Low material intensity

1-3 kg/MWh
< 10 kg CO₂-eq/MWh



Institutional support required

- **Publish a non-binding list of iRETs at EU level**
 - Provides guidance & inspiration to member states, authorities, investors
 - Facilitates benchmarking and monitoring
- **Provide iRET-specific funding for R&D and deployment**
 - Avoids competition among non-comparable technologies
 - More efficient and targeted



Thank you for your attention!



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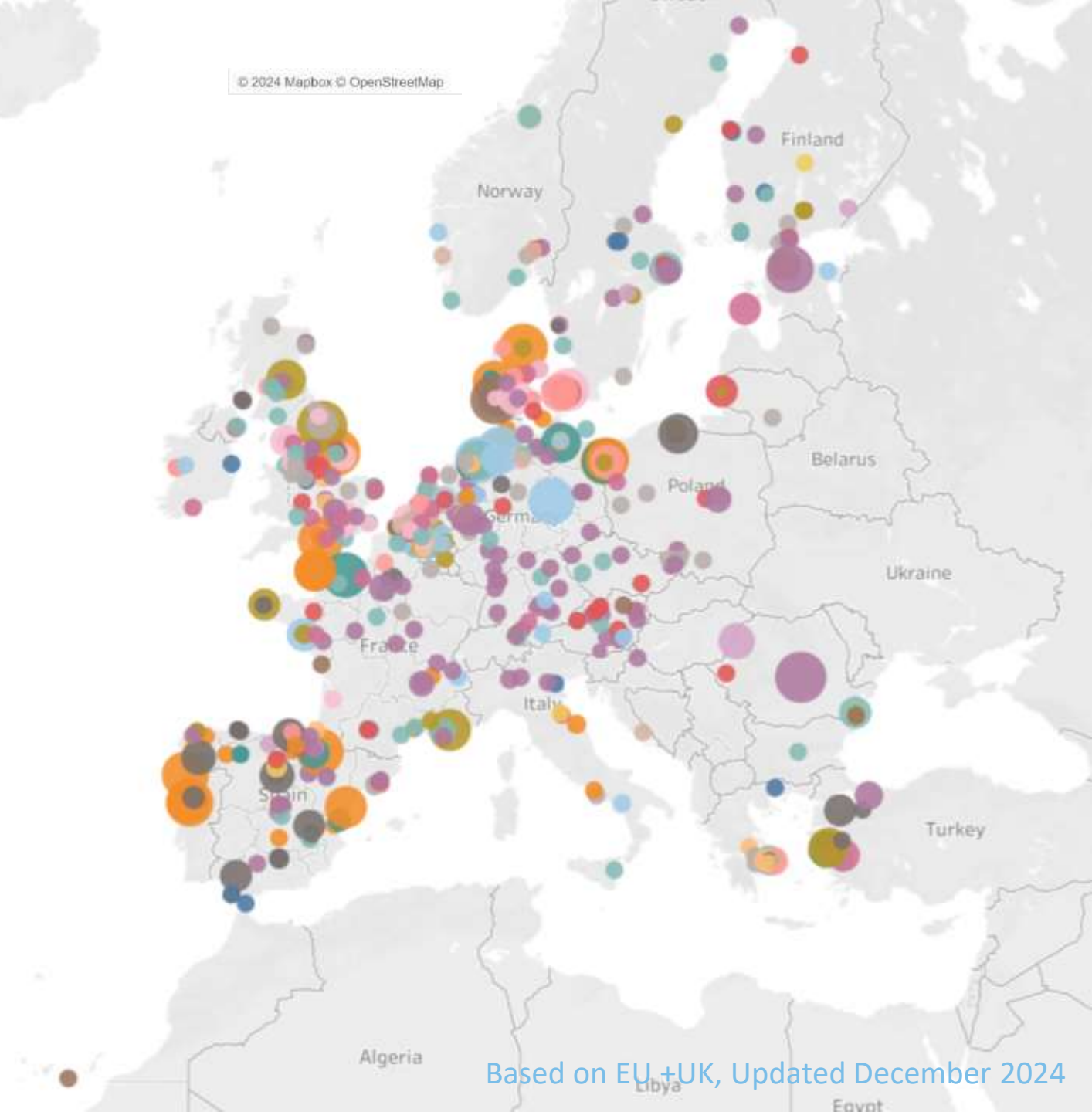
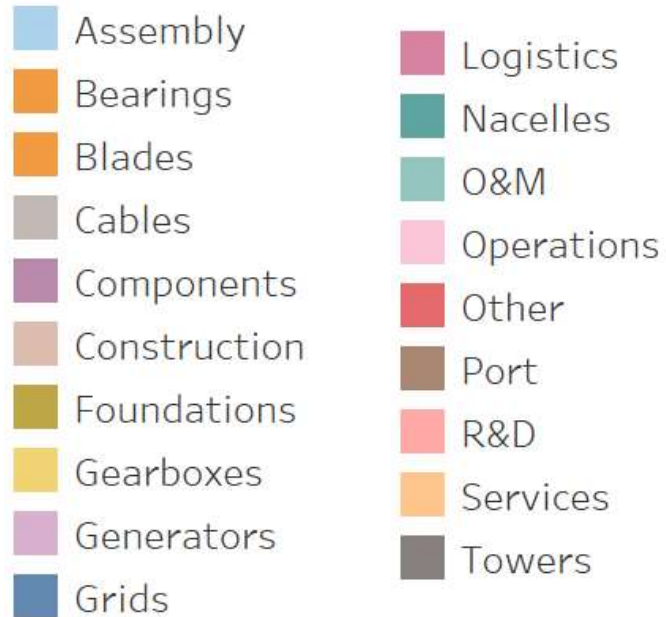
Airborne Wind Europe

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1000 Brussels, Belgium

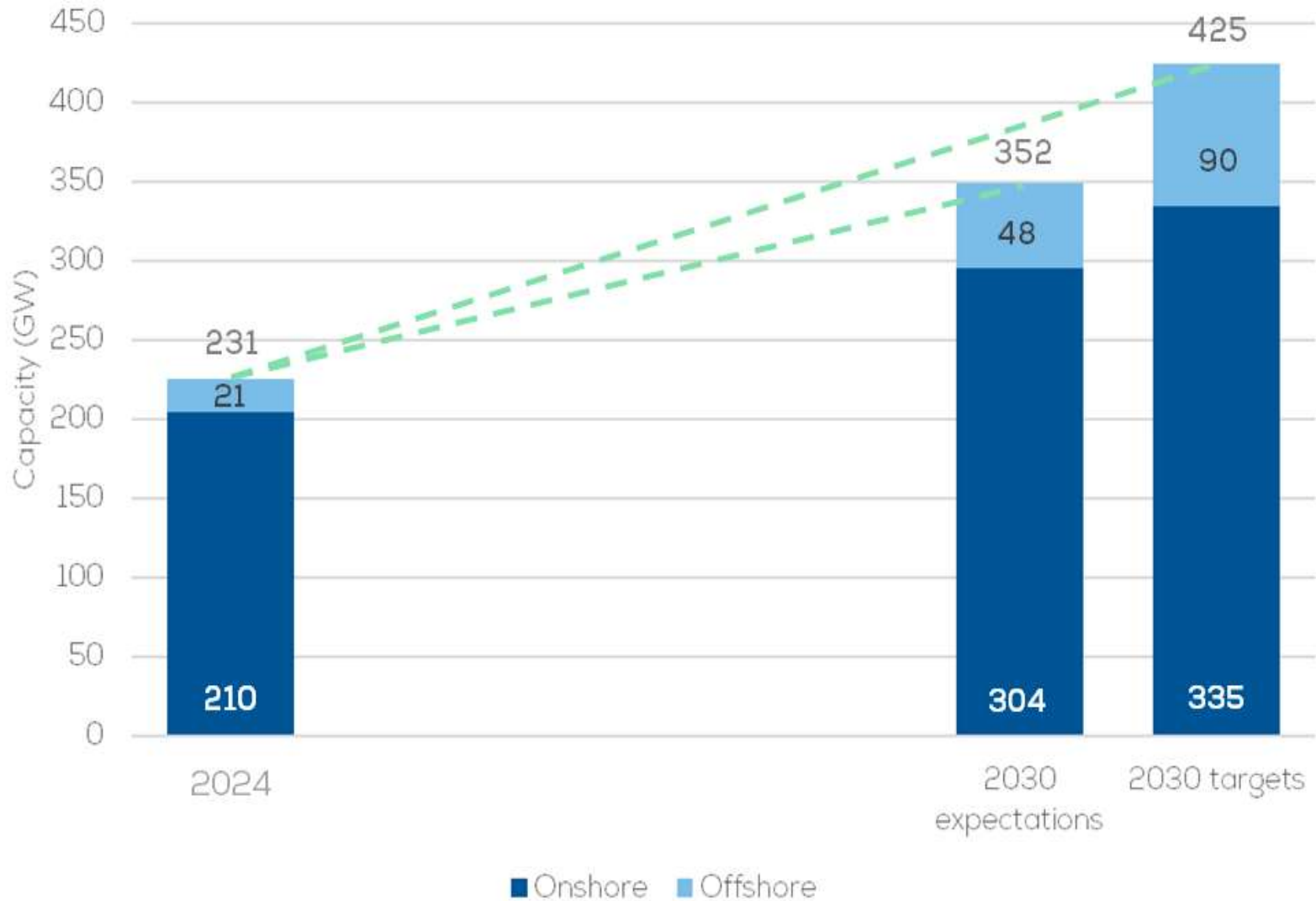
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Wind energy: From Innovation to Industrial Competitiveness

Wind is a homegrown technology



Wind energy today vs. EU ambitions



13 GW/year → 35 GW/year

20% of EU's electricity mix → 50% of EU's electricity mix by 2050

The role of R&I in wind energy competitiveness

Source: Sif

1. The European wind industry must be healthy and competitive at the global scale.
2. The European industry should have harnessed the potential of digitalisation, automation with high cybersecurity standards.
3. Wind should be the backbone of a climate-neutral energy system centred around electrification.
4. Wind farms are fully circular and have a positive environmental impact.
5. Society should actively support and recognise wind energy as indispensable to European prosperity and climate-neutrality.



Towards a European Fund for Wind Research & Competitiveness

1. One-stop-shop for all EU funding opportunities on wind R&I

3. Adapts and implements the **common strategy** for wind research & competitiveness

5. Governed by **European Commission** and **wind industry/academia**

**European Fund
for Wind
Research &
Competitiveness**

2. **Technology-specific EU budget** for wind R&I + deployment

4. Involves Member States to align EU and national funding priorities

Powering Europe's Competitiveness: The role of geothermal

European Parliament, 13 May, 2025

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Policy Director

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#GeothermalNOW

www.egec.org

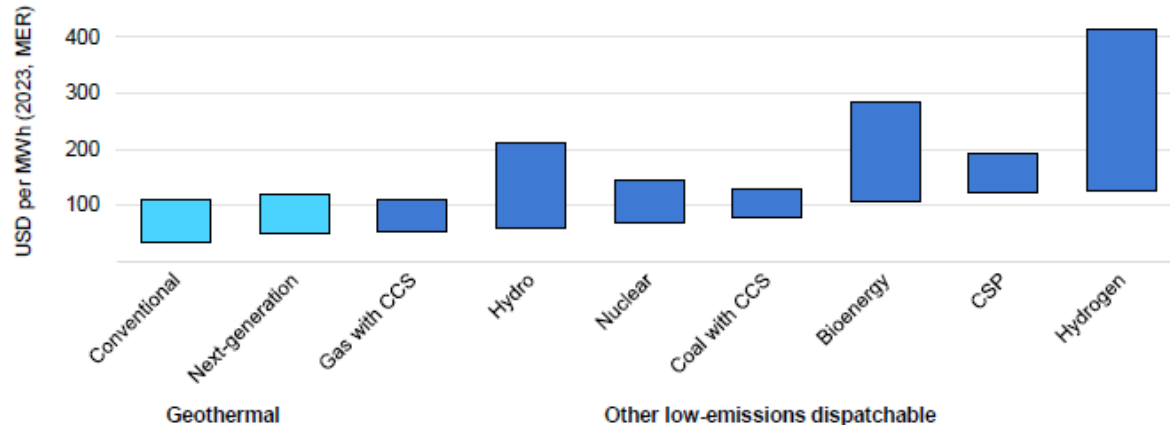
Geothermal makes Europe competitive



The technical potential of geothermal would be more than enough to meet all electricity and heat demand in Africa, China, Europe, South East Asia and the United States.



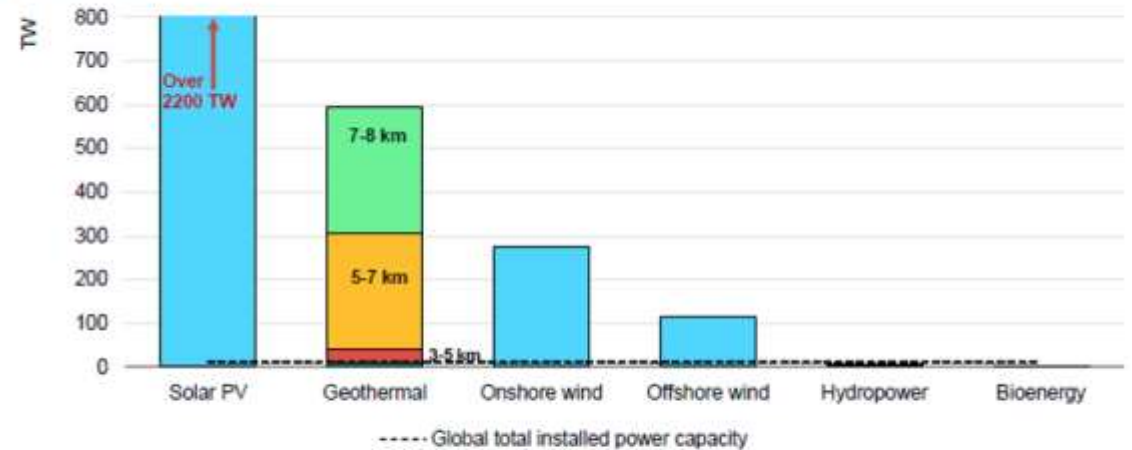
LCOE of geothermal and other low-emissions dispatchable technologies in the Announced Pledges Scenario, 2035



IEA. CC BY 4.0.

Notes: MER = market exchange rate. CCS = carbon capture and storage. CSP = concentrating solar power. The next-generation geothermal cost range is for projects with an 80% capacity factor and a WACC of 7%. The capacity factors of the other technologies are assumed to be 80% for conventional geothermal; 60% for gas with CCS; 40% for hydro; 80% for nuclear; 70% for coal with CCS; 60% for bioenergy; 40% for CSP; and 50% for hydrogen.

Technical potential of selected renewable energy technologies for electricity generation

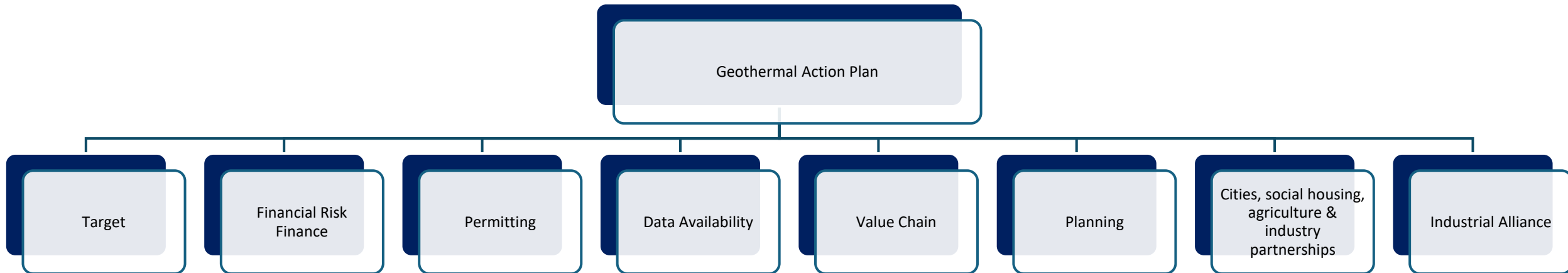


Sources: Geothermal: Project InnerSpace™ calculations for EGSs based on GeoMap™ data with a threshold of USD 300/MWh, in collaboration with IEA. Offshore wind: IEA (2019), [Offshore Wind Outlook 2019](#). Hydropower: IEA TCP 2010. Bioenergy: IEA calculation based on the assumption that all sustainable bioenergy potential of 100 EJ is used for power generation. Onshore wind: based on [DTU-2027 study](#). Solar PV: technical potential from various studies in de La Beaumelle N.A. et al. (2023), [The Global Technical, Economic, and Feasible Potential of Renewable Electricity](#).

Purpose of the Geothermal Action Plan

To be published in March 2026

1. Create mature geothermal markets across Europe.
2. Build a robust projects pipeline using “*Made in Europe*” manufacturing
3. Accelerate energy security
4. Ensure affordable heating, cooling, electricity for all
5. Decarbonising earlier than 2050, with an affordable cost for the energy transition





**Act local
Think global
Go geothermal**



www.egec.org



Why Europe needs ocean energy

Largest ocean energy network in the world



- Over **120 members**
- Including **leading utilities**
- Source for **science & policy**



2050 power system: cheap, decarbonised, secure

- Wind & solar will supply bulk
- Variable renewables



Flexibility is needed

- Decentralised & variable system
- Flexibility solutions?
- Best solution: technologies with different production profiles





Ocean energy = flexibility

- Produce at different times from wind and solar
- Tidal is 100% predictable
- Wave highly predictable as created by wind with a 2-3h delay
- Smoother production profile & balanced power system



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New generation of farms kick-starts large-scale deployment

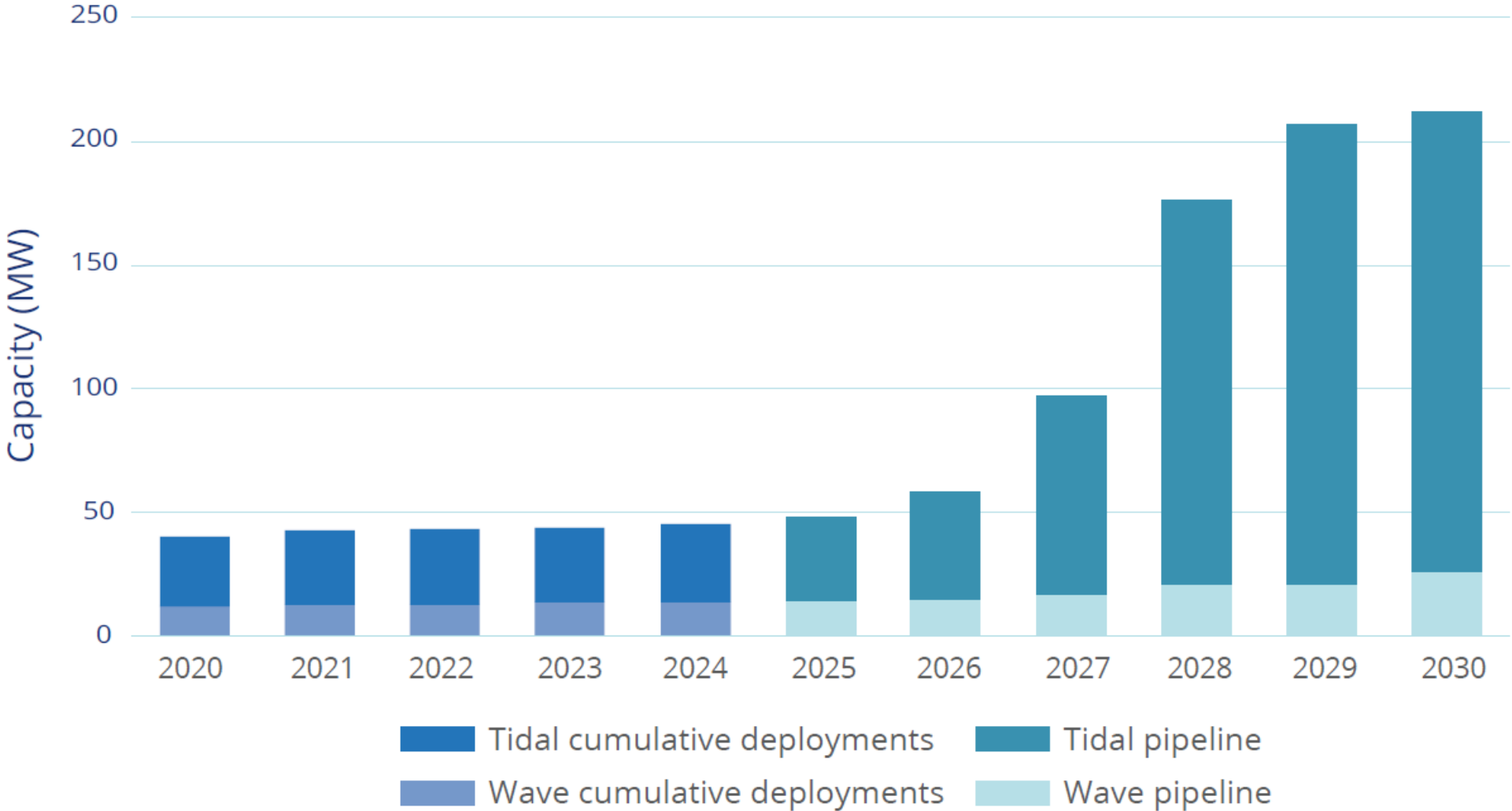


Figure 1: Ocean energy cumulative deployments and pipeline

Source: Ocean Energy Europe, UK & FR governments, Horizon Europe and Innovation Fund call results.



10 reasons why ocean energy

1. 10% of EU electricity
2. Highly predictable
3. Complements wind & solar
4. Domestic resource
5. 100% Made in Europe
6. Europe-led technology
7. Easy to mass-manufacture
8. Mostly invisible
9. Uses small sea areas other users don't like
10. Environmentally friendly



Any incentives for EU manufacturers of high-performance PV?

Indicative target of 5% innovative renewable

- \pm 50 GW i-RET capacity installed 2023-2030
- Our [2022 study](#) showed PV should deliver most of it
- Main vehicle for intervening in market = NZIA

NZIA Art 26: resilience / environmental / grid integration / innovation criteria

- Who uses “innovation” criteria for PV? One country: Italy, with “made-in-Europe” criteria, too
- Resilience criteria much more widely used
- For EU PV to stay internationally competitive, resilience criteria must hand over to innovation or sustainability in the medium term!

Details of Italy's support for high-efficiency PV

2. Transizione 5.0 Decree

	Energy consumption reduction			
	by production unit	3%-6%	6-10%	>10%
	or			
	by process	5-10%	10-15%	>15%
	Investment	Tax Credit		
Tax Credit with modules $\eta_{mod} \geq 21,5\%$ made in EU (no EU cells)	< 10 M€	45.5%	52%	58.5%
	10 - 50 M€	6,5%	13%	19.5%
Tax Credit with modules and cells ($\eta_{cell} \geq 23,5\%$) made in EU	< 10 M€	49%	56%	63%
	10 - 50 M€	7%	14%	21%
Tax Credit with modules and cells ($\eta_{cell} \geq 24\%$) made in EU	< 10 M€	52.5%	60%	67.5%
	10 - 50 M€	7.5%	15%	22.5%

PHOTOVOLTAIC + BESS
are eligible for
TAX CREDIT
only together with and
after energy efficiency
interventions.

Available budget: 6,3 bn€

Max end of works:
Dec. 31st 2025



What can the EU level do?

- Get more countries to follow Italy: CA-RES, SET Plan St Group, Net Zero Platform to spread best practice
- Use Innovation Fund for immediate support (Manuf window, then a “solar bank”); EUPI-PV in Horizon Europe to aim 3 - 4 years ahead
- EC “Guidance on innovative forms of renewables deployment (agri-PV, building-integrated PV (BIPV) and balcony solar systems) and on dedicated grid and storage areas” - **let’s have broader scope, please: i-RETS!**

ROUNDTABLE DISCUSSION

AIRBORNE WIND ENERGY KITE EXHIBITION IN FRONT OF THE EUROPEAN PARLIAMENT

📍 LOCATION: ESPLANADE OF THE EUROPEAN PARLIAMENT,
BETWEEN ESPACE LÉOPOLD AND LUXEMBOURG STATION

🕒 WHEN: TUESDAY, MAY 13 — ALL DAY

🎯 WHO: OPEN TO THE PUBLIC

EUROPEAN PARLIAMENT



KITE EXHIBITION

Airborne Wind Europe 

MEET OUR EXPERTS:



Kristian Petrick
Secretary General of AWEU



Gosia Matowska
Public Affairs Manager of AWEU



Andrei Luca
Head of Operations of Kitepower