HWEA
Hellenic Wind Energy Association

Onshore & Offshore Wind Energy in Greece
Present status and the way forward

Panagiotis Ladakakos, Chairman of HWEA

21st EAWE PhD Seminar, 1-3 October 2025, Athens (Greece)

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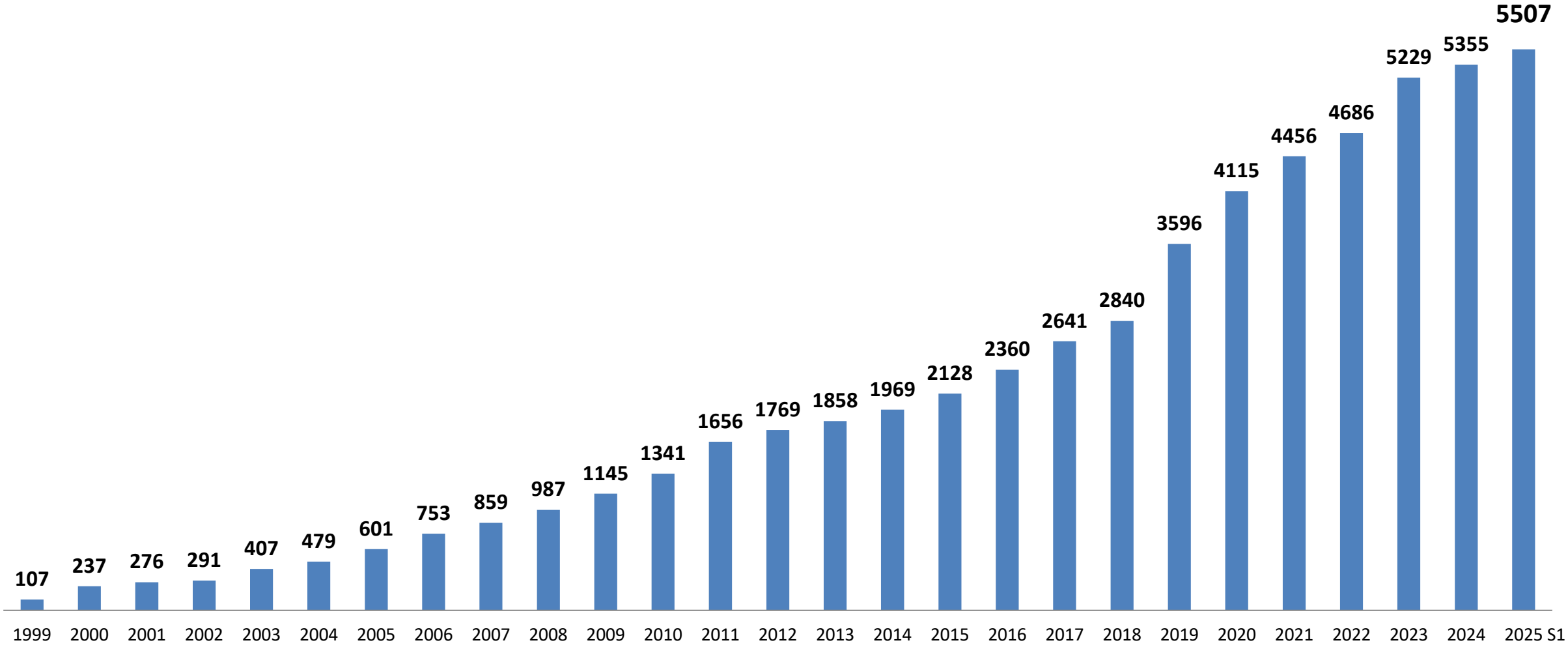
european academy of wind energy

HWEA Wind Energy Statistics – S1 2025

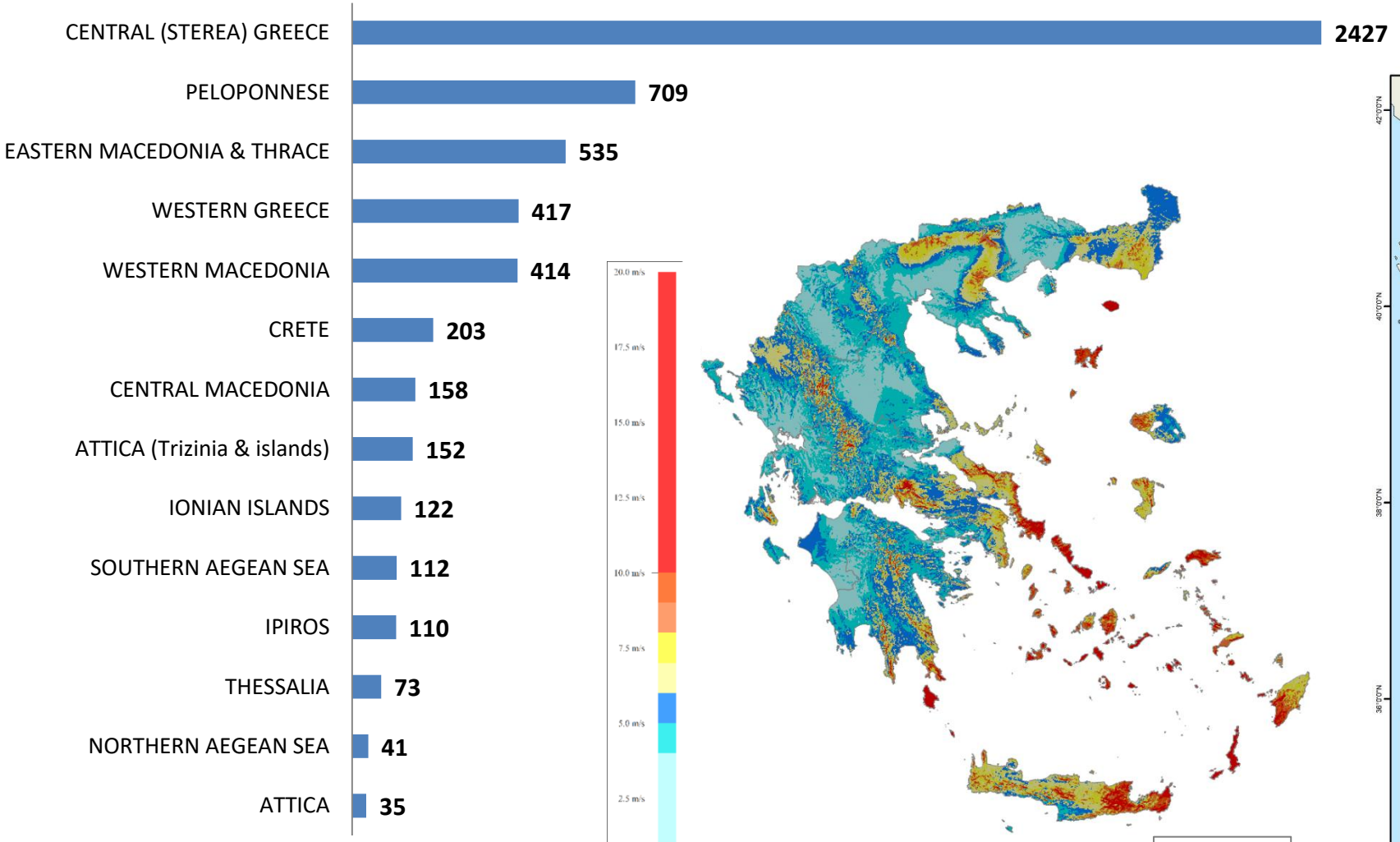
Total capacity to the grid (MW) per year

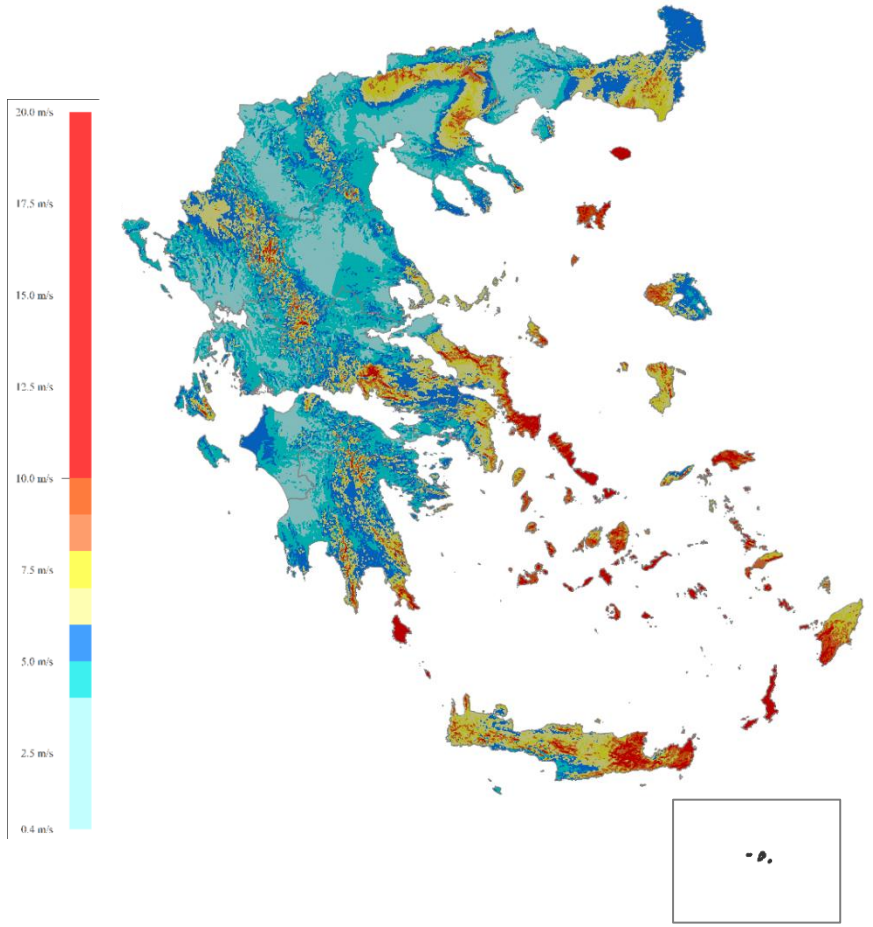


The HWEA Wind Energy Statistics take into account the wind capacity which is in commercial or test operation in Greece and are based on sources from the market actors. HWEA has made effort to crosscheck and confirm the data. However, HWEA does not guarantee the accuracy of them and do not undertake any relevant liability.

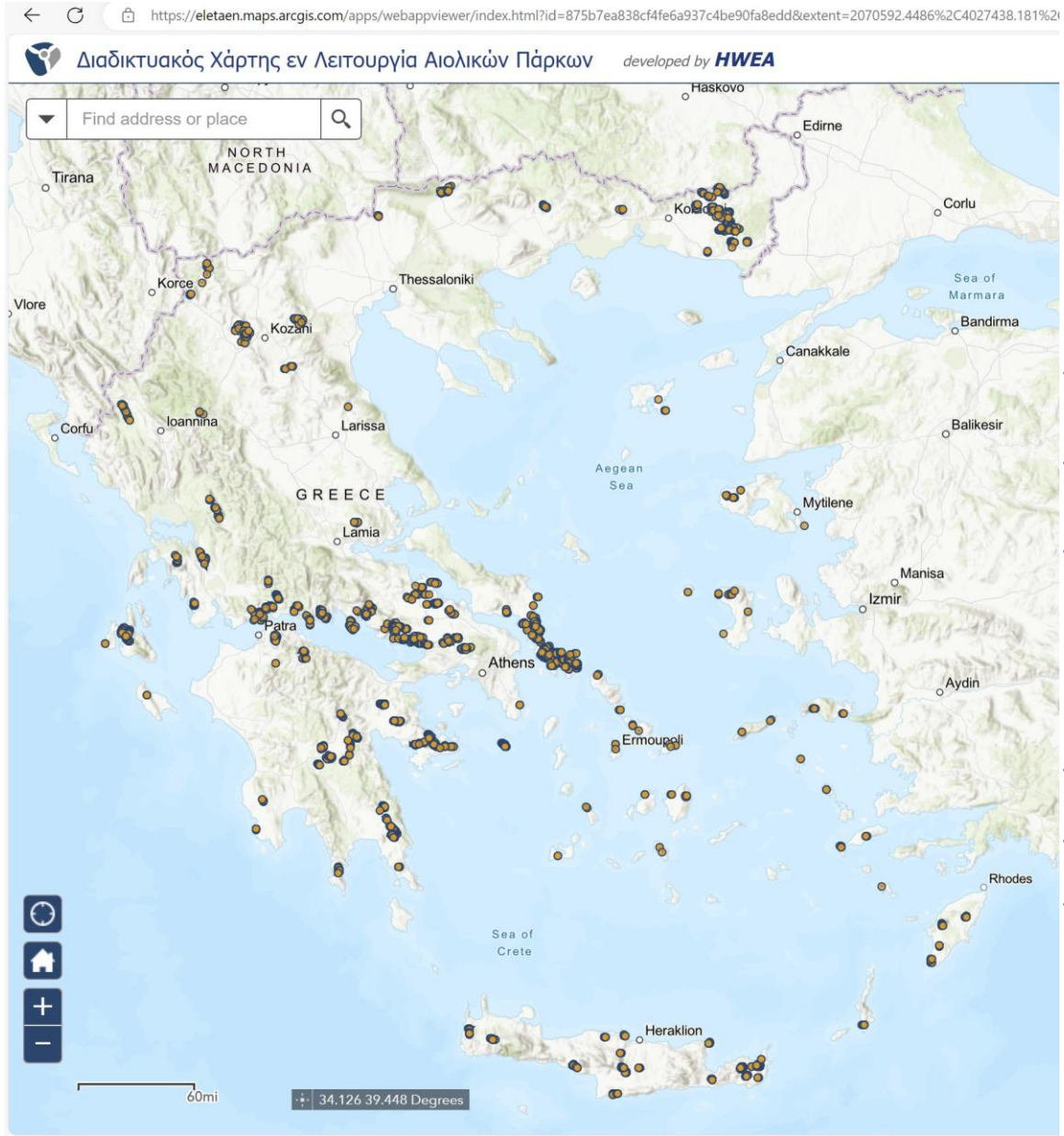
HWEA Wind Energy Statistics – S1 2025

Capacity (MW) per region

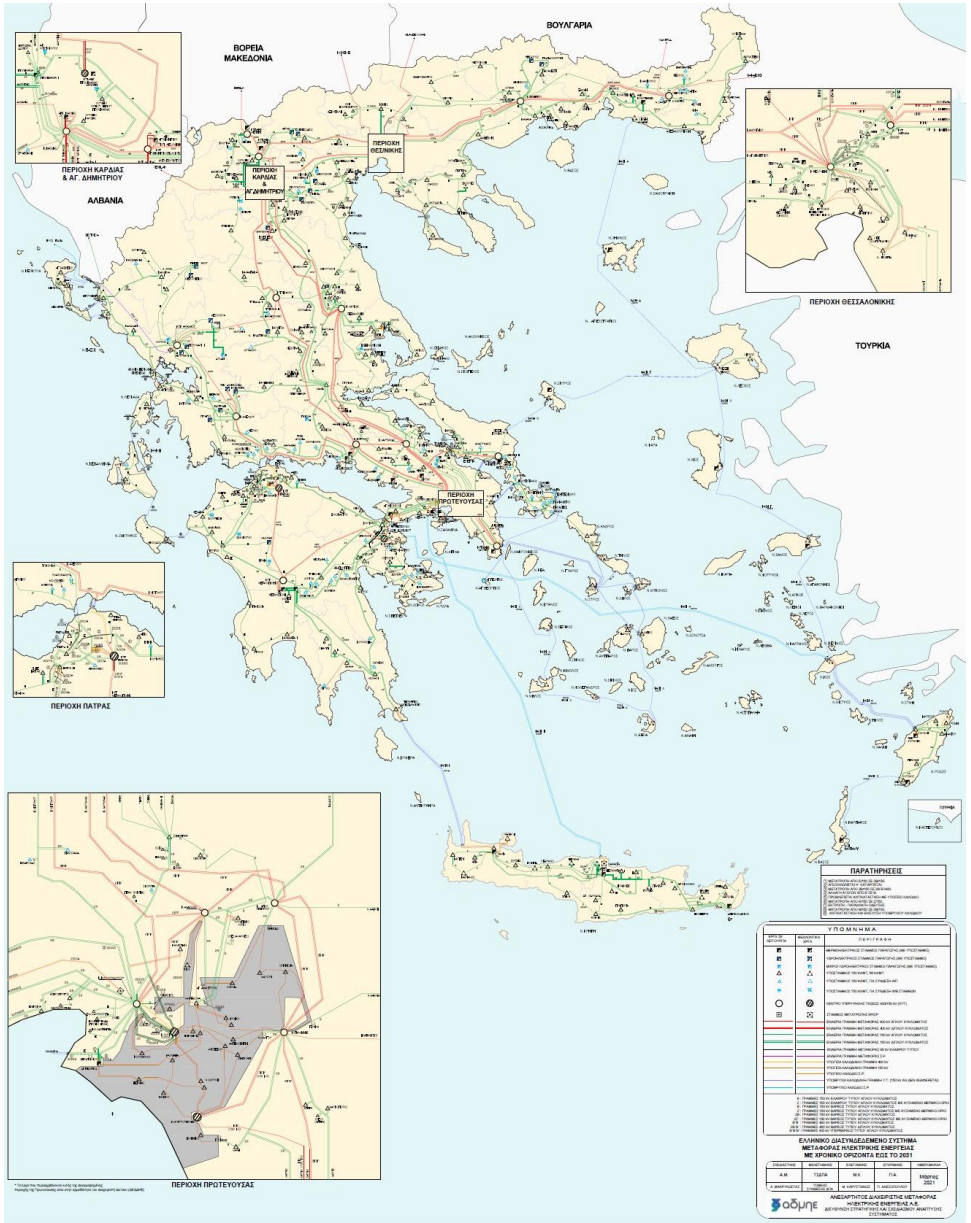




Greece: Spatial distribution of wind capacity & the transmission network



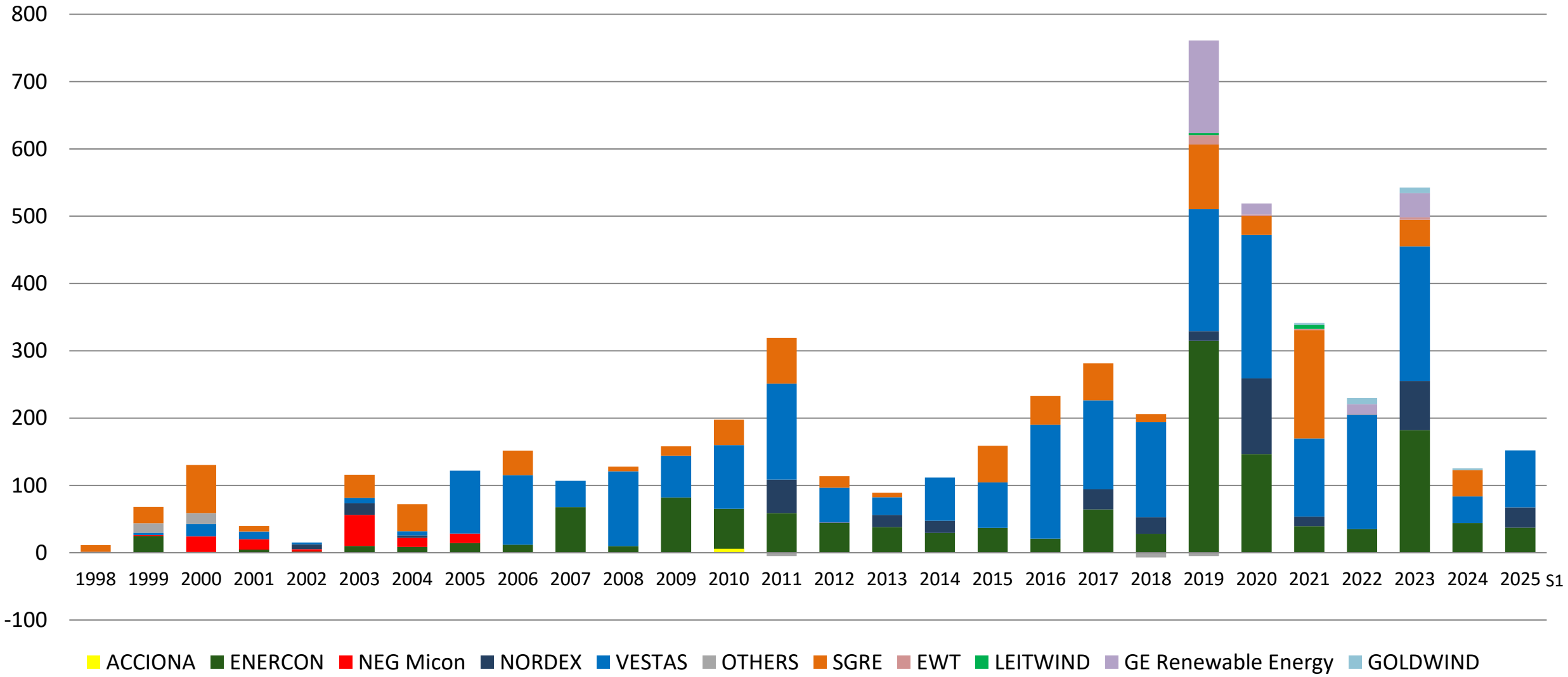
Source: HWEA web tool Wind Farms in Greece, last update end 2022



Source: 2022-2031 Ten-year Transmission System Development Plan, Hellenic TSO

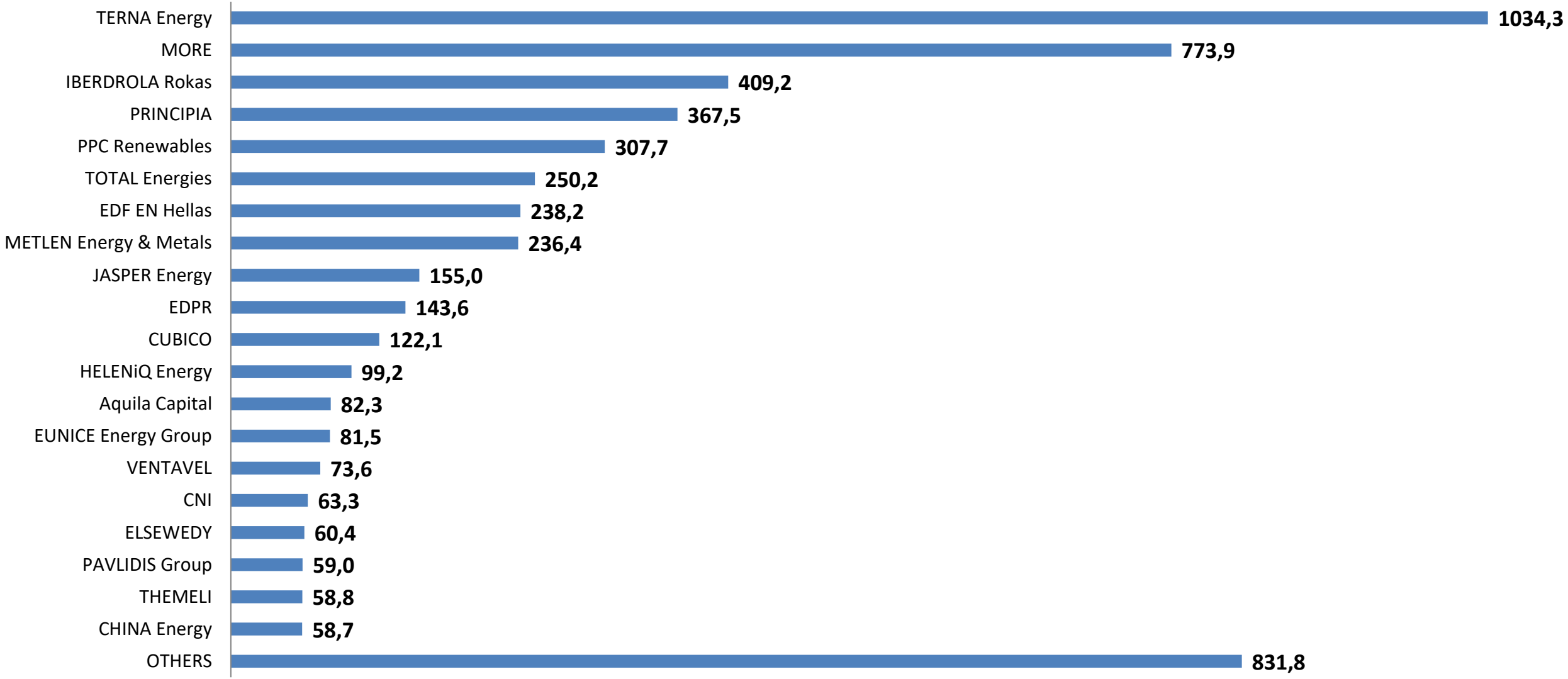
HWEA Wind Energy Statistics – S1 2025

Capacity (MW) per year per OEM

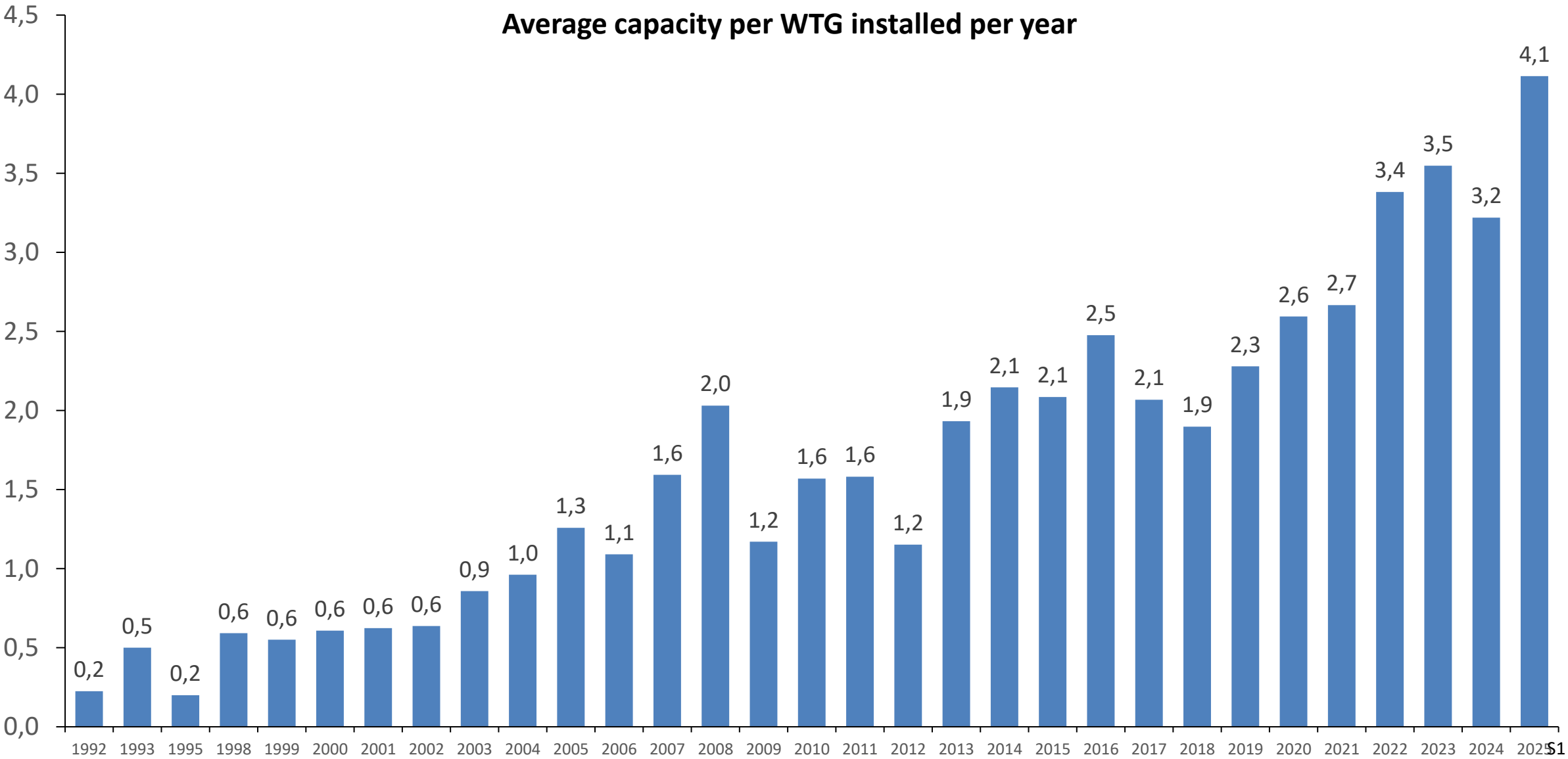


HWEA Wind Energy Statistics – S1 2025

Capacity (MW) per wind energy producer (Top-20)

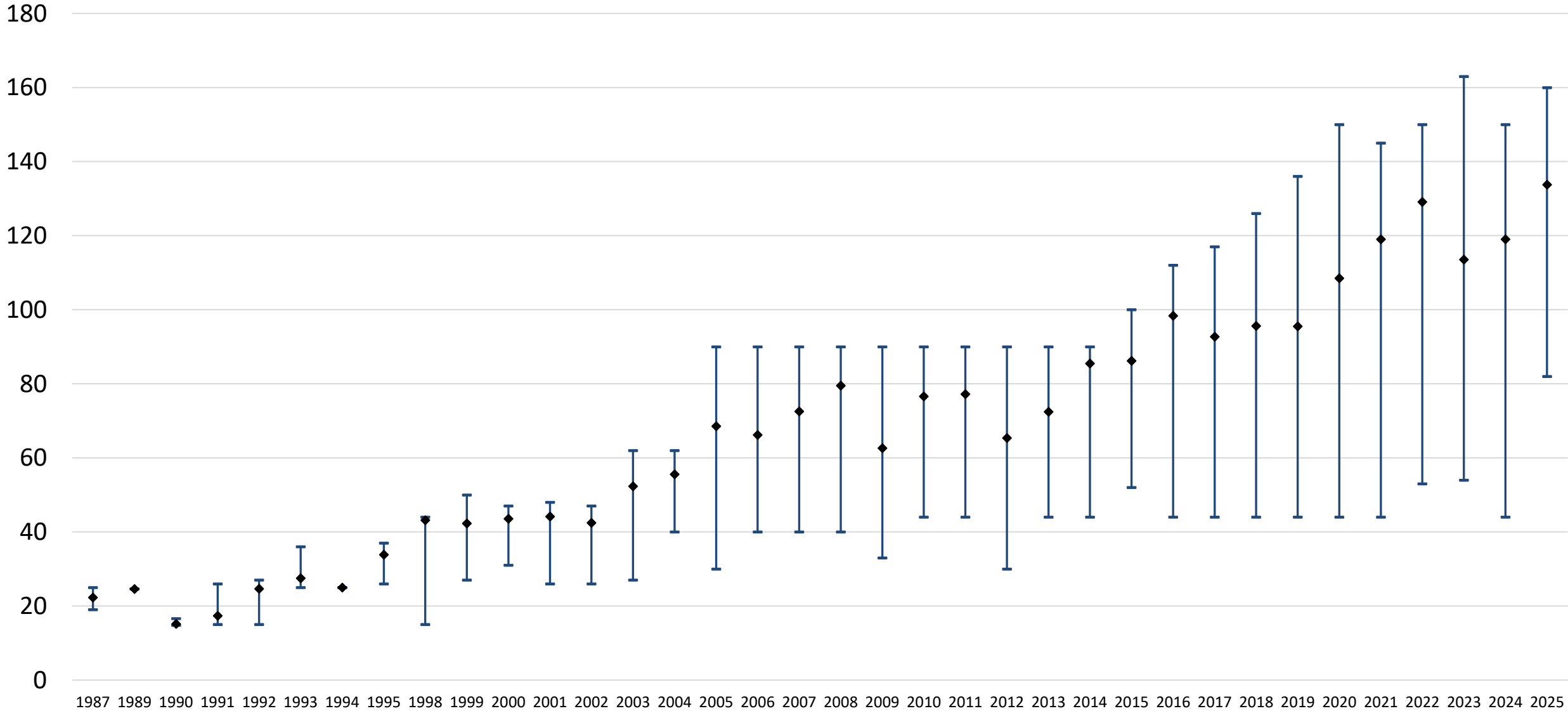


HWEA Wind Energy Statistics – S1 2025



HWEA Wind Energy Statistics – S1 2025

Min / Max / Weighted average - Rotor Diameter Per Year



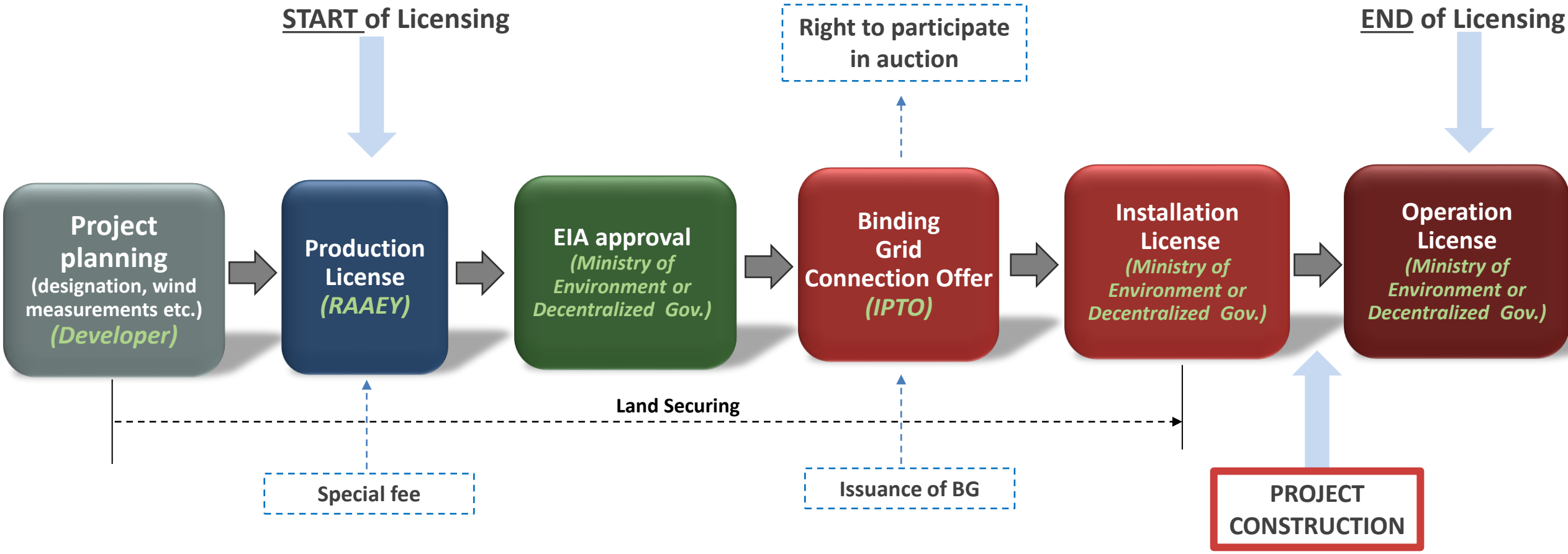
Greece's National Energy and Climate Plan (NECP)

Installed capacity of power generation units by technology (MW)*

Capacity (installed MW)	2022	2025	2030	2035	2040	2045	2050
Photovoltaic	5.430	8.500	13.500	18.500	26.000	30.619	35.051
Onshore Wind	4.702	7.000	8.900	9.500	11.000	13.000	13.000
Offshore Wind	0	0	1.900	3.900	5.787	8.143	11.780
Large Hydro	3.171	3.171	3.458	3.893	4.023	4.488	4.678
Small Hydro	250	338	365	394	421	453	482
Biomass & Biogas	161	123	81	75	73	45	42
Lginite	1.625	1.280	-	-	-	-	-
Natural Gas.*, **	6.296	7.045	7.885	6.430	6.430	6.430	6.430
CHP NG	127	127	205	205	205	205	156
Oil**	846	863	196	171	147	123	91
Total	**22.608**	**28.445**	**36.490**	**43.069**	**54.086**	**63.505**	**71.709**

** See table ΕΣ3 in pg.39 of NECP (OG 6983 B 2024)*

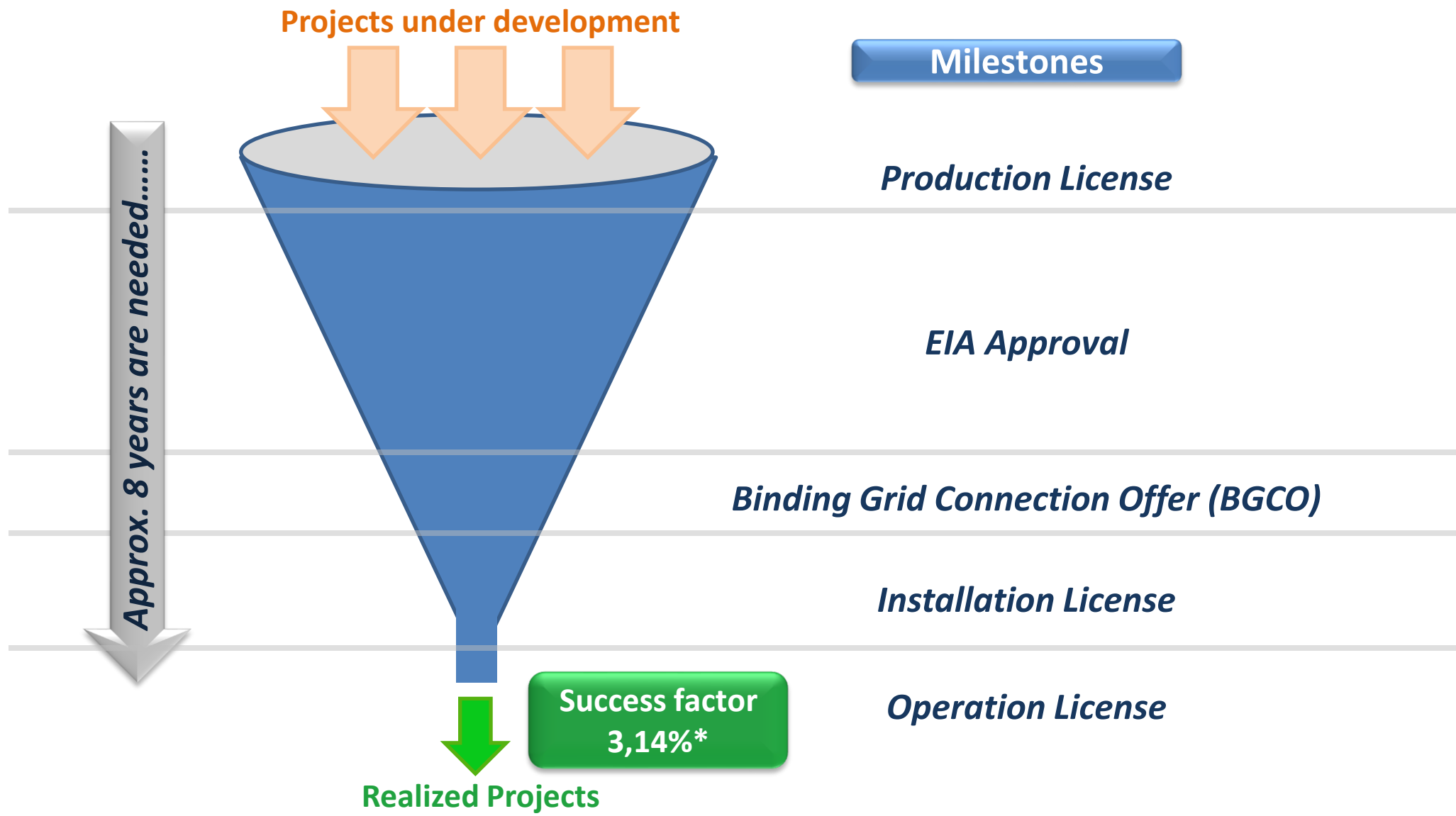
Onshore wind: Overview of key licensing steps



Applicable Legislation

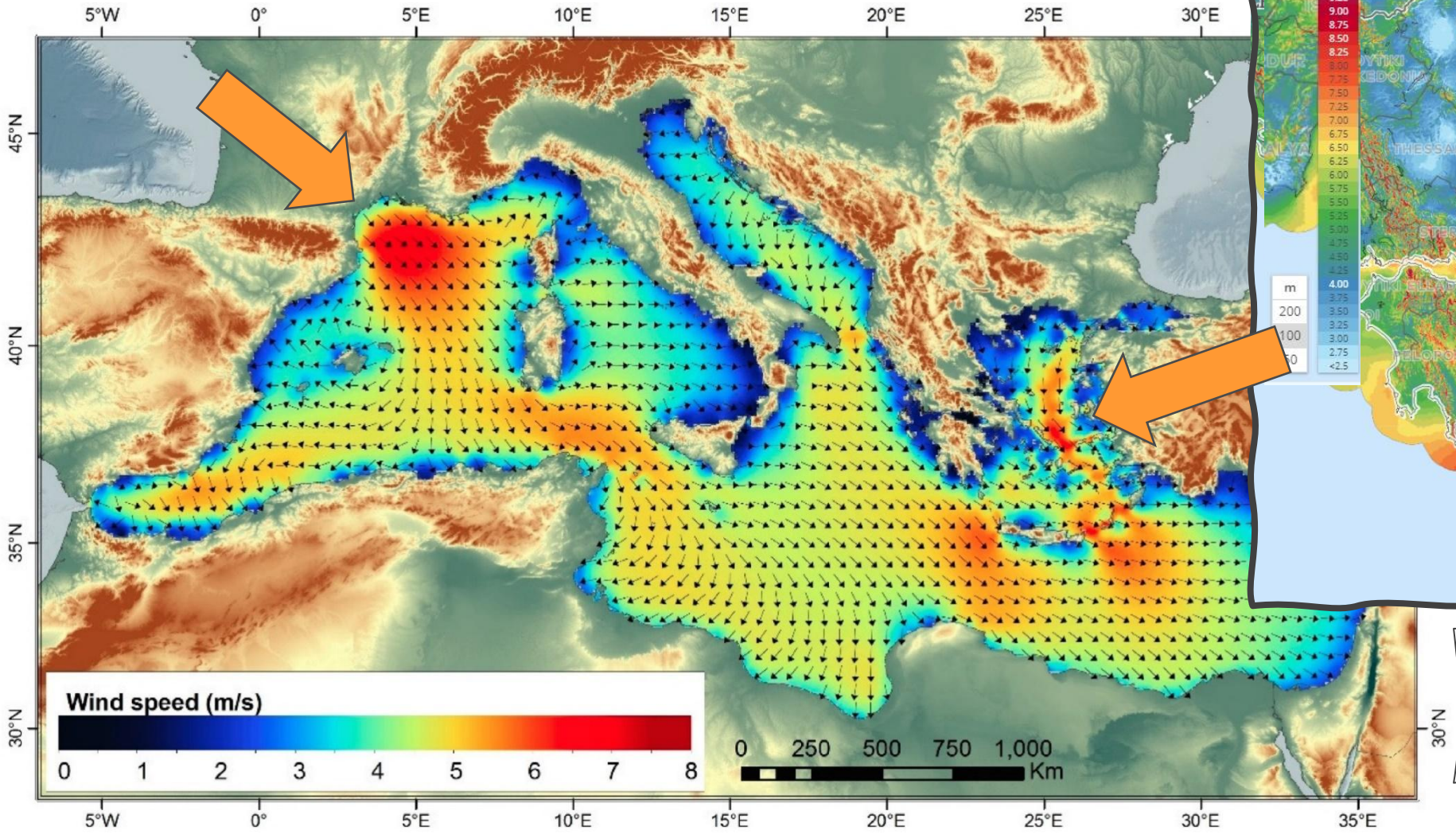
Law 3468/2006, Law 4685/2020 (Phase A), Law 4951/2022 (Phase B), Spatial Planning for RES, Environmental Law 4014/2011 as valid etc.

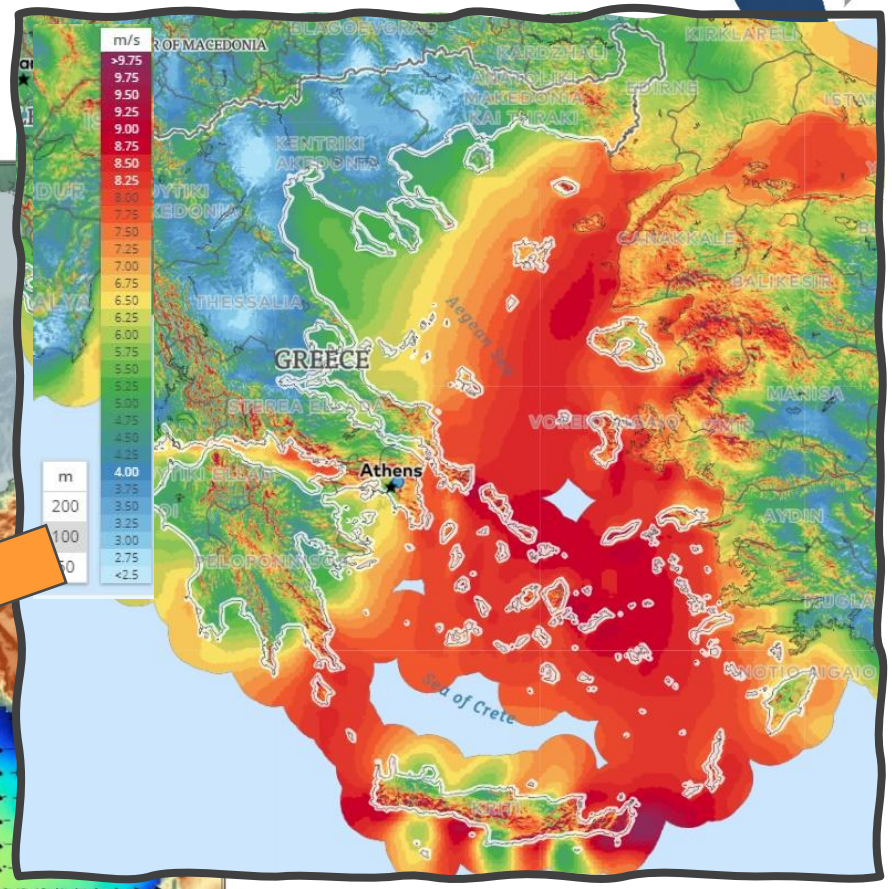
Onshore wind: Key licensing milestones & success rate



** New installation and operation licenses for a 5y period as per the under development projects*

Offshore wind: The opportunity of the Greek seas





Depth of Greek waters was the main technical barrier until recently

***Source**: Marine Renewable Energy in the Mediterranean Sea: Status and Perspectives, Soukissian et. al., energies, 2017*

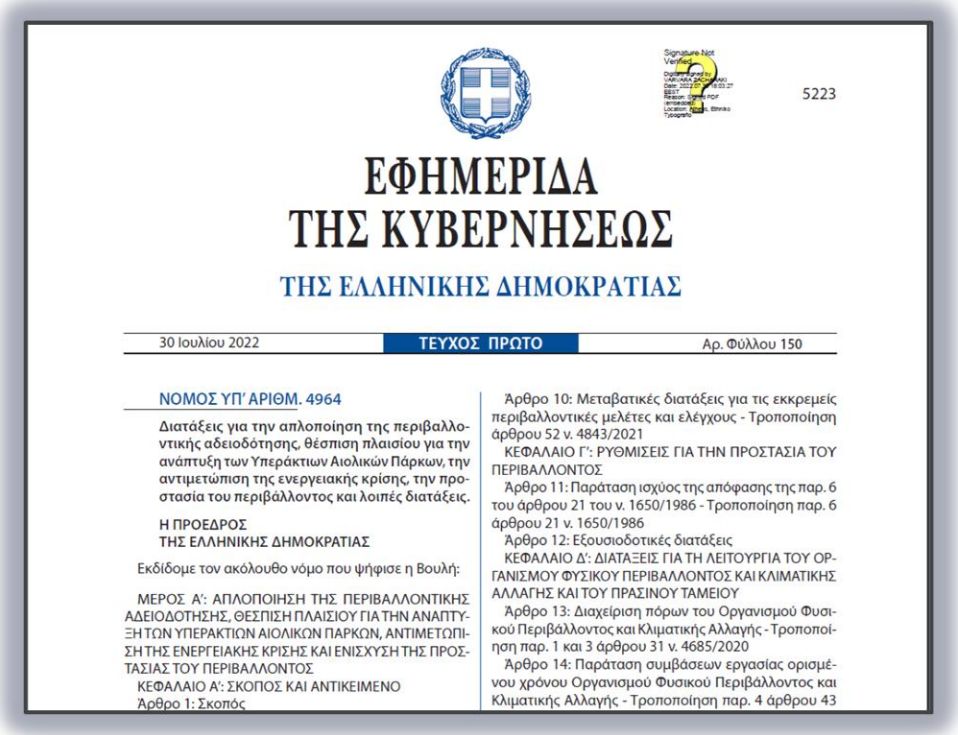
Competitive advantages and added value to the Greek economy

- Significant Expected Investments **> 6 billion € by 2030** and > 28 billion € by 2050 - Attracting foreign investments with high Greek added value (67% expected to be part of the Greek economy and from the rest significant part in the EU)
- More than **8.000 permanent and highly specialized new jobs** will be created
- Increase of the **exporting manufacturing capabilities** (cables, foundation, equipment) and creation of new ones
- **Shipyards** can manufacture or repair transport vessels (crew transfer, service operations) and specialized installation vessels (component transport, foundation installation, cable installation etc.)
- **Training** and **Research** institutions

Grant Thornton at the conference "Offshore Wind Energy in Greece: The way forward", dated December 12*, 2023.*

Law 4964 voted July 2022 opens the offshore wind market – the main steps

1. **National Program for Offshore Wind Development** after a Strategic Environmental Impact Assessment (SEIA) identifies planned Offshore Wind Farm Organized Development Areas (OWFODA).
2. **Presidential Decree (PD) will define the terms of OWF** development in each approved OWFODA after a Strategic Environmental Impact Assessment (SEIA).
3. **Granting of non-exclusive Exploration Licenses** in each OWFODA to interested parties (on/off technical and financial criteria, submission of letter of guarantee 10k€/MW).
4. **Research Period to the permitted parties** (for max 3years right to elaborate measurements and studies within each OWFODA).
5. **Definition of specific Installation Areas in each** OWFODA (Ministerial Decision that will include *inter alia* an assessment of the maximum installed capacity in each Installation Area)
6. **Auction for Operational Aid** (CfD type PPAs) by Regulatory Authority of Energy (RAE) among entities that have Exploration License (right of permitted entities to submit a bid for each Installation Area within the OWFODA).
7. **Granting of Exclusive Right** to license and develop each Installation Area to the lowest bidder



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ΕΦΗΜΕΡΙΔΑ
ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ

ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

30 Ιουλίου 2022 | ΤΕΥΧΟΣ ΠΡΩΤΟ | Αρ. Φύλλου 150

ΝΟΜΟΣ ΥΠ' ΑΡΙΘΜ. 4964

Διατάξεις για την απλοποίηση της περιβαλλοντικής αδειοδότησης, θέσπιση πλαισίου για την ανάπτυξη των Υπεράκτιων Αιολικών Πάρκων, την αντιμετώπιση της ενεργειακής κρίσης, την προστασία του περιβάλλοντος και λοιπές διατάξεις.

Η ΠΡΟΕΔΡΟΣ
ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

Εκδίδομε τον ακόλουθο νόμο που ψήφισε η Βουλή:

ΜΕΡΟΣ Α': ΑΠΛΟΠΟΙΗΣΗ ΤΗΣ ΠΕΡΙΒΑΛΛΟΝΤΙΚΗΣ ΑΔΕΙΟΔΟΤΗΣΗΣ, ΘΕΣΠΙΣΗ ΠΛΑΙΣΙΟΥ ΓΙΑ ΤΗΝ ΑΝΑΠΤΥΞΗ ΤΩΝ ΥΠΕΡΑΚΤΙΩΝ ΑΙΟΛΙΚΩΝ ΠΑΡΚΩΝ, ΑΝΤΙΜΕΤΩΠΙΣΗ ΤΗΣ ΕΝΕΡΓΕΙΑΚΗΣ ΚΡΙΣΗΣ ΚΑΙ ΕΝΙΣΧΥΣΗ ΤΗΣ ΠΡΟΣΤΑΣΙΑΣ ΤΟΥ ΠΕΡΙΒΑΛΛΟΝΤΟΣ

ΚΕΦΑΛΑΙΟ Α': ΣΚΟΠΟΣ ΚΑΙ ΑΝΤΙΚΕΙΜΕΝΟ

Άρθρο 1: Σκοπός

Άρθρο 10: Μεταβατικές διατάξεις για τις εκκρεμείς περιβαλλοντικές μελέτες και ελέγχους - Τροποποίηση άρθρου 52 ν. 4843/2021

ΚΕΦΑΛΑΙΟ Γ': ΡΥΘΜΙΣΕΙΣ ΓΙΑ ΤΗΝ ΠΡΟΣΤΑΣΙΑ ΤΟΥ ΠΕΡΙΒΑΛΛΟΝΤΟΣ

Άρθρο 11: Παράταση ισχύος της απόφασης της παρ. 6 του άρθρου 21 του ν. 1650/1986 - Τροποποίηση παρ. 6 άρθρου 21 ν. 1650/1986

Άρθρο 12: Εξουσιοδοτικές διατάξεις

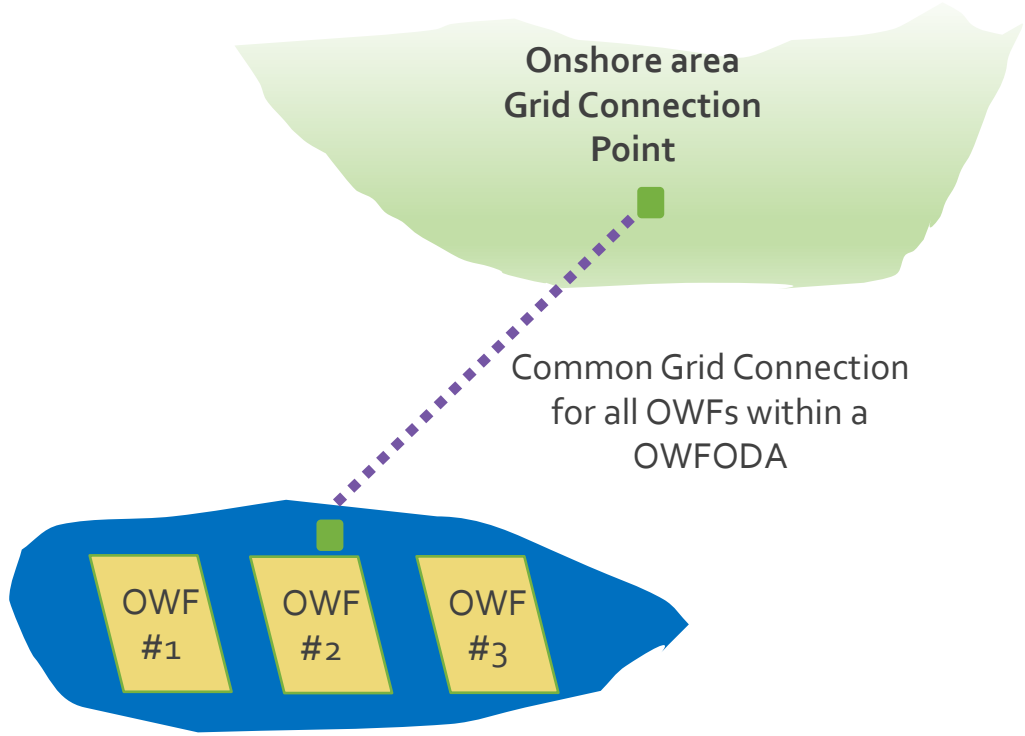
ΚΕΦΑΛΑΙΟ Δ': ΔΙΑΤΑΞΕΙΣ ΓΙΑ ΤΗ ΛΕΙΤΟΥΡΓΙΑ ΤΟΥ ΟΡΓΑΝΙΣΜΟΥ ΦΥΣΙΚΟΥ ΠΕΡΙΒΑΛΛΟΝΤΟΣ ΚΑΙ ΚΛΙΜΑΤΙΚΗΣ ΑΛΛΑΓΗΣ ΚΑΙ ΤΟΥ ΠΡΑΣΙΝΟΥ ΤΑΜΕΙΟΥ

Άρθρο 13: Διαχείριση πόρων του Οργανισμού Φυσικού Περιβάλλοντος και Κλιματικής Αλλαγής - Τροποποίηση παρ. 1 και 3 άρθρου 31 ν. 4685/2020

Άρθρο 14: Παράταση συμβάσεων εργασίας ορισμένου χρόνου Οργανισμού Φυσικού Περιβάλλοντος και Κλιματικής Αλλαγής - Τροποποίηση παρ. 4 άρθρου 43

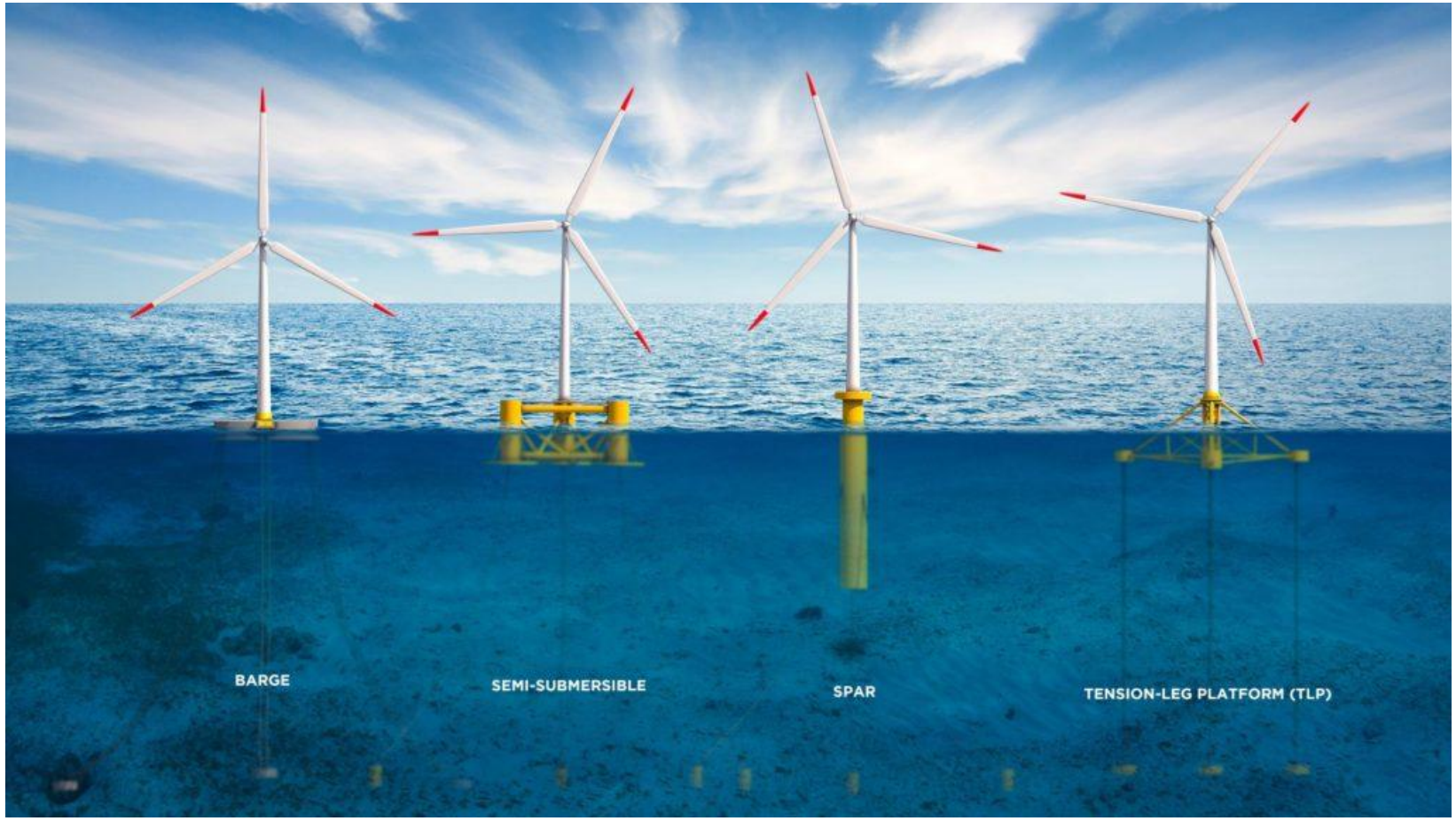
OWFODA & OWF

Note: All areas depicted are indicative for illustration purposes



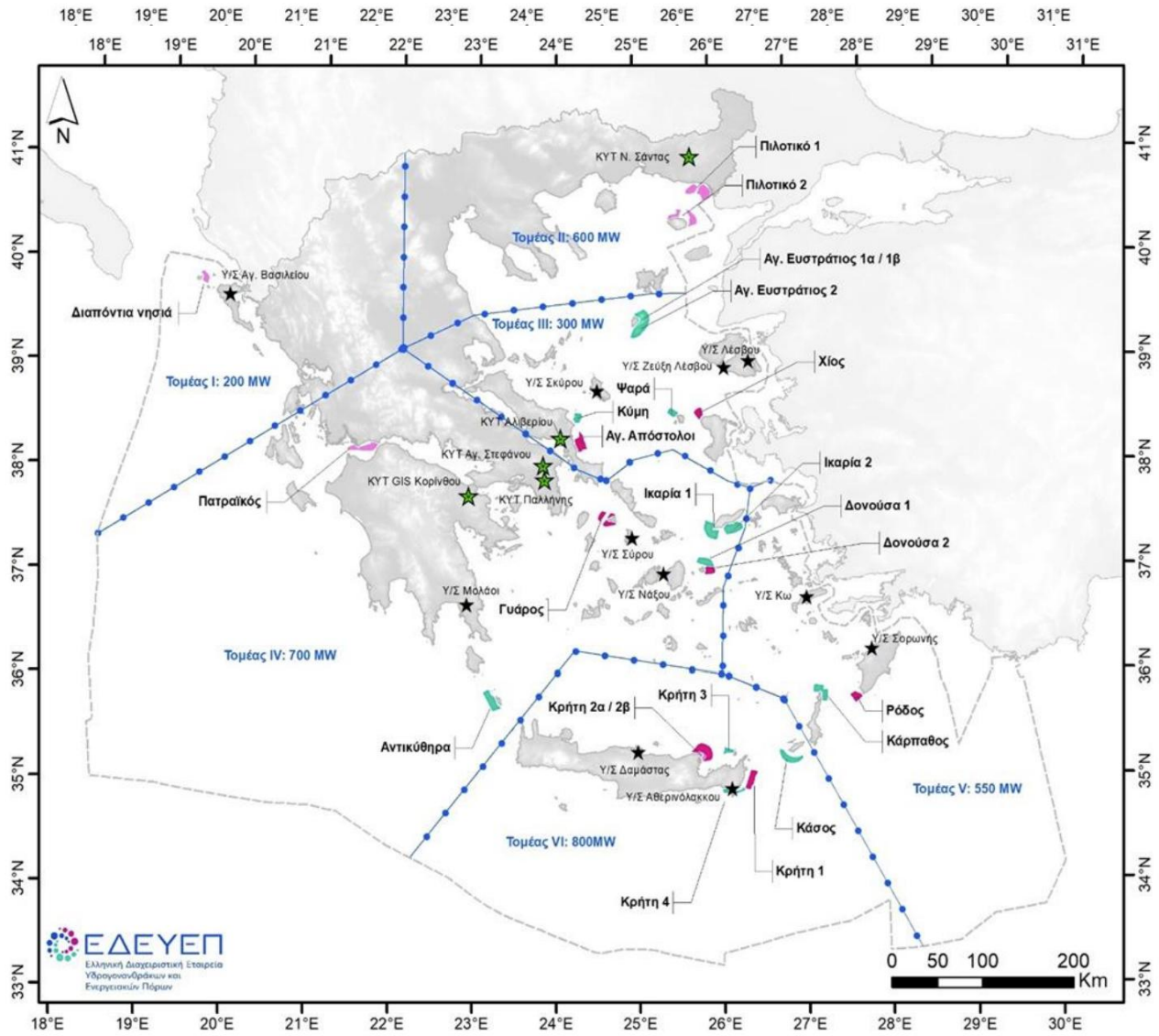
Floating Wind: Time for maturity…

Basic types of floating platforms



- Different type of floating platforms are developed and tested
- Steel or concrete?
- Size matters!
- Industrialization is a must
- Infrastructure (ports, shipyards etc.)
- Where are the OEMs?
- Is there space for a “Greek platform”?
- Test Stations lack in Mediterranean

The OW National Program – The potential OWFODAreas



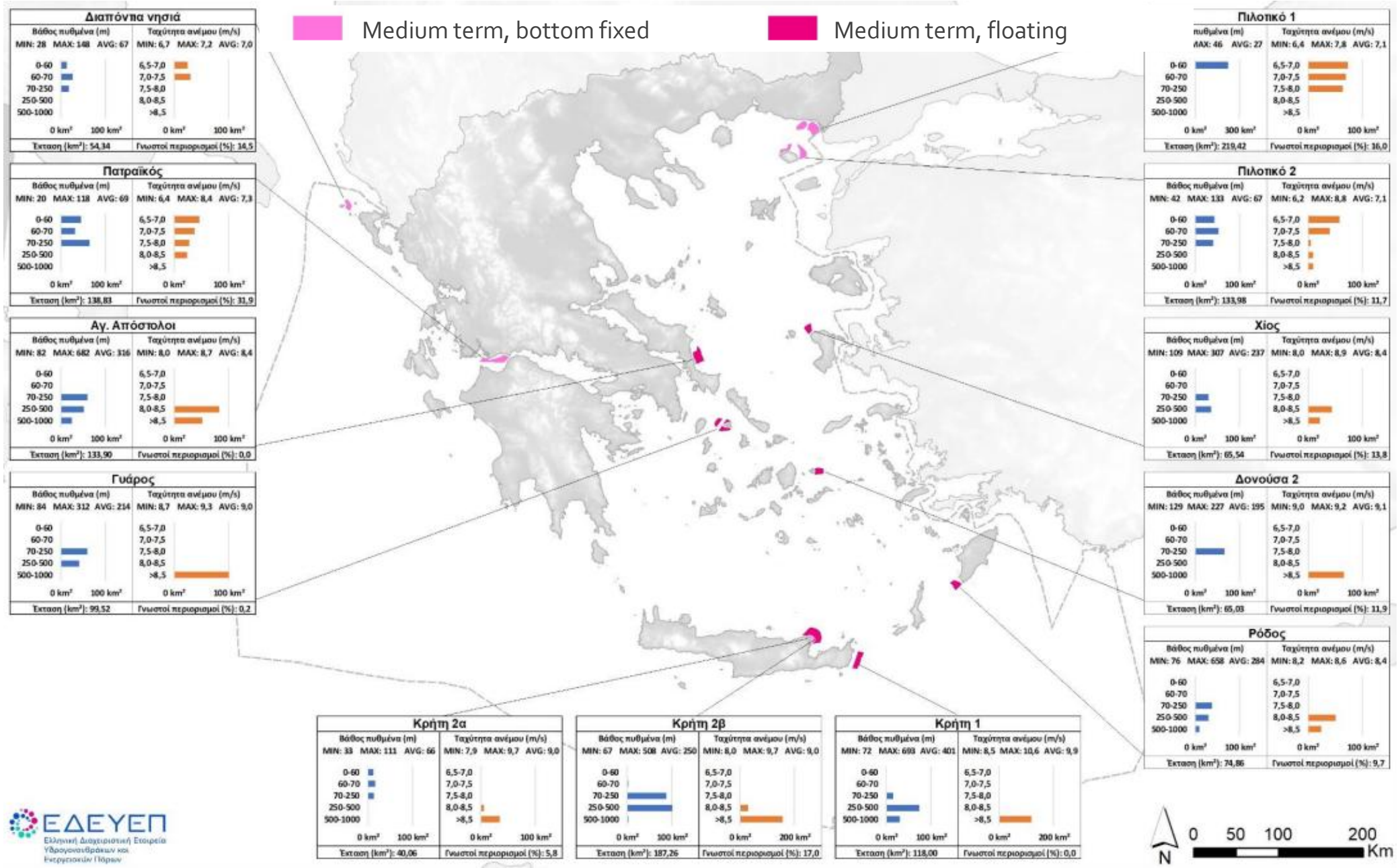
10 areas for medium-term development
4.9 GW / 978 km²
(76% of them for floating wind)

2 Pilot projects (Pilot 1 & 2)
Up to 600 MW / 353 km²

13 areas for long-term development
6.9 GW / 1,381 km²
(96% of them for floating wind)

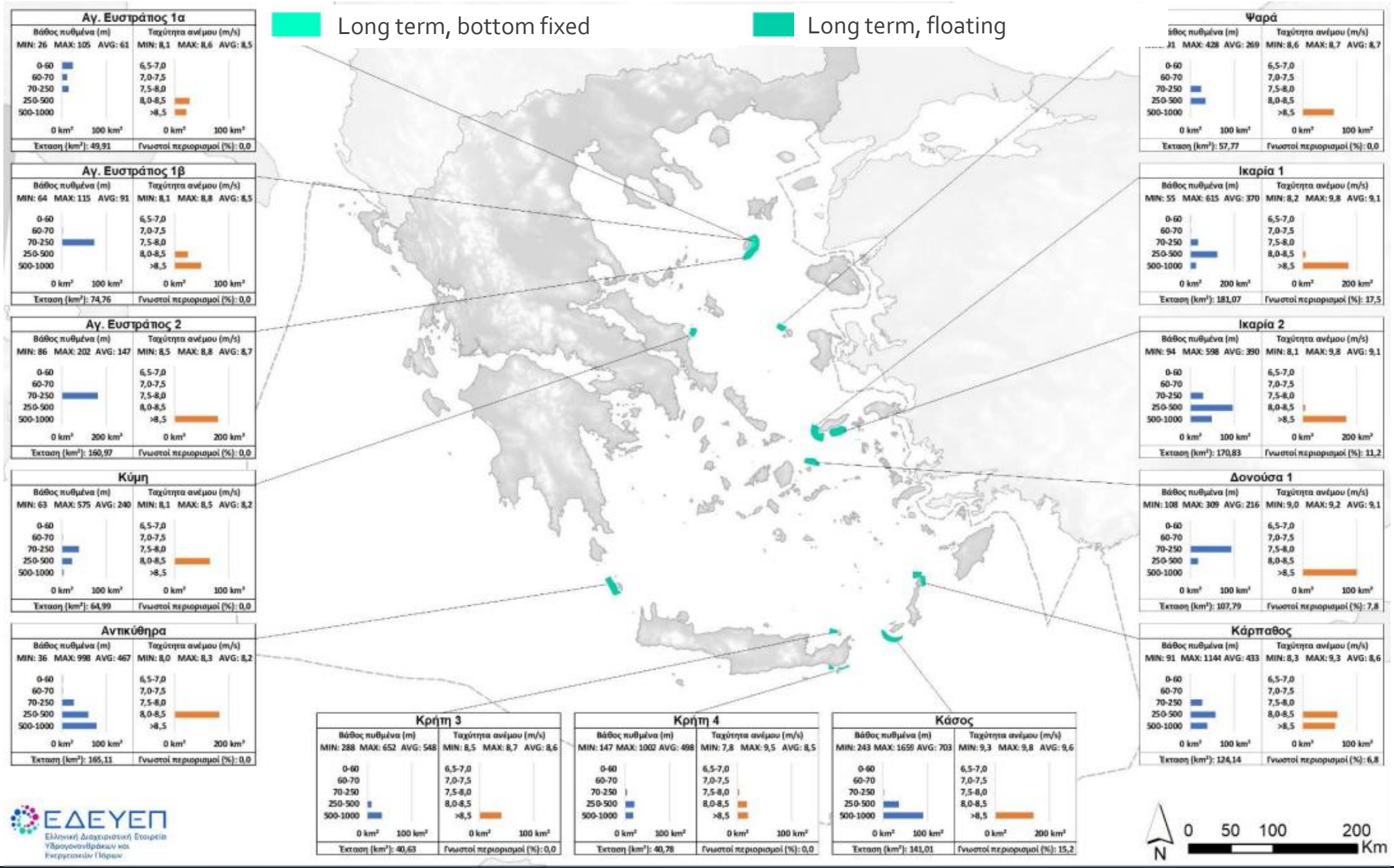
✓ The National Offshore Wind Farm Development Plan, determines the total marine area that has a potential for exploitation. It has been prepared by HEREMA, it was published in **October 2023** and its approval is still expected

The OW National Program – The medium term OWFODAreas



ΕΔΕΥΕΠ
Ελληνική Διαχειριστική Εταιρεία Υδρογονανθράκων και Ενεργειακών Πόρων

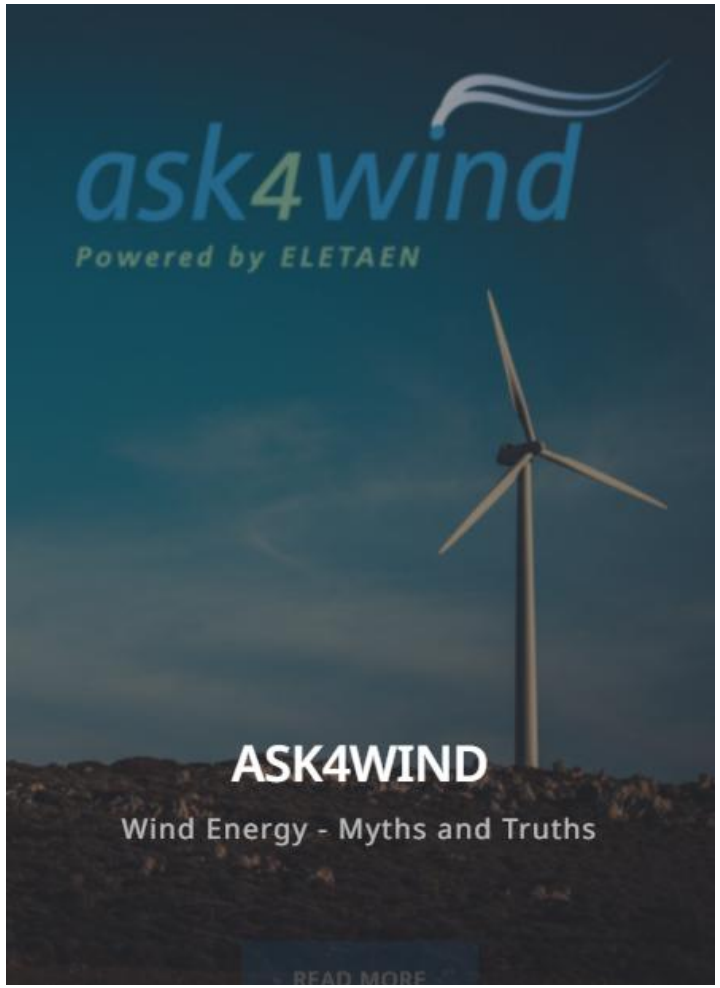
The OW National Program – The long term OWFODAreas



Current threats & challenges on the way forward…

- Path after 50% RES penetration gets really tough!
- Asymmetries in RES mix (PV dominance creates issues)
- Scarcity of Electrical Space
- Curtailments are a big threat
- Need for local supply chain vs European de-industrialization
- The West OEM slow down the East accelerate
- Geopolitics
- Cybersecurity
- Sea zoning & tensions
- Fake news!

Need to fight the fake news and myths against wind energy



Provide concrete answers to the most spread fake news against wind energy

Topics touched:

- Technology and cost of energy
- Society and Development
- Climate change
- Humans and environment

https://ask4wind.gr/

Questions?