



EWEA
THE EUROPEAN WIND ENERGY ASSOCIATION



The development of the European offshore wind industry

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Presentation outline

- **About EWEA**
- The growth of offshore wind
- EWEA's scenarios for 2020 & 2030
- Employment figures
- Offshore market development trends
- Supply chain
- Key messages

What is the European Wind Energy Association?

EWEA is the **voice of the wind industry** in Europe

Activities include:

- **Researching** the latest developments in the wind sector
- **Coordinating** EC-funded projects
- **Disseminating** high quality, up-to-date information
- **Raising awareness** of the benefits of wind power
- **Organising** Europe's premier wind energy events



EWEA
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More than 700 members from almost 60 countries

- Manufacturers with a leading share of the global wind power market
- Component suppliers
- Research institutes
- National wind and renewable associations
- Developers
- Electricity providers
- Finance and insurance companies
- Consultants
- Contractors

This combined strength makes EWEA the world's largest and powerful wind energy network



EWEA's leading members



GE Energy



SIEMENS



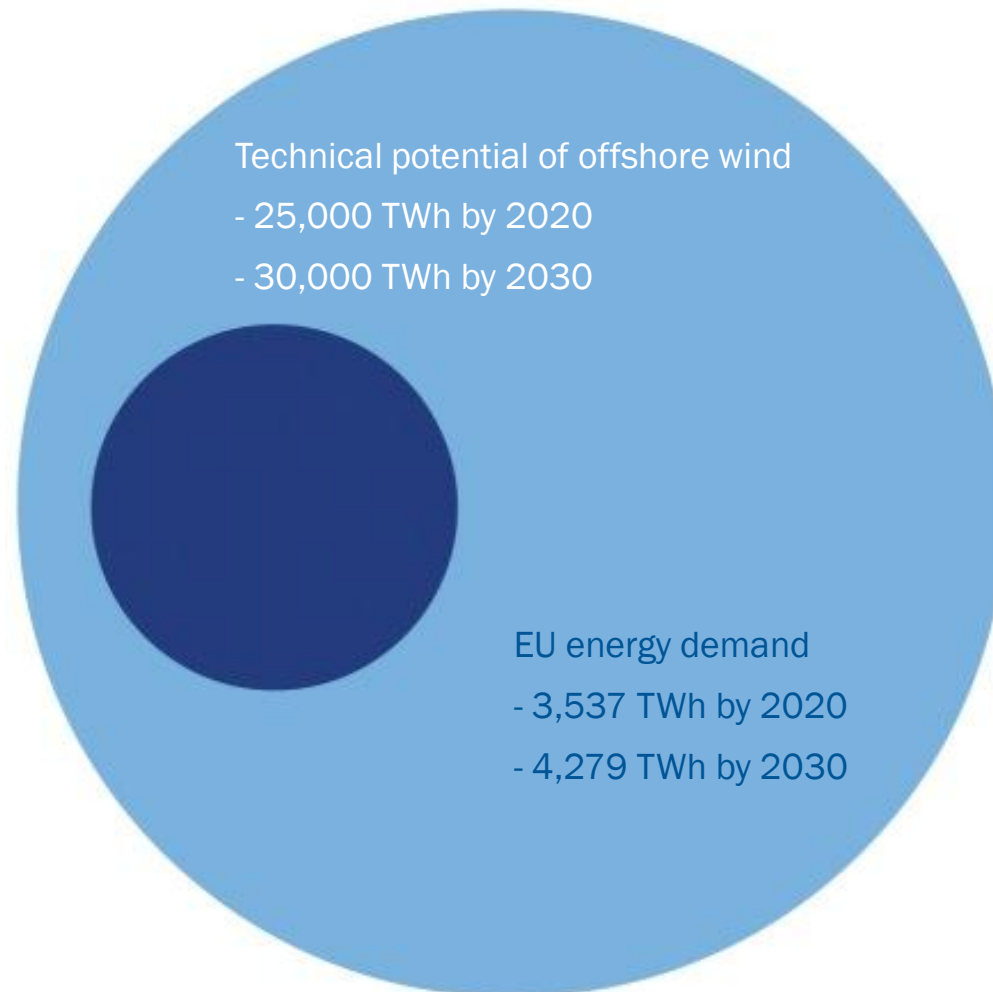
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Unlimited indigenous and clean energy source

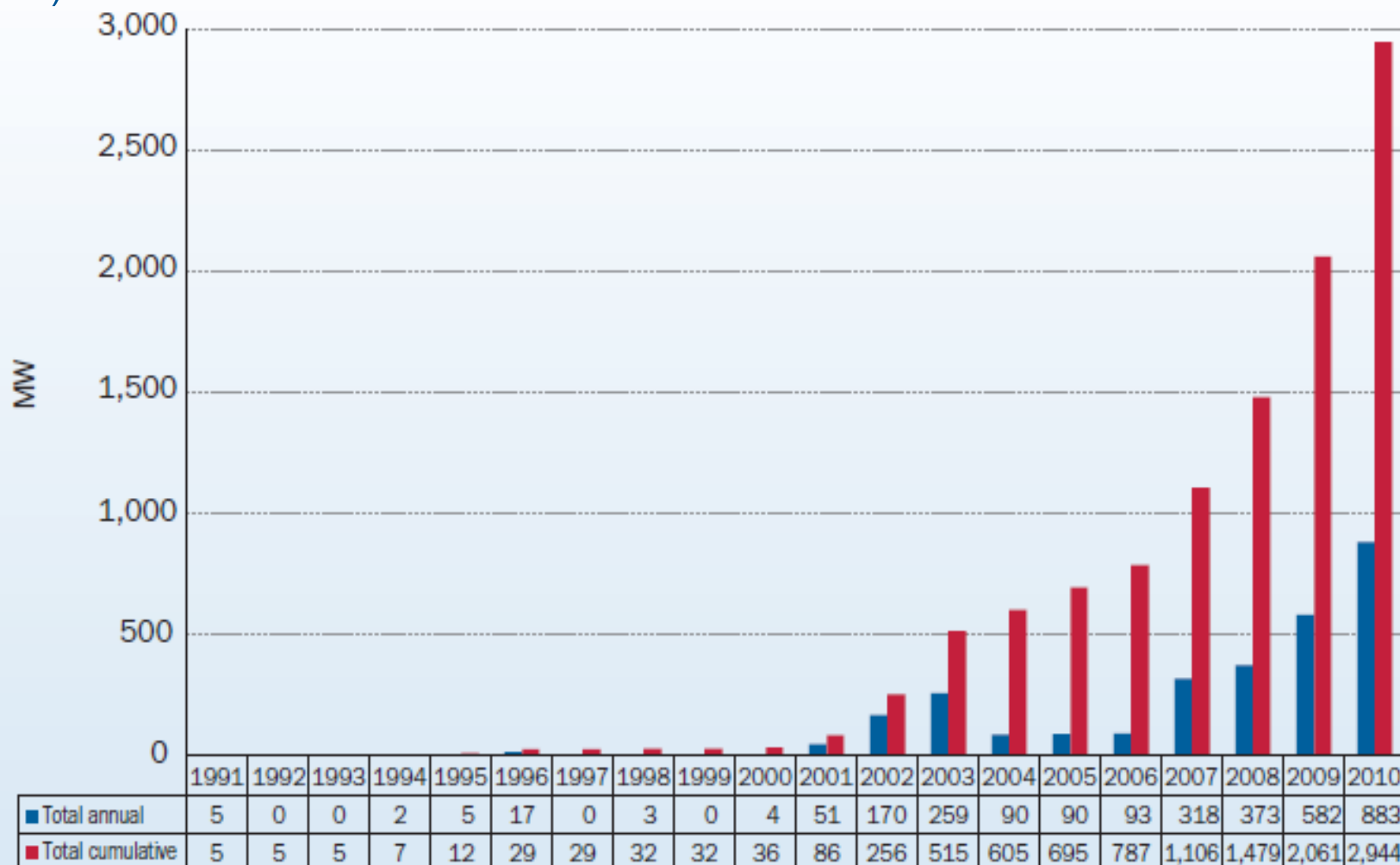
Offshore wind can power Europe seven times over



THE GROWTH OF OFFSHORE WIND

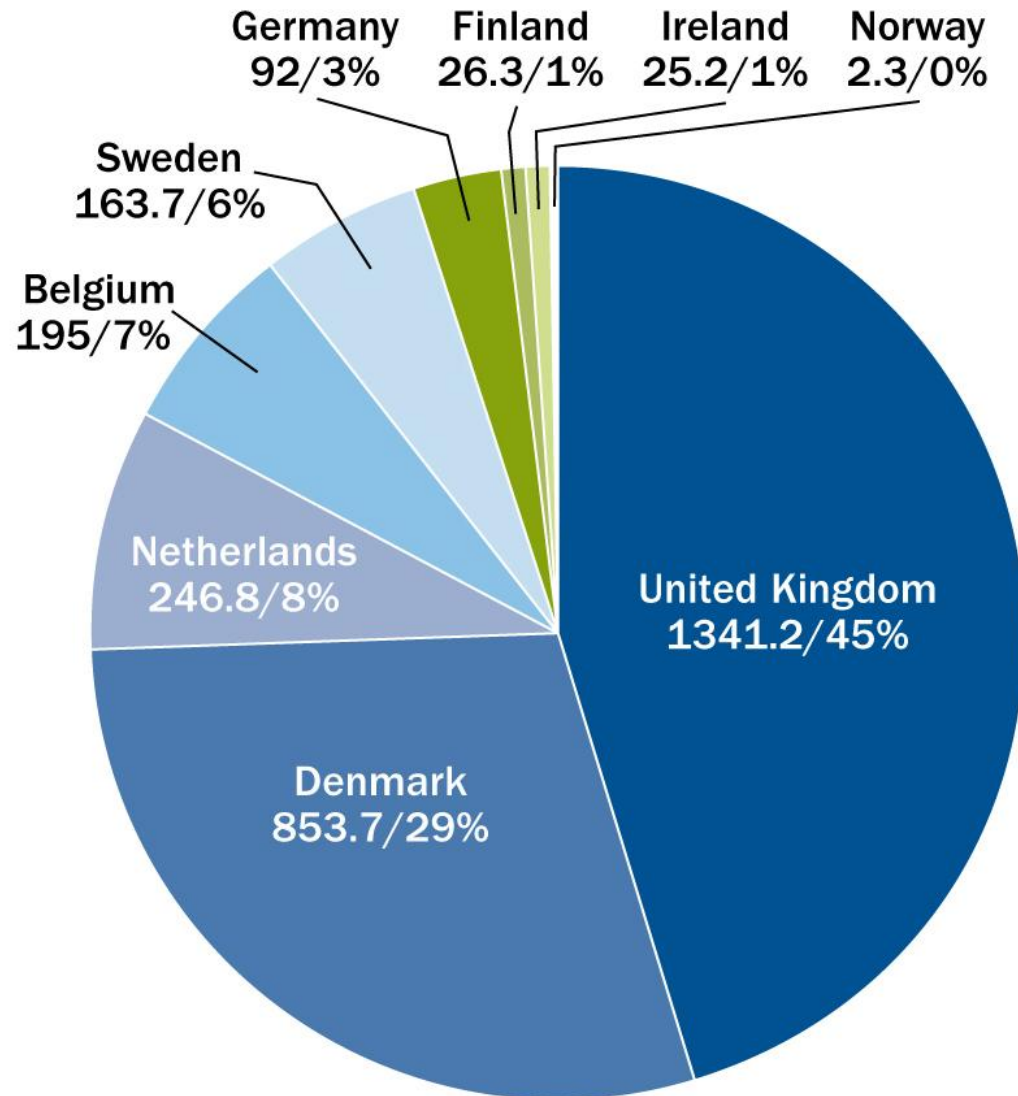


Annual and cumulative installed EU offshore capacity 1991-2010 (MW)



Source: EWEA 2011

Installed capacity: cumulative share by country at end 2010 (MW)



2011 OFFSHORE MARKET

- 101 offshore turbines totaling 348.1MW were fully connected (+ 4.5% on the previous year)
- Overall 11 offshore wind farms were under construction (2,844 MW)
- By end 2011, EWEA expects the annual market to pass 1GW with the offshore sector representing 10% of the annual wind market

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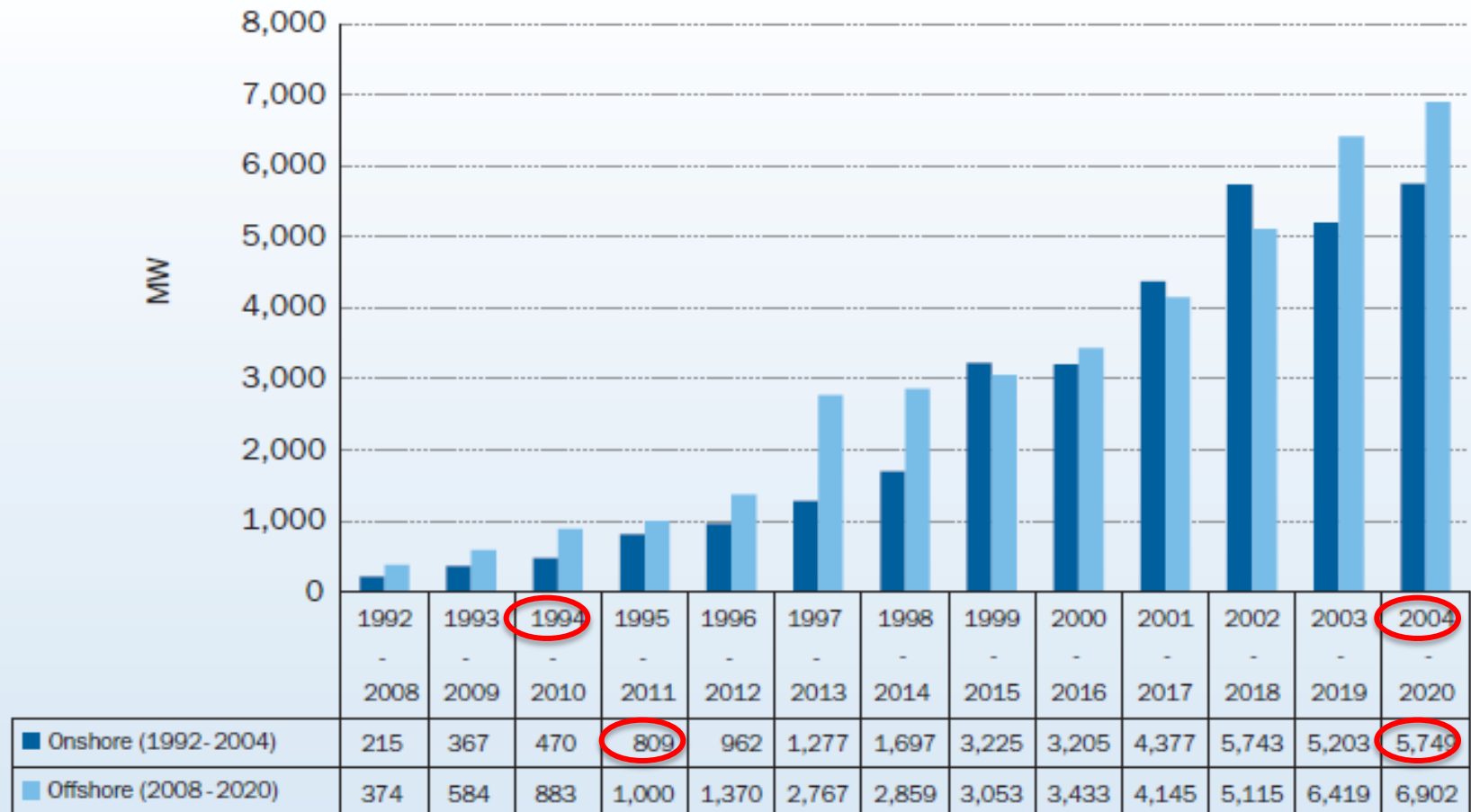


EWEA SCENARIOS FOR 2020 & 2030

Summary of offshore wind energy in 2020

- 40GW offshore wind installed capacity
- Meeting 4% of EU electricity demand
- 28% of annual wind installations (6.9 GW)
- 40% of annual wind investments (€10.4 bn)

Onshore historical growth 1994-2004 compared to EWEA's offshore projection 2010-2020



Summary of offshore wind energy in 2030

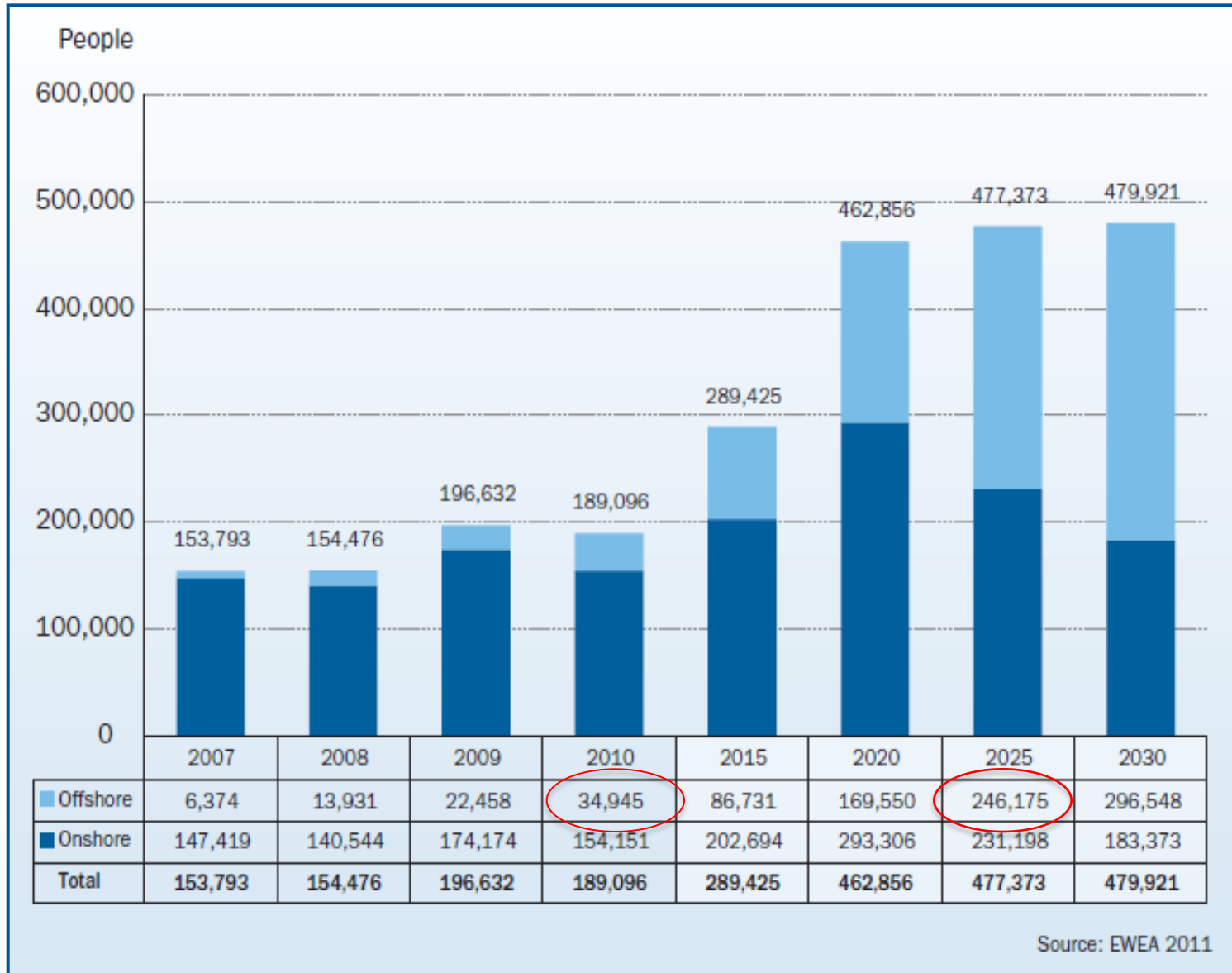
- 150 GW offshore installed capacity
- Meeting between 12.8% and 16.7% of EU electricity demand
- 58% of annual wind installations (13.7 GW)
- 67% of annual wind investments (€17.1 bn)

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Employment

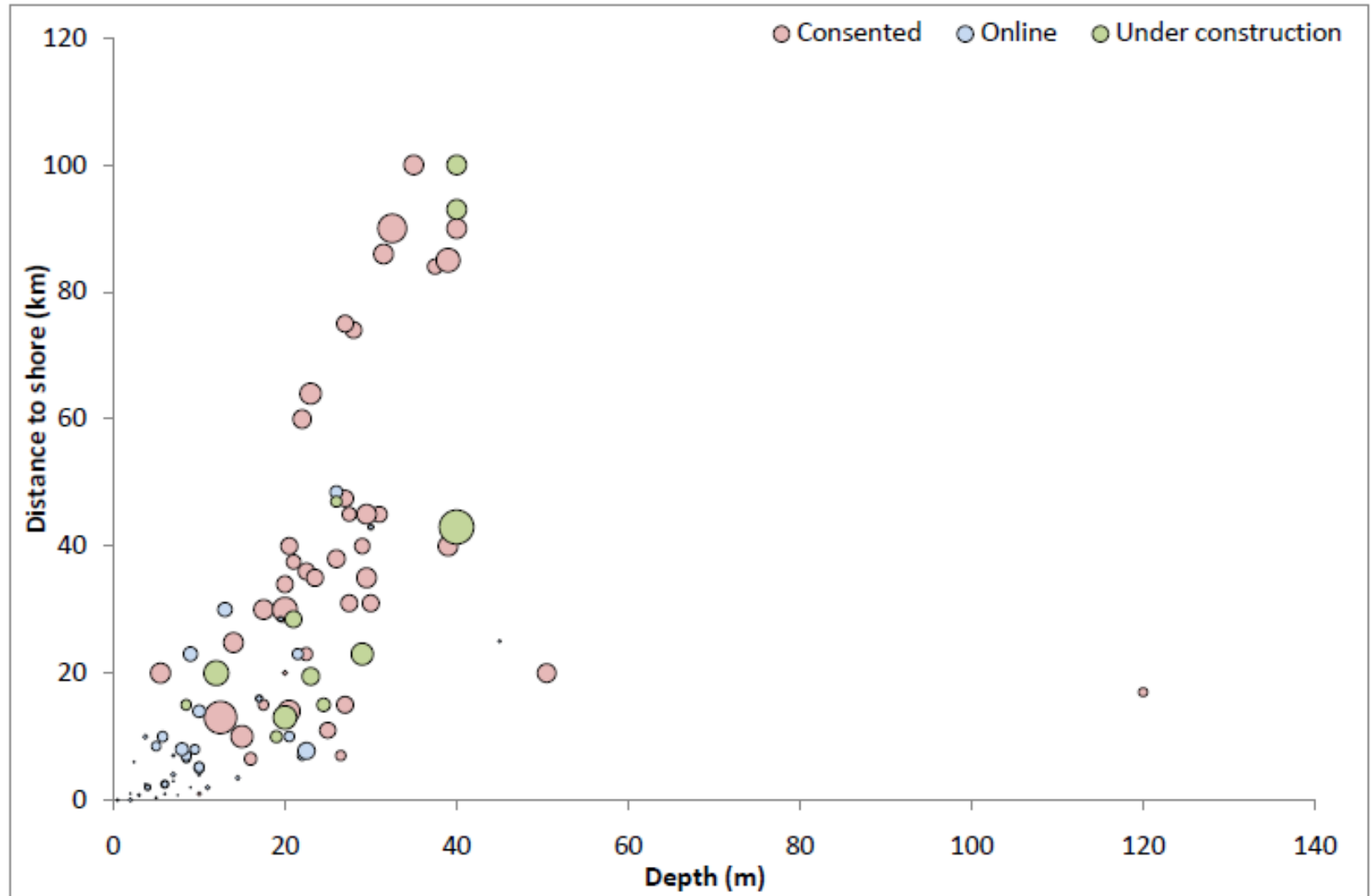


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OFFSHORE DEVELOPMENT TRENDS – BIGGER FARMS, DEEPER AND FURTHER

- The average offshore wind farm size in 2010 was 155.3MW, up from 72.1MW the previous year
- Average water depth in 2010 was 17.4m, a 5.2m increase on 2009, with projects under construction in water depth averaging 25.5m
- Average distance to shore increased in 2010 by 12.7 km to 27.1 km substantially less, however, than the 35.7 km average for projects currently under construction



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SUPPLY CHAIN—HELICOPTERS & VESSELS



Eurocopter EC135T2



Ampelmann

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KEY MESSAGES (1)

- The European Union leads the world in offshore wind power with 4,000MW already installed
- This major industrial development will bring a significant number of jobs and create development opportunities for European companies
- Offshore wind provides the answer to energy and climate dilemma

KEY MESSAGES (2)

- This development will not happen without ambitious national programmes and support from the European Union
 - Favourable national framework conditions: NREAPs, licensing and permitting procedures, maritime spatial planning, energy networks,...
 - Support from the EU: stable post-2020 legislative framework, energy infrastructures

EWEA OFFSHORE 2011 Event

The world's largest offshore wind energy conference and exhibition

29 November – 1 December 2011, Amsterdam, the Netherlands

Conference: over 2,000 delegates. The **many learning opportunities** on offer include:

- **Hardware**: Design, data verification and risks associated with different support structure types. Building lighter, more cost effective big turbines: new solutions and all the latest models.
- **Logistics**: Health and safety lessons, new guidelines and how to optimise resources and O&M strategies in order to meet the supply chain demands of this growing industry.
- **Cross-sector experience**: Learning from real life data across the whole sector: how to bring down costs and reduce the technical risks of offshore wind energy.
- **Doing business**: Risk and reward: where and how to invest in European markets, including a spotlight on the French call for tender; evaluating and managing financial risk.
- **Grids**: New interconnections across Europe, integrating with oil and gas grid infrastructure and ENTSO-E's network code requirements.
- **Measuring the resource**: The cutting-edge technologies used by experts to quantify and qualify the wind in complex sites and the latest findings on nacelle based LIDAR measurements.



Full information and registration
www.ewea.org/offshore2011

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The world's largest offshore wind energy conference and exhibition

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Exhibition: over 350 cross sector, international players, including:

- Wind Turbine manufacturers
- Components/material/equipment manufacturers
- Installation, Logistics and Storage
- Project developers and operators
- Resource assessment consultancies
- Certification-Classification bodies
- R & D consultancies and institutes
- Marine platform development
- Marine operations & maintenance
- Ship building and conversion
- Vessels fleet management
- Remote site management
- Sub-marine infrastructure & components
- Grids, sea cable manufacturing & laying ships
- Coastal planning and harbour support
- Finance & legal services
- Marine health & safety
- Environmental impact consultancies
- Port authorities & intermediaries



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Thank you very much for your attention

www.ewea.org

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