



Financing offshore wind: a UK perspective



The Financing of Wind Energy, Palais de la Bourse, Paris

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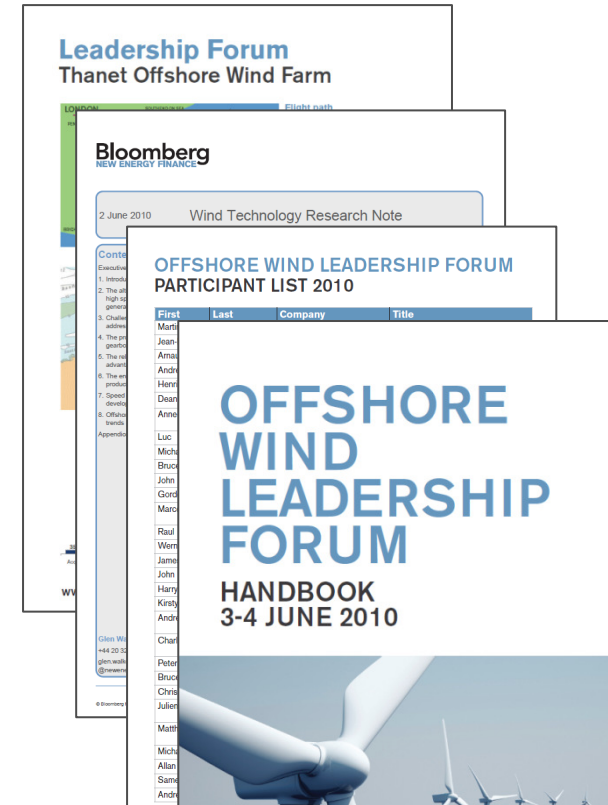
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Offshore Wind Leadership Forum 2010

Two-day forum for 55 leading figures in the offshore wind market using presentations, panels and interactive sessions to discuss whether the market was on track to meet projected growth and to identify both challenges and solutions

- Day 1 concentrated on the challenges facing offshore market including financing, policy and technical issues
- Day 2 focused on supply chain dynamics and potential constraints
- A White Paper and communiqué will be published to disseminate key findings



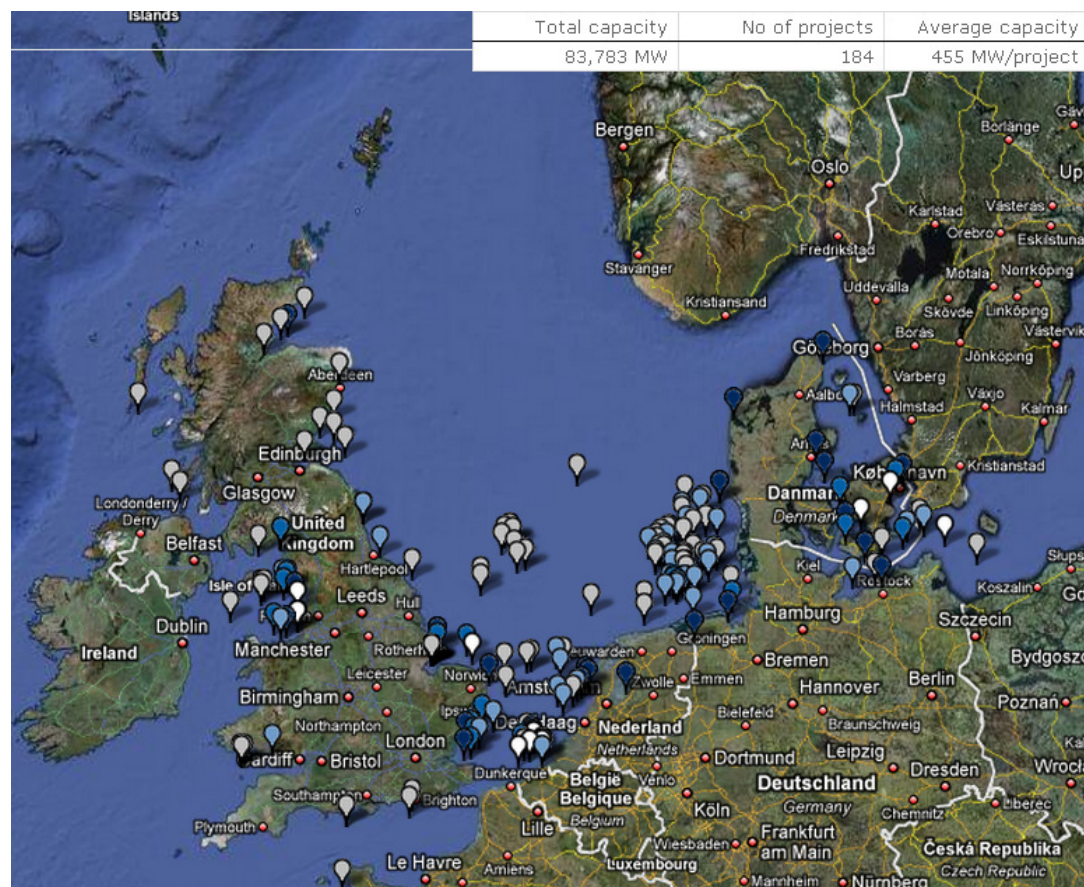
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Offshore Wind Leadership Forum: Communiqué

- 1. Invest in national transmission assets:** *prevent bottle necks at crucial nodes and avoid massive price differentials.*
- 2. Educate investors:** *The industry is battling the perception, founded on challenges in early demonstration projects, that it is a high risk investment. Major improvements in the technology and installation have reduced this.*
- 3. Address the equity funding gap:** *utilities can't fund all of this. More investors are required. A combination of education and incentives are required.*
- 4. Address the debt funding gap:** *There are too few project finance banks ready to lend against offshore wind assets. New banks and additional third party capital need to be attracted.*
- 5. Avoid gaps in support mechanisms:** *In the short time before bonuses in UK & Germany expire the industry will not have cut costs sufficiently to maintain investment after these dates. The schemes should be extended.*
- 6. Fix broken regulation:** *eg. the Offshore Transmission Owner (OFTO) regulatory regime in the UK is widely seen as complex and counterproductive.*
- 7. Don't rely on power exports:** *Transmission costs, market access and lack of control over the timing of offshore wind power generation mean that the exports will command a low value in the European internal electricity market*
- 8. Work towards a European standard for connection to the super grid:** *After 2015 the ability to transmit power between markets will be important to optimise power generation. Standardised connection requirements are needed.*

Locations and development status of offshore wind projects in Europe 2010 (MW)



Market	Operational capacity	Planned capacity
UK	1040	49,510
Denmark	635	1,643
Netherlands	247	3,921
Belgium	30	1,564
Germany	30	29,211
Abandoned	n/a	3,168
Total	1,982	89,017

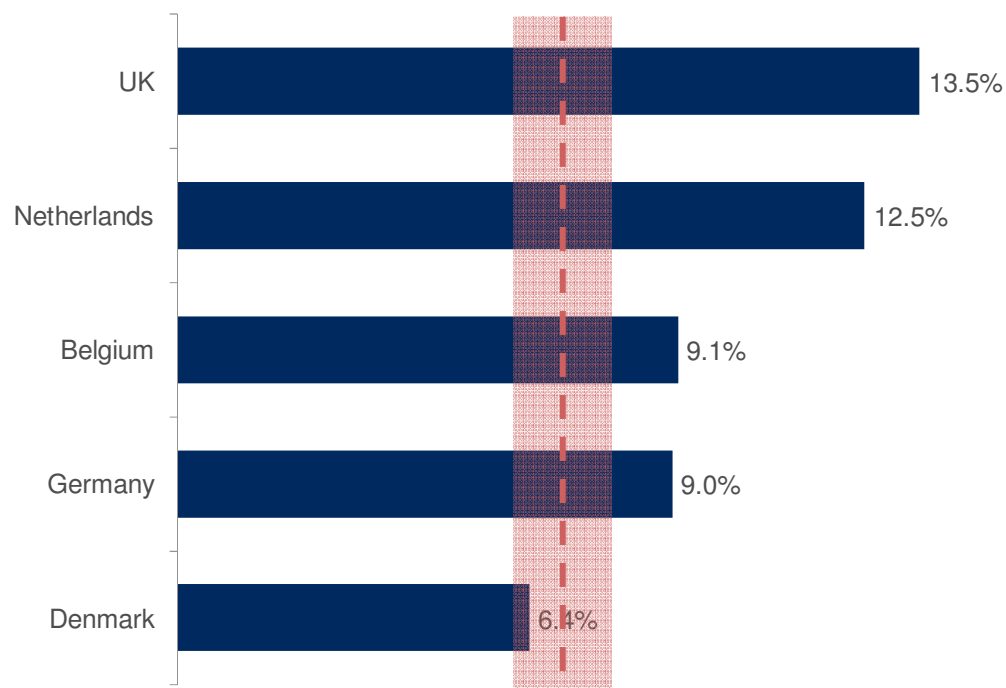
Commissioned
 Financing secured / under construction
 Permitted
 Announced/ planning begun
 Project abandoned

Source: Bloomberg New Energy Finance

Note: Only projects from the five European markets named are shown. Others – e.g., France, Sweden, Ireland – are not included.

Returns analysis by market and implications for growth

IRRs & post-tax hurdle rate (%)



Implications / trends

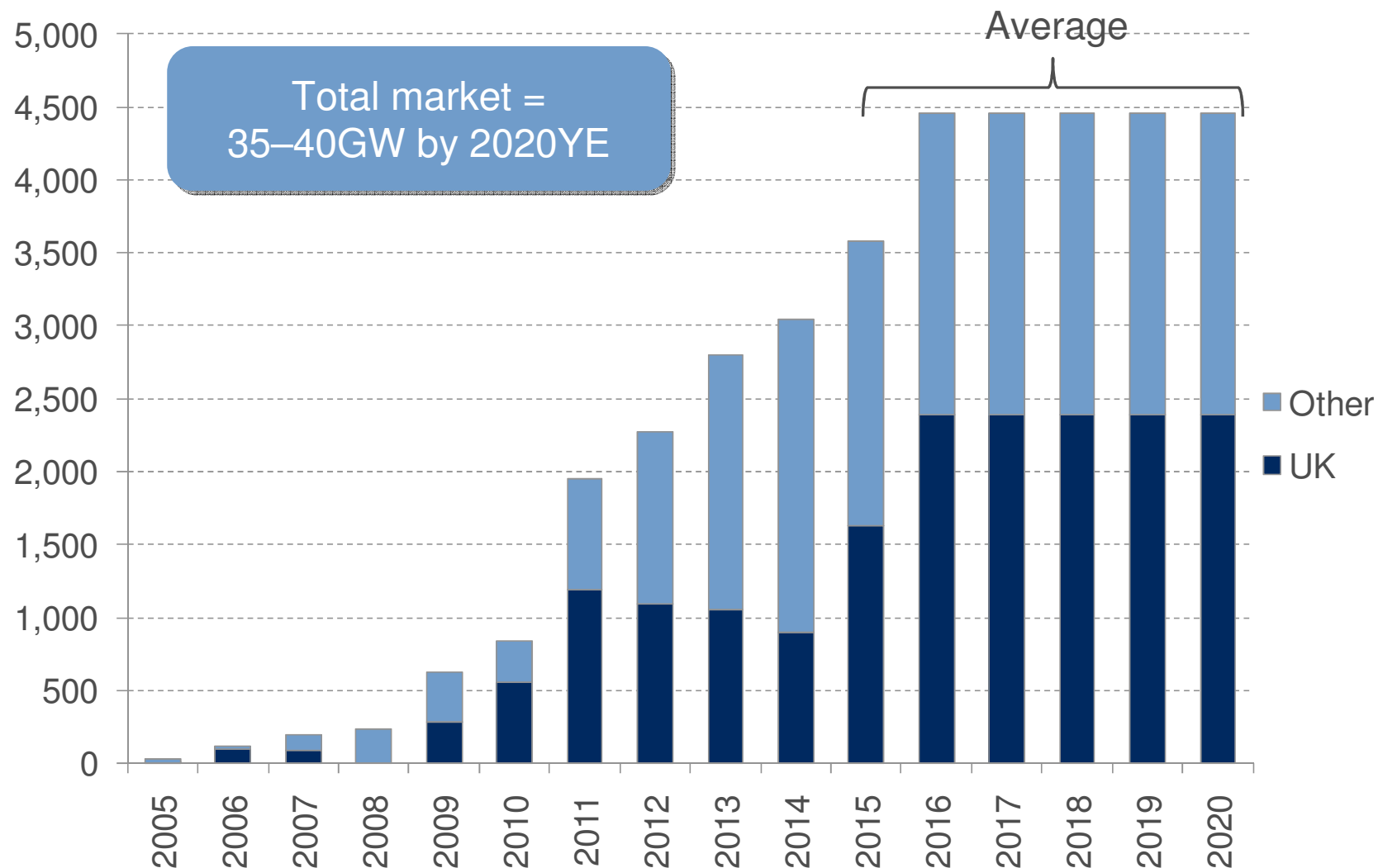
UK leading growth – why?

- Wind resources & accessibility
- Government backing
- Potential upside due to electricity market exposure
- Utilities obliged to build RE due to Renewable Obligation

Source: Bloomberg New Energy Finance

Notes: We have used sample projects which vary by market, water depth, distance and technology. IRRs reflect all-equity financing structures. The EUR 25m grid subsidy has been included in the Belgian scenario and the grid “rebate” has been accounted for in the UK scenario.

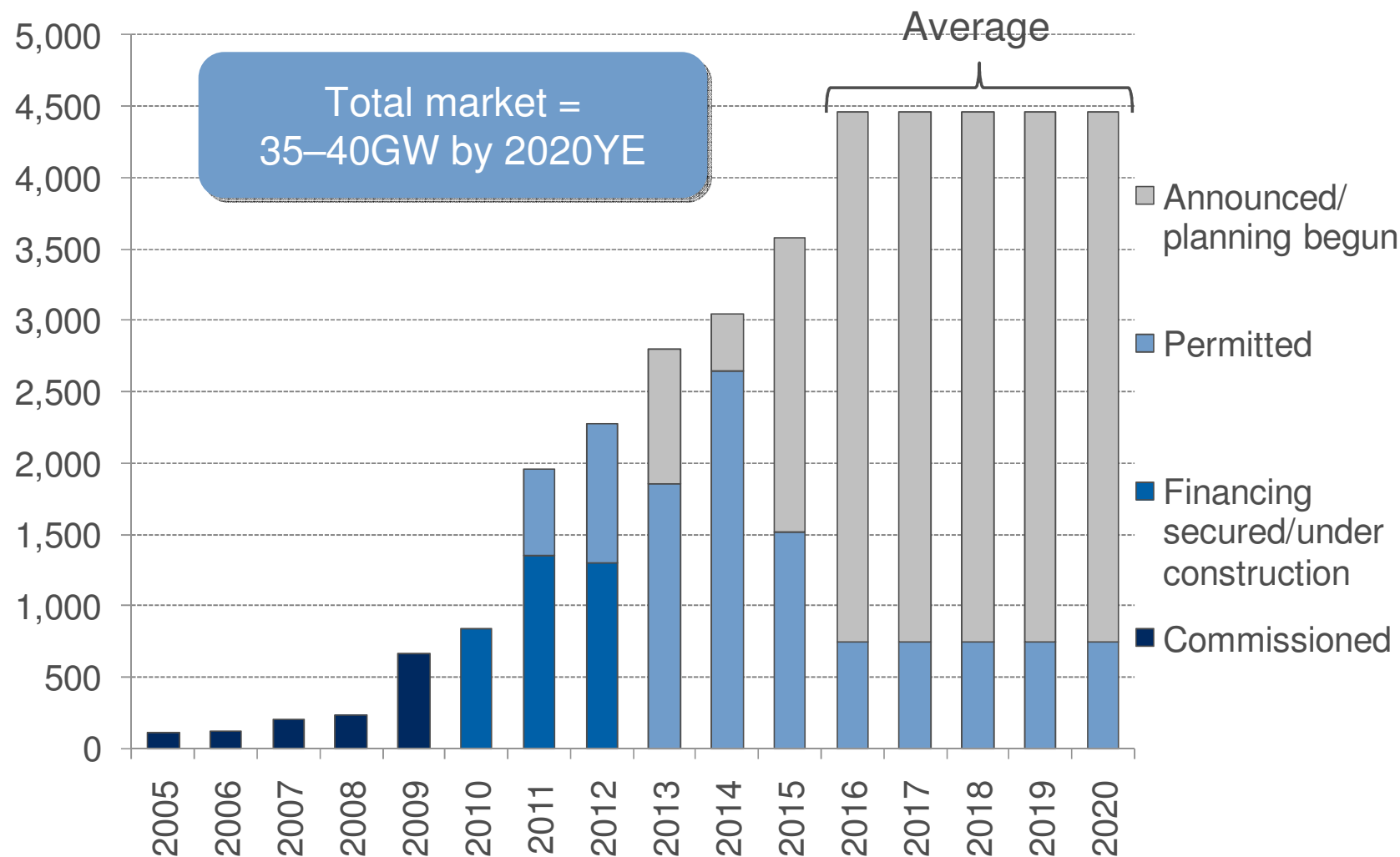
European offshore wind installations by market 2005–20YE (MW)



Note: "Other" markets include Germany, Denmark, Netherlands, Belgium, Sweden and Ireland.

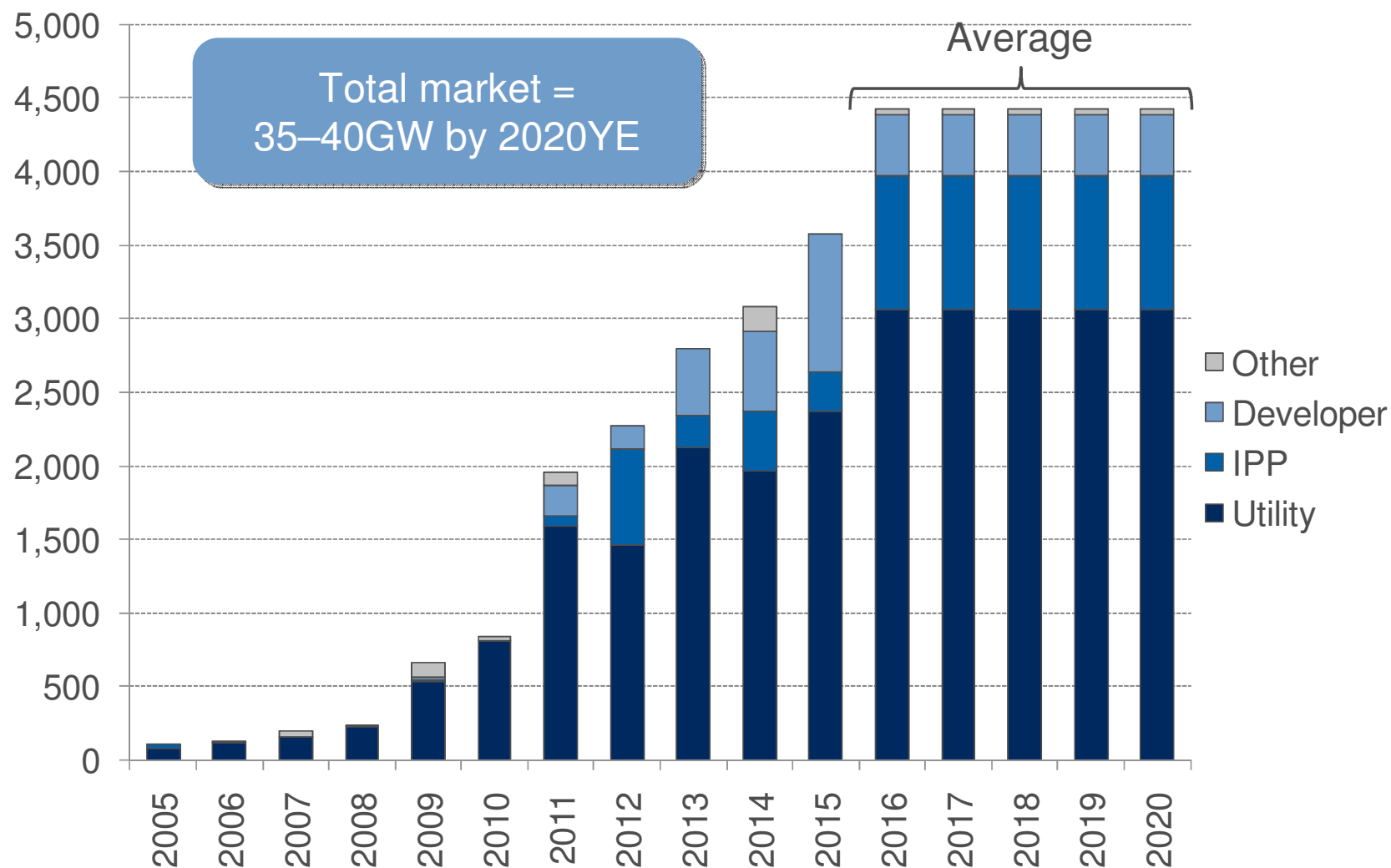
Source: Bloomberg New Energy Finance

European offshore wind installations by stage of development 2005–20YE (MW)



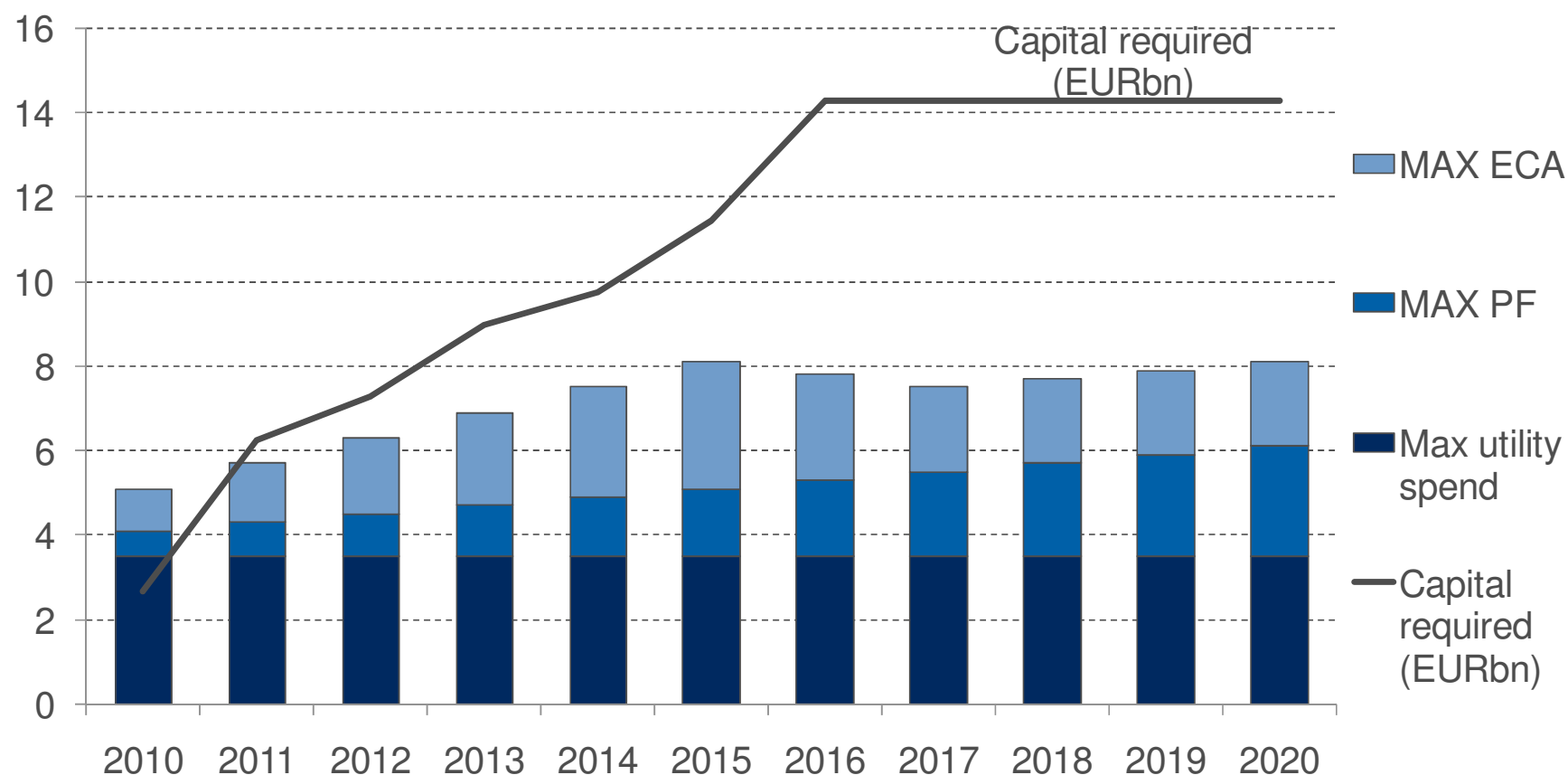
Source: Bloomberg New Energy Finance

European offshore wind installations by type of owner 2005–20YE (MW)



Source: Bloomberg New Energy Finance

European capital requirements, 2010–20YE (EURbn)

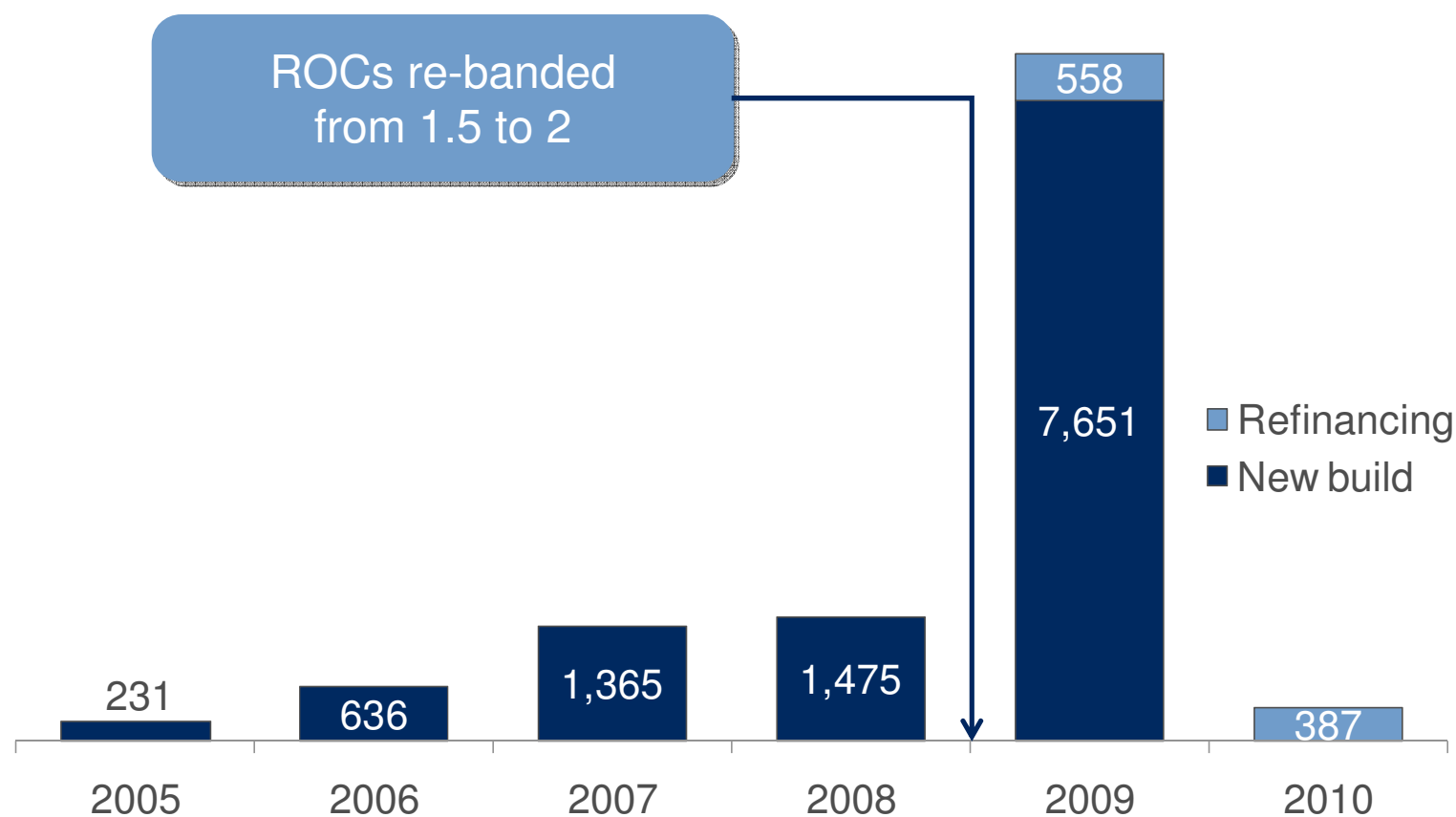


Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Shortfall (EURbn)	-2	1	1	2	2	3	6	7	7	6	6

Note: "ECA" refers to Export Credit Agencies and "PF" refers to pool of debt capital available to sector at project finance banks.

Source: Bloomberg New Energy Finance

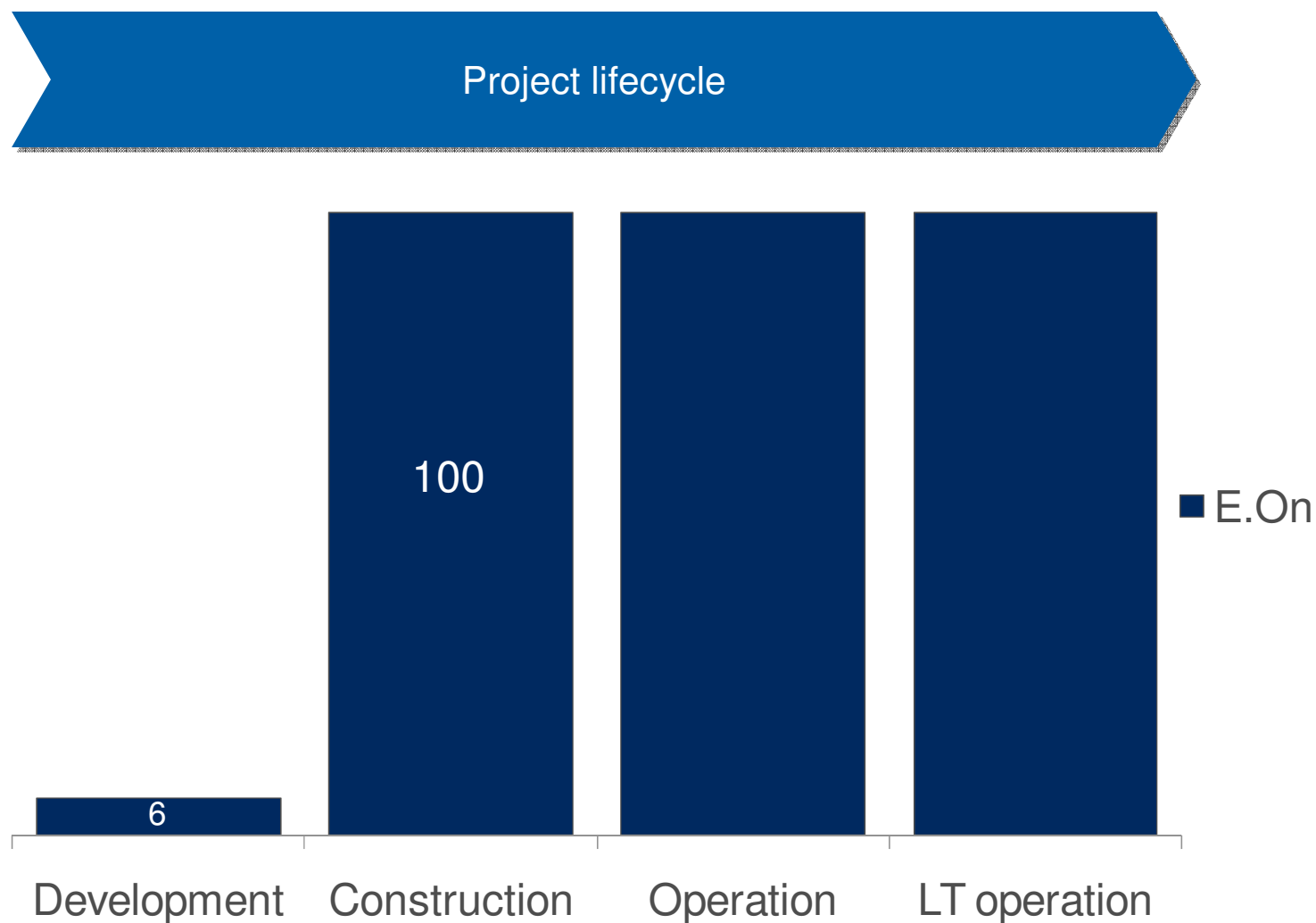
UK offshore wind asset finance, 2005–10 (\$m)



Note: UK ROCs were rebanded in the April 2009 Budget, increasing from 1.5 ROCs per MWh to 2, or an increase in GBP 25/MWh.

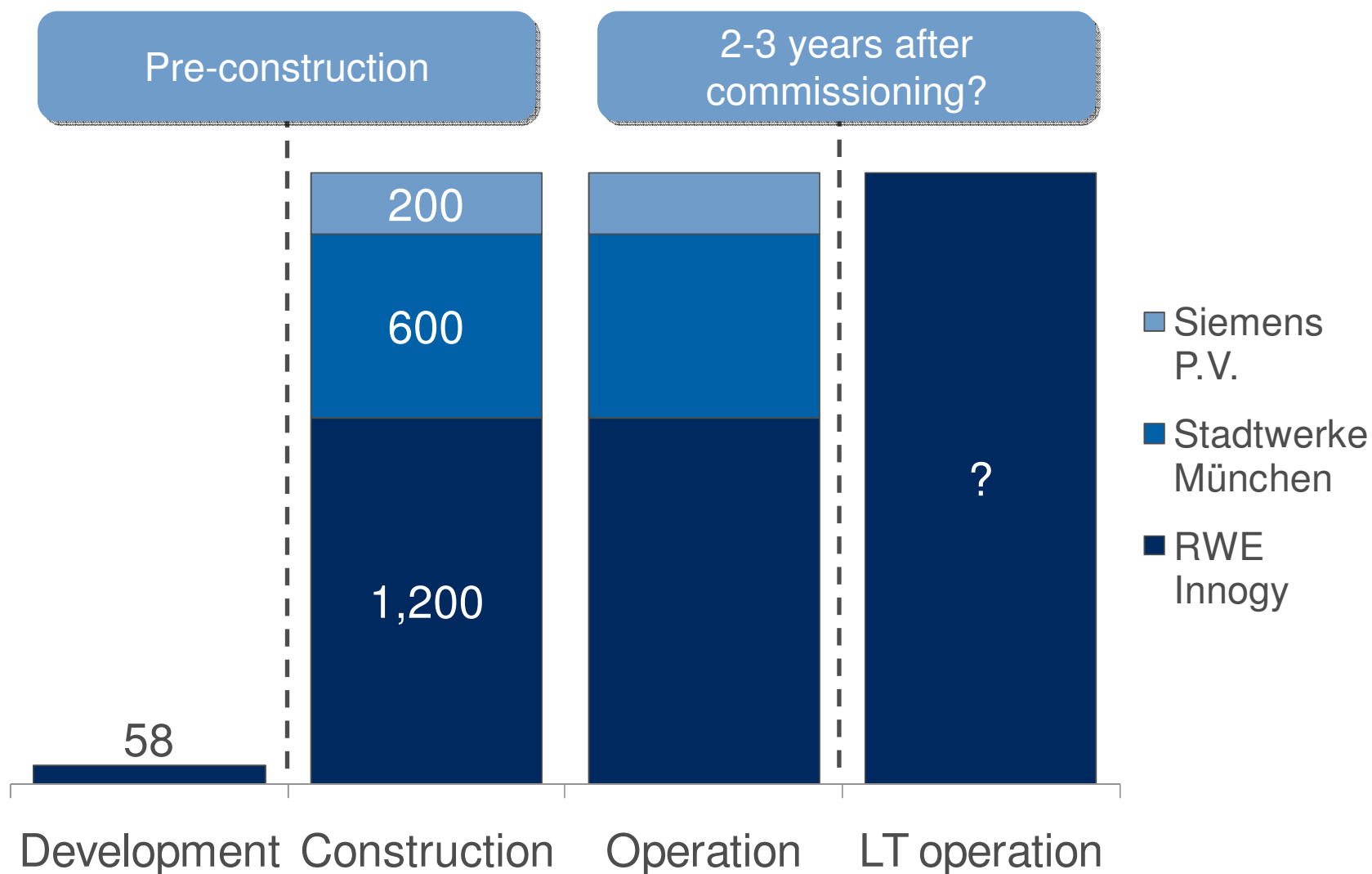
Source: Bloomberg New Energy Finance

Capital structure of Scroby Sands, 2003 (EURm)



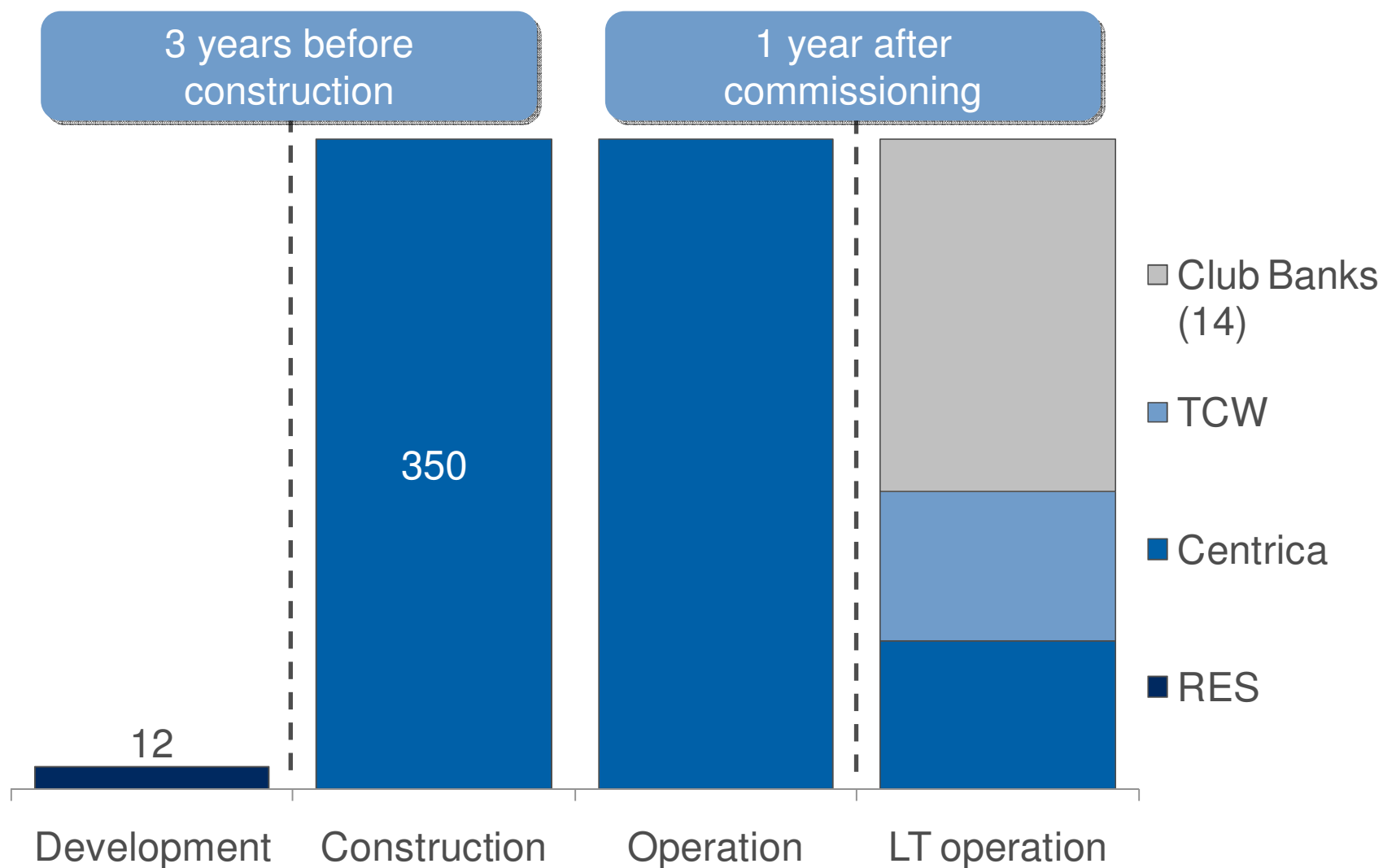
Source: Bloomberg New Energy Finance

Capital structure of Gwynt y Môr expected 2010 (EURm)



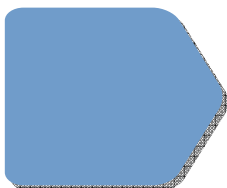
Source: Bloomberg New Energy Finance

Capital structure of Boreas 2009 (EURm)



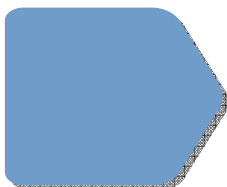
Source: Bloomberg New Energy Finance

Challenges facing the UK offshore wind industry



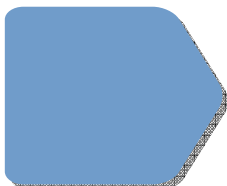
Equity

- Low historic returns and strong perception of risk; understanding and management of these risks is in flux



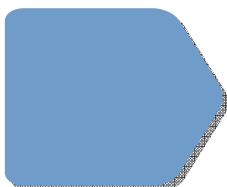
Debt

- Too few banks in the market



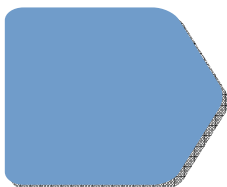
Legislative support

- Uncertainty around the extension of 2 ROC regime
- Capitalisation and activity of “Green Investment Bank”



Local content

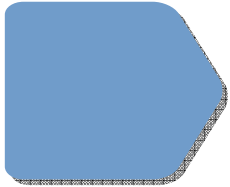
- Current imports in EUR when revenue is in GBP
- Ongoing political support should jobs not be created in UK



Regulation

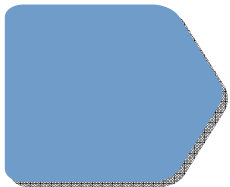
- Imbalanced exposure to transmission asset failure in UK Offshore Transmission Operator Scheme (OFTO)

Thoughts on what has worked in the UK and other sectors



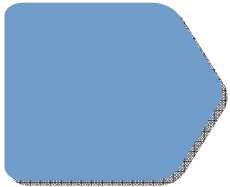
Carrot and stick: balance profit with obligation

- UK (RO): profit incentive / regulatory (stick)
- Germany (EEG): profit incentive (more passive)



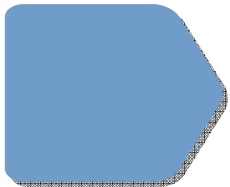
Leadership role of core institutions e.g. Crown Estate

- Oversight: shipping / fisheries / conservation / tourism
- Vested interest: driven by offshore revenues
- Align interests of government and the broader industry



Regulatory structures & trade policy

- Role for price discovery (competition)
- Industrial policy (local content)



Education of public and industry

- Costs
- Cleanliness (e.g. vs. nuclear/coal)
- Export prospects

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