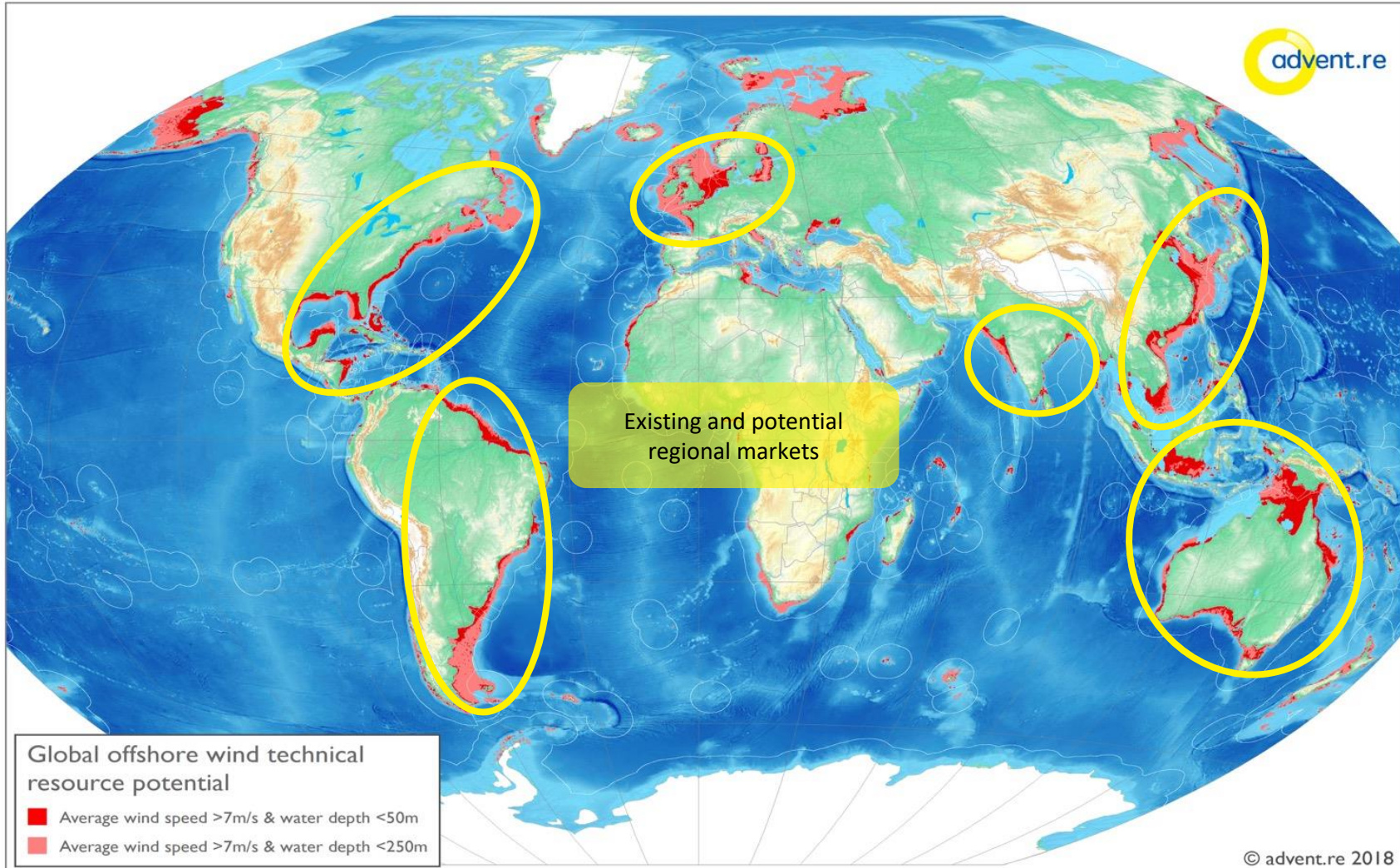


Global Offshore Development Status

Vietnam Offshore Roundtable, 11 June 2019



Alastair Dutton
Chair of Global Offshore Wind Task Force





Existing and potential regional markets

Global offshore wind technical resource potential

-  Average wind speed >7m/s & water depth <50m
-  Average wind speed >7m/s & water depth <250m

Offshore wind capacity as at end 2018

New capacity – 4.3 GW
Total capacity – 23.2 GW

USA

New – 0 MW
Total – 30 MW

UK

New – 1.3 GW
Total – 8.2 GW

Germany

New – 0.96 GW
Total – 6.4 GW

Netherlands

New – 0 GW
Total – 1.1 GW

Belgium

New – 0.3 GW
Total – 1.2 GW

Denmark

New – 0.06 GW
Total – 1.3 GW

Other Europe*

New – 0 GW
Total – 0.3 GW

China

New – 1.6 GW
Total – 4.4 GW

S Korea

New – 35 MW
Total – 73 MW

Japan

New – 0 MW
Total – 65 MW

Taiwan

New – 0 MW
Total – 8 MW

Vietnam

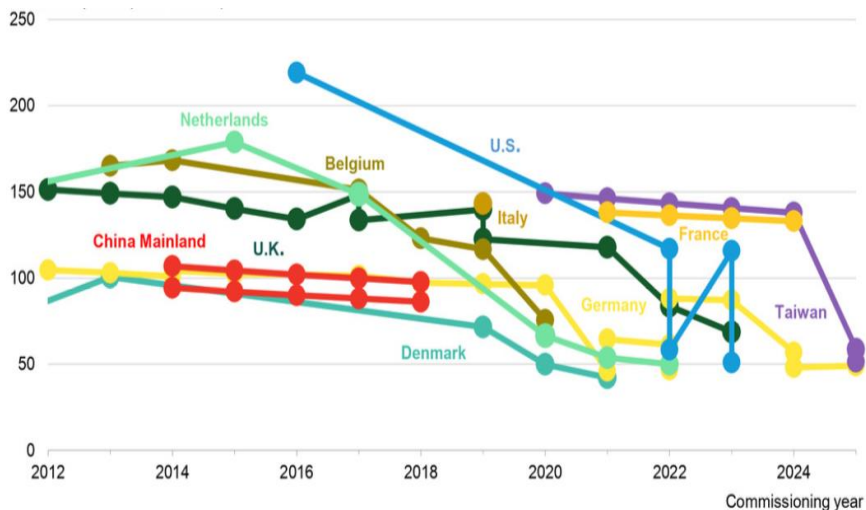
New – 0 MW
Total – 99 MW

* Finland, France, Ireland, Norway, Portugal, Spain, Sweden

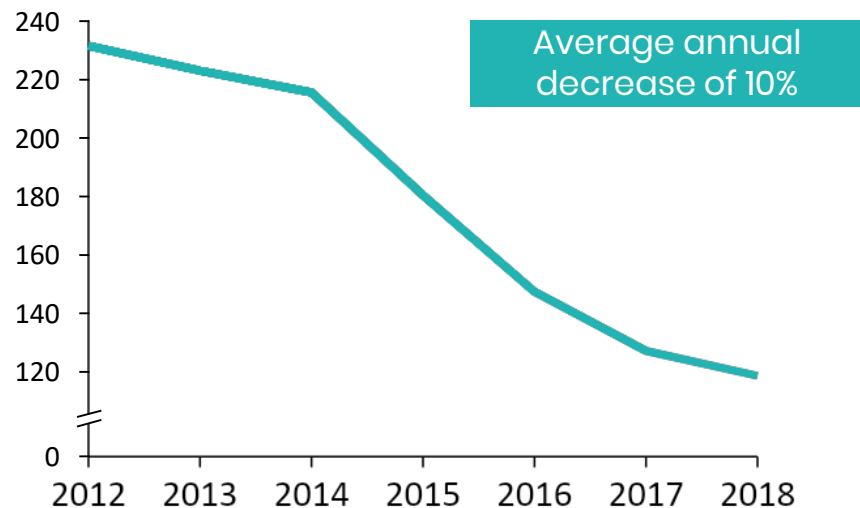
Source: GWEC Market Intelligence, WindEurope, local wind associations

Offshore wind – a maturing industry

Levelized offshore wind bids, USD/MWh by year of commissioning



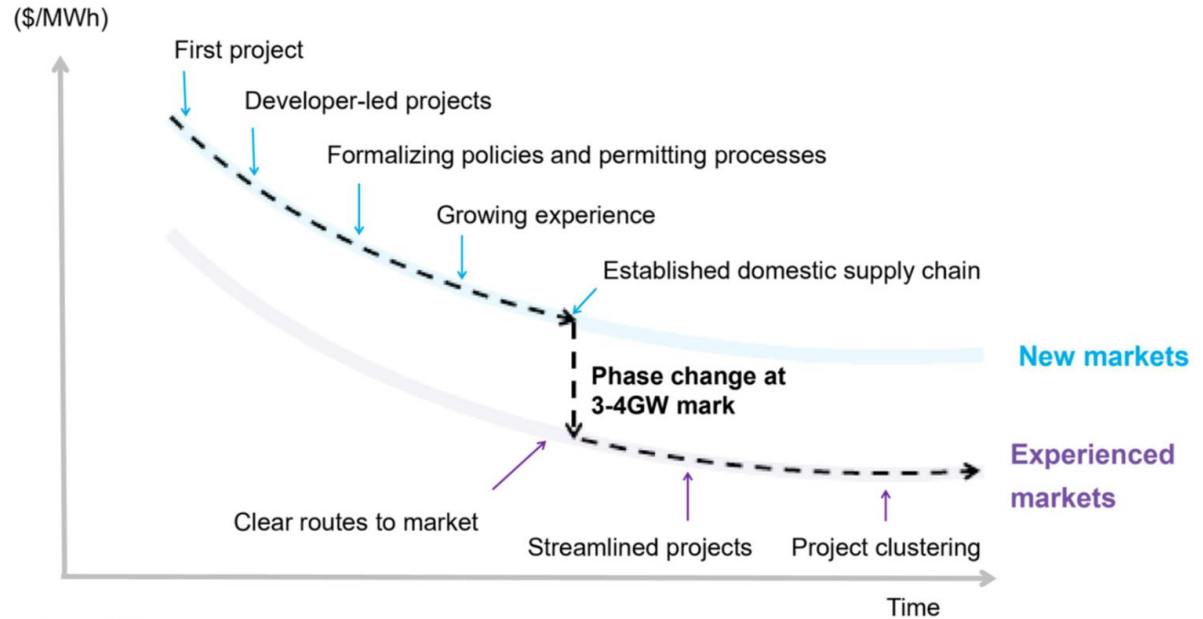
Levelized cost of electricity offshore wind USD/MWh



Source: GWEC, BNEF H2 2018 Offshore Market Outlook, BNEF LCOE Database Jan 2019

From new to experienced markets

- Early projects demonstrate the technical, regulatory, legal and financial practicalities and start to build the supply chain
- As the market develops costs fall, experience is gained and supply chain gets established
- Then a phase change happens as market confidence builds, full competition occurs and low cost finance



Source: Bloomberg
NEF



GWEC

OFFSHORE WIND TASK FORCE



Members

+ Wind Energy Associations, Carbon Trust, IFC



Initial Activities

- 1 Market intelligence
 - 2 Market readiness assessment
 - 3 Market entry opportunities
 - 4 Policy advocacy
 - 5 In-country events
 - 6 Knowledge transfer
 - 7 Skills training
- and more to come...



OFFSHORE WIND FOR EMERGING MARKETS
 A NEW ESMAP WORK PROGRAM
 IN PARTNERSHIP WITH IFC
 FEBRUARY 14, 2019

Offshore Wind Policy Toolkit

Offshore Wind Market Readiness Assessment

To assess the readiness and attractiveness of new and emerging offshore wind markets for offshore wind deployment and to identify where improvements would be best focused

- Utilising knowledge management techniques:
 - To provide a structured approach to market creation
 - To identify where countries, and regions, are in maturing elements of the market
 - To focus on specific topics for improvement
- Applied in-country with governments, developers and supply chain
 - Oil and Gas
 - Computing/telecoms
- The approach is proven in other sectors

	Topic	Level	Objective	Gap	Target Date
1	Policy	2	4	2	
2	Stakeholders	2	3	1	
3	Legal	3	4	1	
4	Health and Safety	1	3	2	
5	Consenting	2	5	3	
6	Grid	3	4	1	
7	Offtake	2	4	2	
8	Projects	4	4	0	
9	Manufacturing	2	3	1	
10	Finance	2	4	2	
11	Construction	1	3	2	
12	Operation and Commissioning	1	2	1	

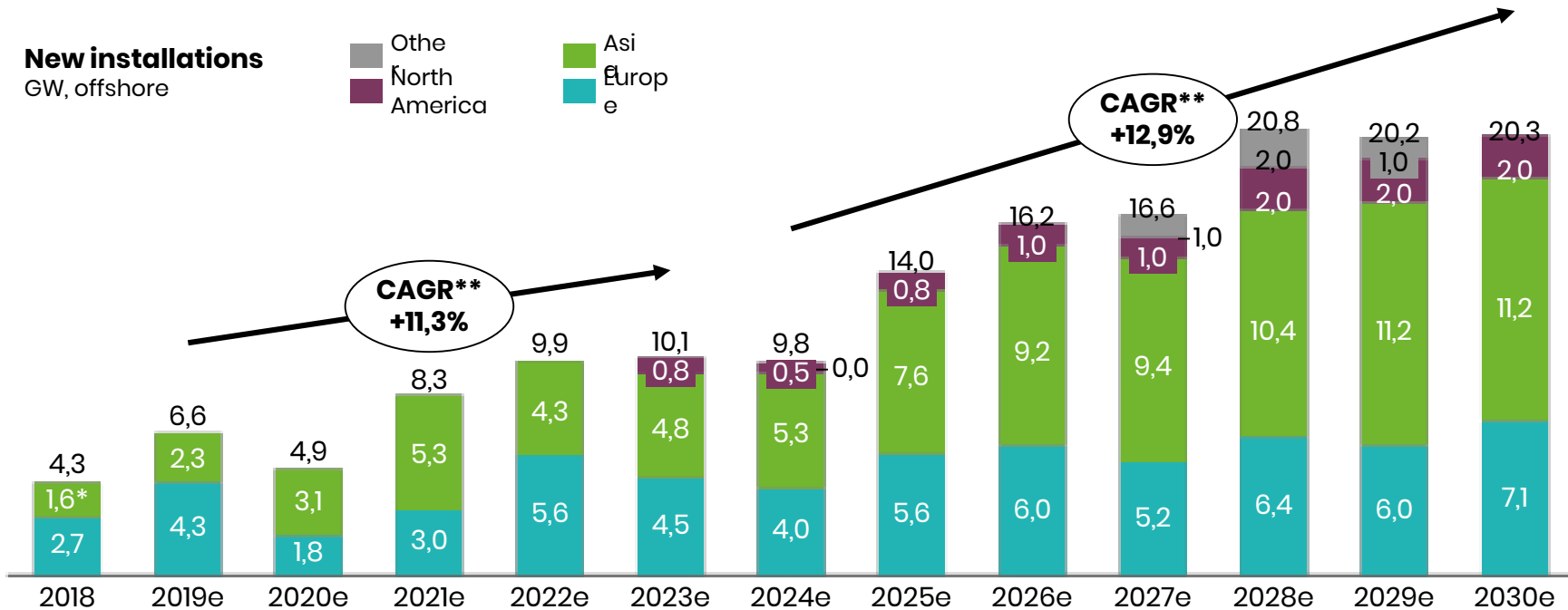
Assessment Dates to
 Planned Review Date

Subsequent sheets explain the separate topic rankings and how they have been derived in this assessment.

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GWEC Offshore Market Outlook to 2030



* Chinese installation adjusted to 1.6 GW new installations for 2018, Source: CWEA

** CAGR = Compound Annual Growth Rate
 Source: GWEC Market Intelligence

Thank you

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