

# The offshore wind boom: a global view

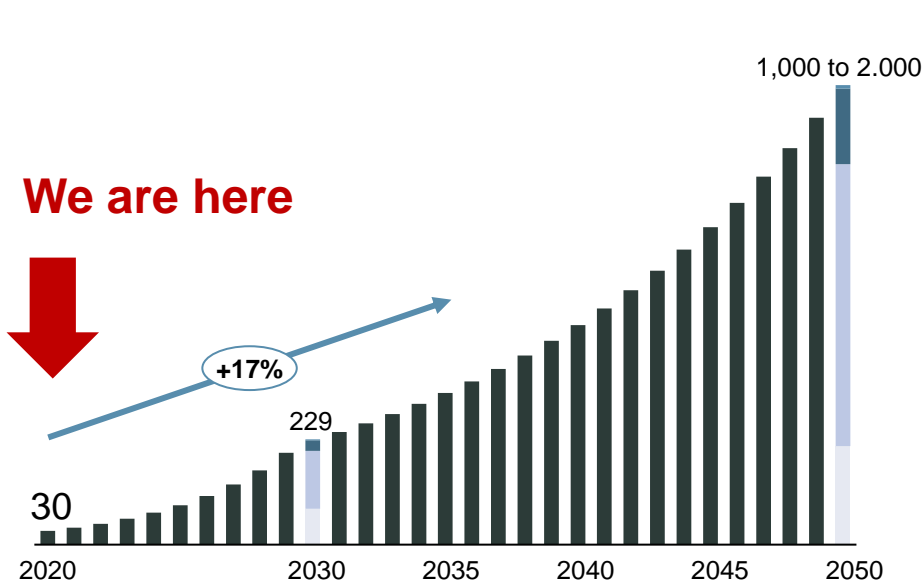
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# The offshore wind market will grow with a CAGR of 17%, driven by decarbonization policies and cost competitiveness

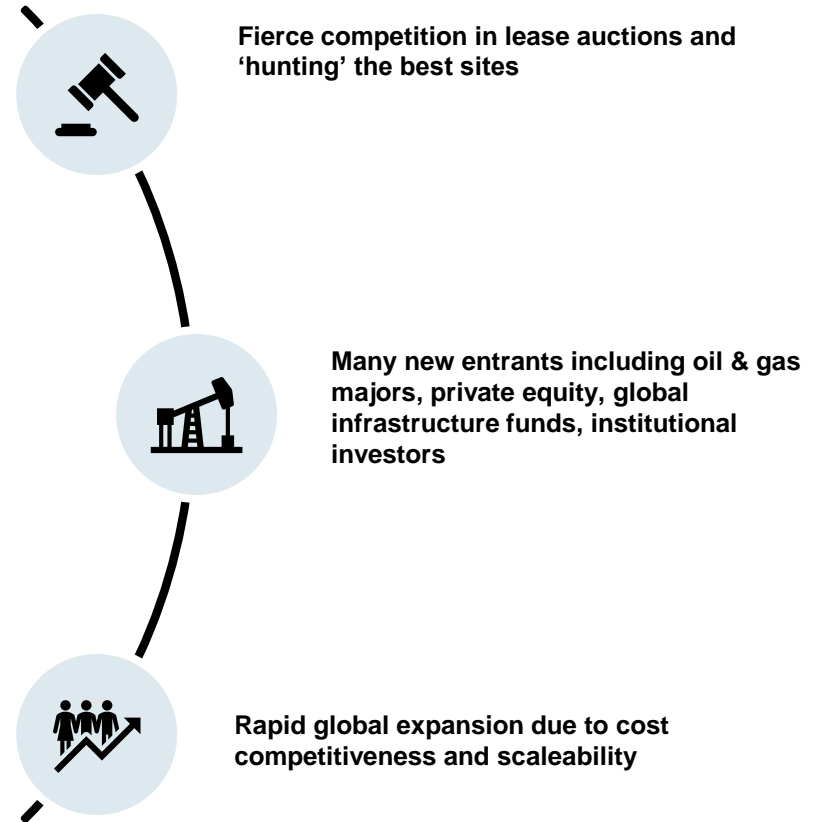
## Offshore wind growth 2020-2050, GW



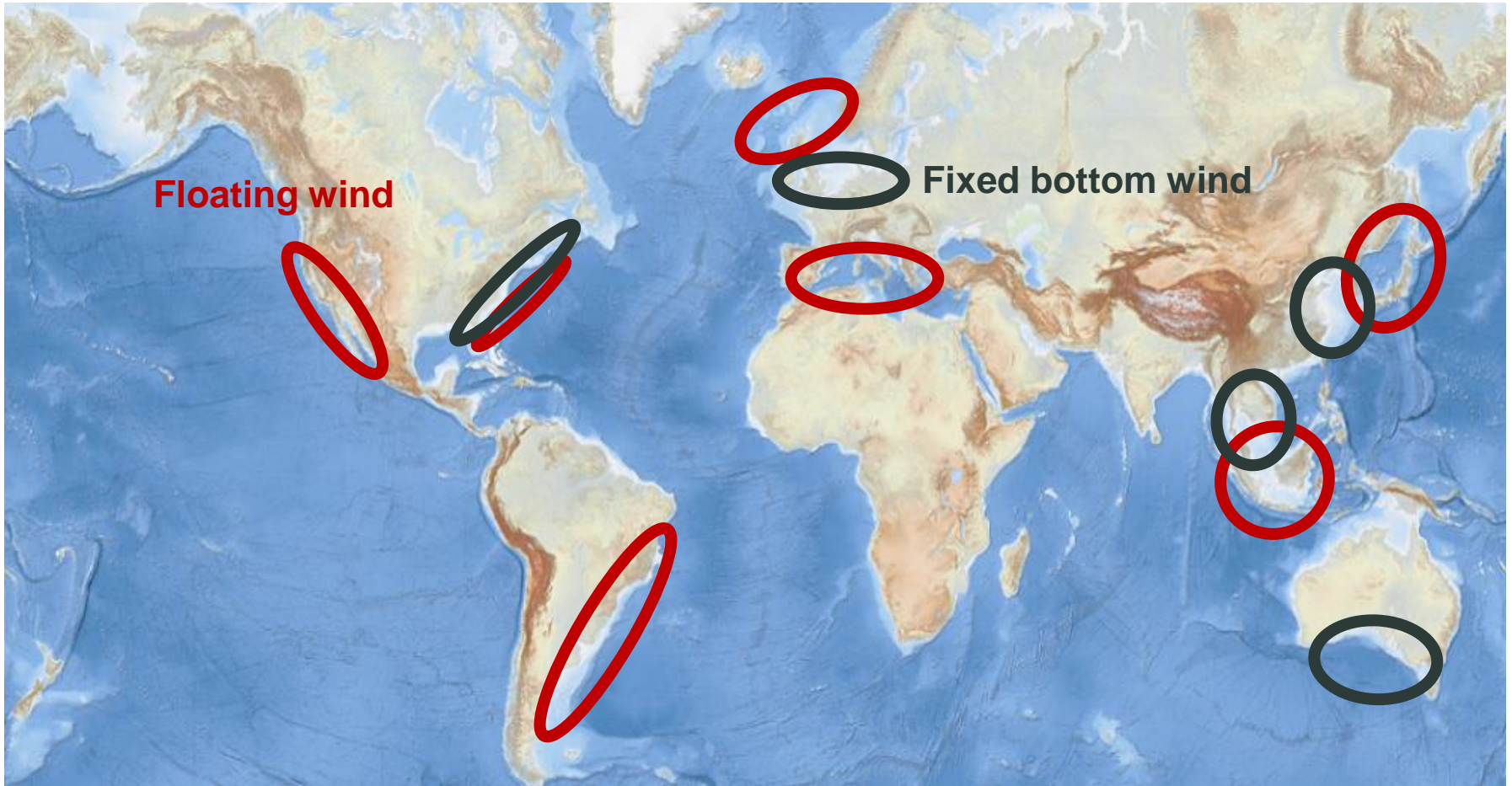
- Overall capacity will grow with a CAGR of 17% from 2020 to 2035
- 1.000 to 2.000 GW global capacity is expected by 2050

Source: Aegir

## The market is becoming highly competitive

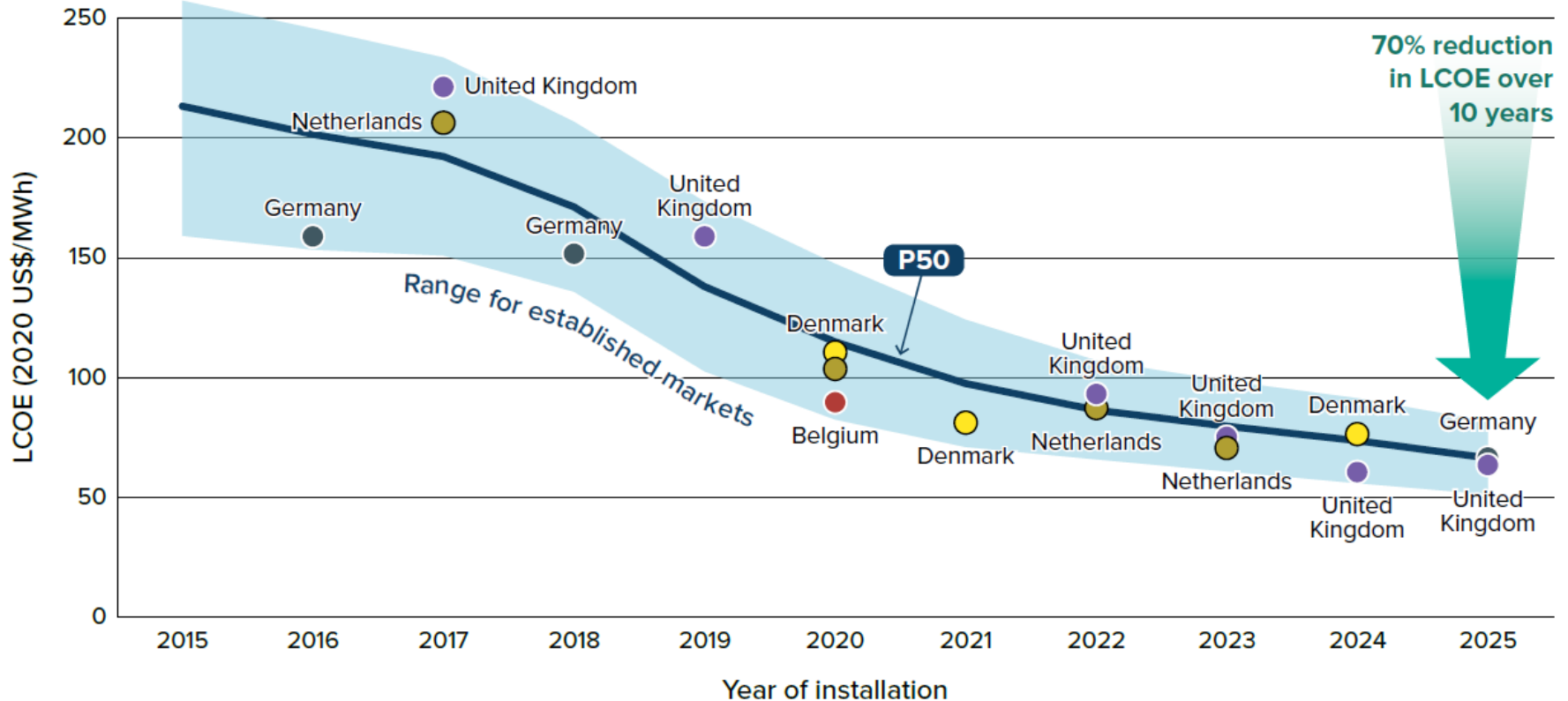


Fixed bottom offshore wind is expected to be the low-cost leader, but floating will open up new markets



Offshore wind costs have fallen by ~70% over the last ten years (mostly the last four years)





Progression of offshore wind cost reduction according to installation year, US\$/MWh



Source: The World Bank, ESMAP, Key Factors for Successful Development of Offshore Wind in Emerging Markets



...all together, these factors have demonstrated that the business case for offshore wind is highly bankable and scalable. So, what comes next?

Business case feature	2015	2025	2030
 Typical project size	500 MW	750 MW	750 to 3000 MW
 Project contingency	8 - 10%	4 - 6%	3-5%
 Project lifetime	20 - 25 years	30 years	35 years
 Investor return	10% - 12%	6 - 8%	5 - 6%

Hydrogen and ammonia from power is key to greening industry and transportation.  
Offshore wind support delivery at scale.



**Hydrogen and ammonia from power will transform industry**

**Conceptual PtX project based on offshore wind, Scotland**

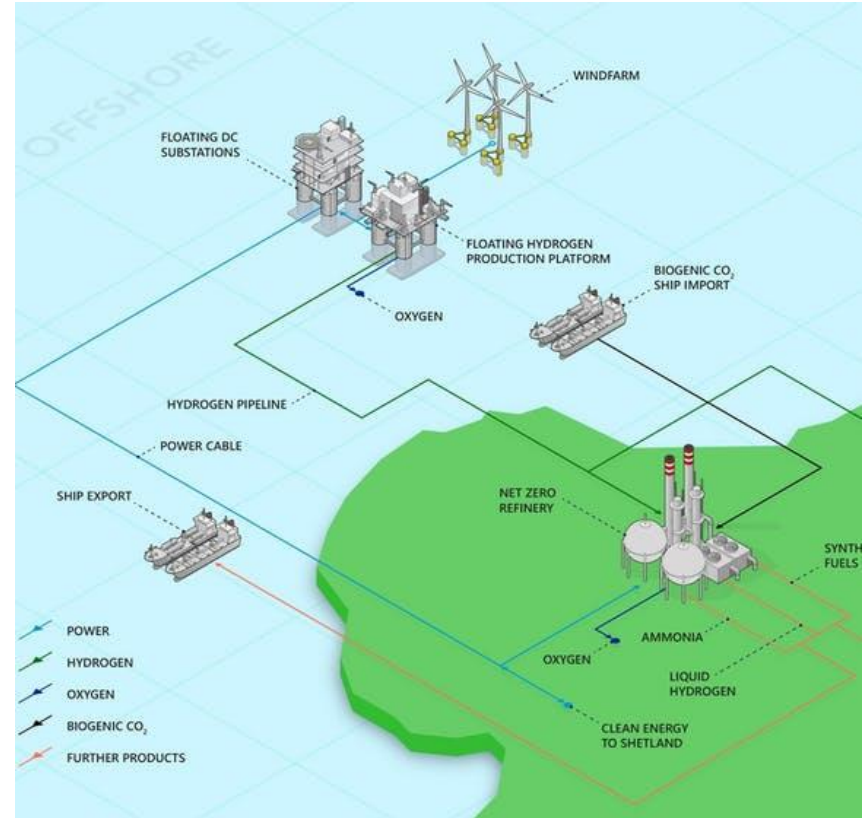


**'People thought we were crazy': world's largest renewable energy plant targets shipping's thirst for green fuels**

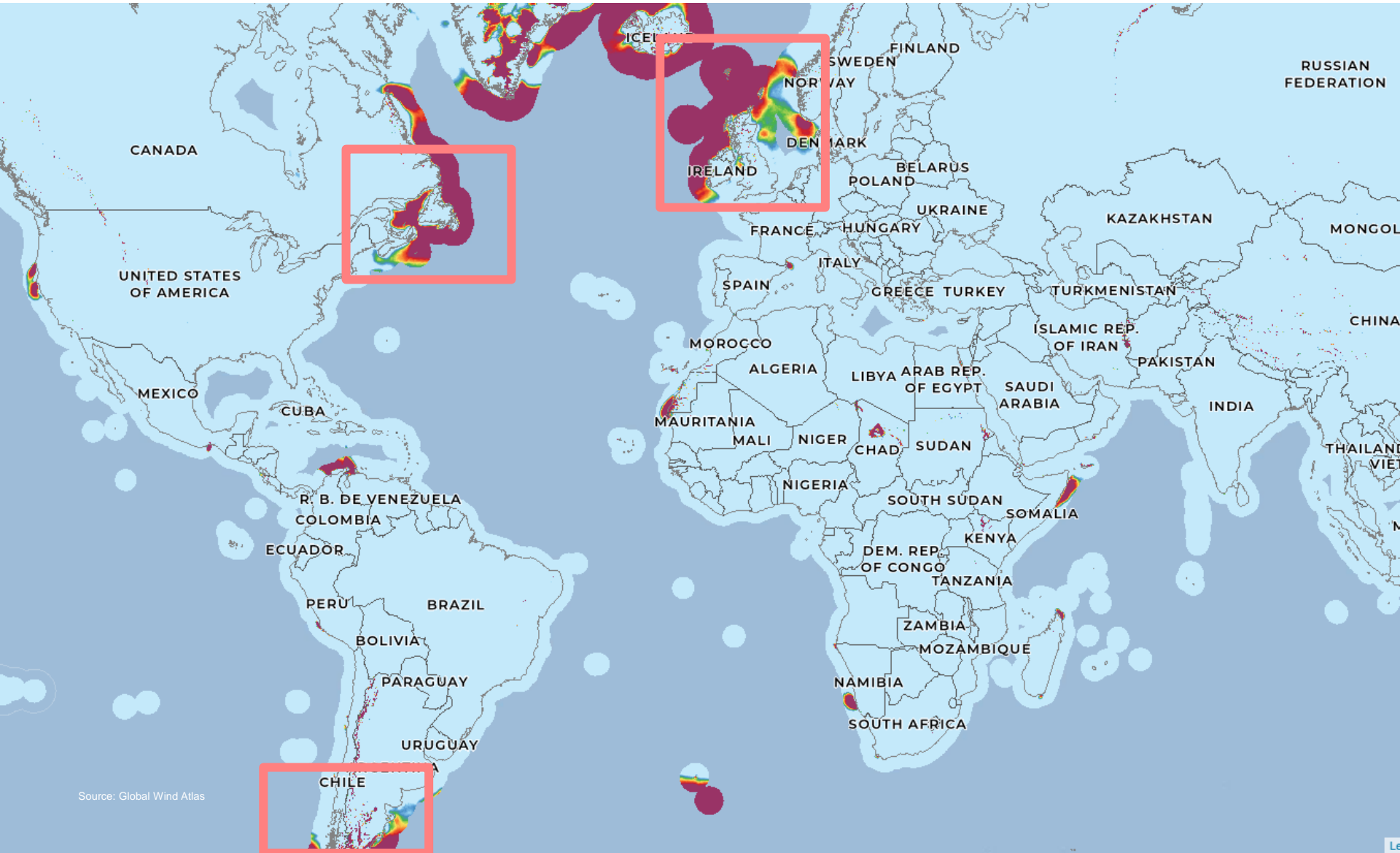
Asian Renewable Energy Hub sees maritime and regional power giants as market for hydrogen and ammonia from 26GW mega-project

15 December 2020 17:13 GMT UPDATED 18 December 2020 10:16 GMT

By Andrew Lee



# Wind and hydrogen exploration 101: visualization of the worlds best wind resources, above > 10 meters/second



Source: Global Wind Atlas



# Wind and hydrogen exploration 102: Visualization of global water depths from 0 to 200 meters





**Diversity is important: offshore wind has a role together with hydro, onshore and tidal**

**Offshore wind's features:**

- High capacity factor: 55%+ possible offshore Nova Scotia
- Large scale: up to gigawatt deployments in single projects
- Little or no visual impact to residents
- Complimentary to a blue economy

**What is the opportunity for Nova Scotia:**

- Early mover position in a sector with an outlook for 30+ years expansion
- Opportunity to attract a wide range of complimentary heavy industry, trade, research and other professional opportunities

Contact us to learn more



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**Key research themes for 2021**

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Emerging markets  
Hybrid energy projects*



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