Offshore Energy

Offshore wind energy in the Caribbean

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The Caribbean Development Bank

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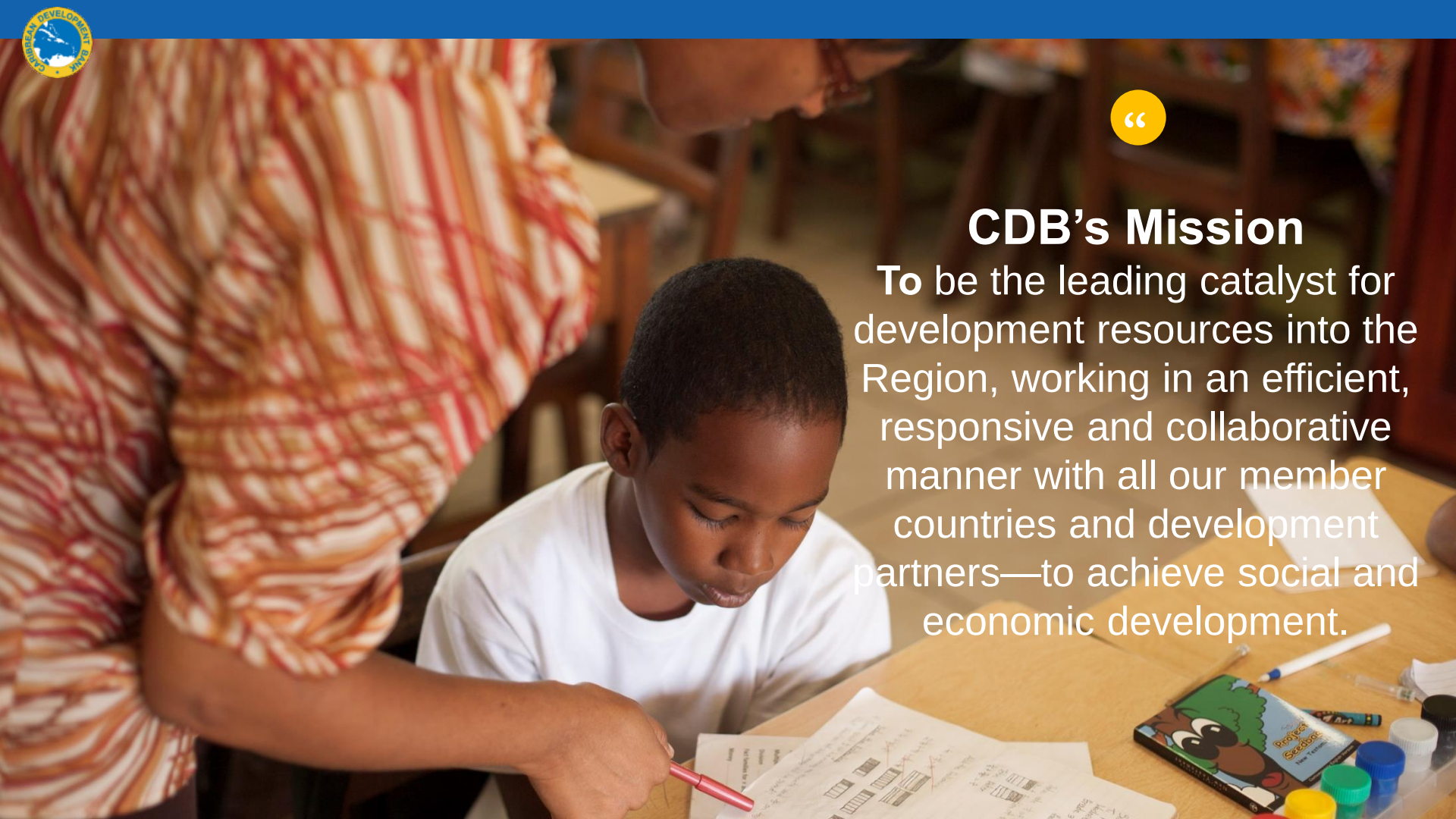
Purpose of the Caribbean Development Bank (CDB)

Contributing to BMCs' **economic growth and development**

Promoting **regional economic cooperation and integration**



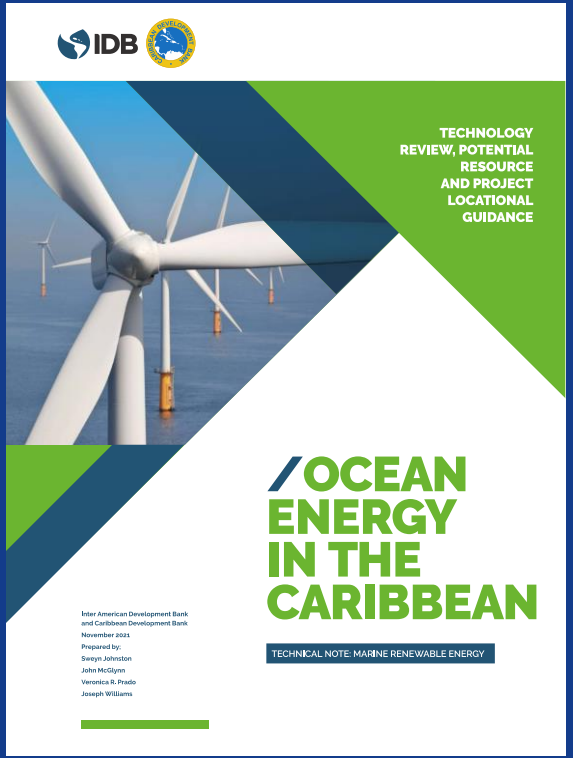
CDB's Mission

To be the leading catalyst for development resources into the Region, working in an efficient, responsive and collaborative manner with all our member countries and development partners—to achieve social and economic development.

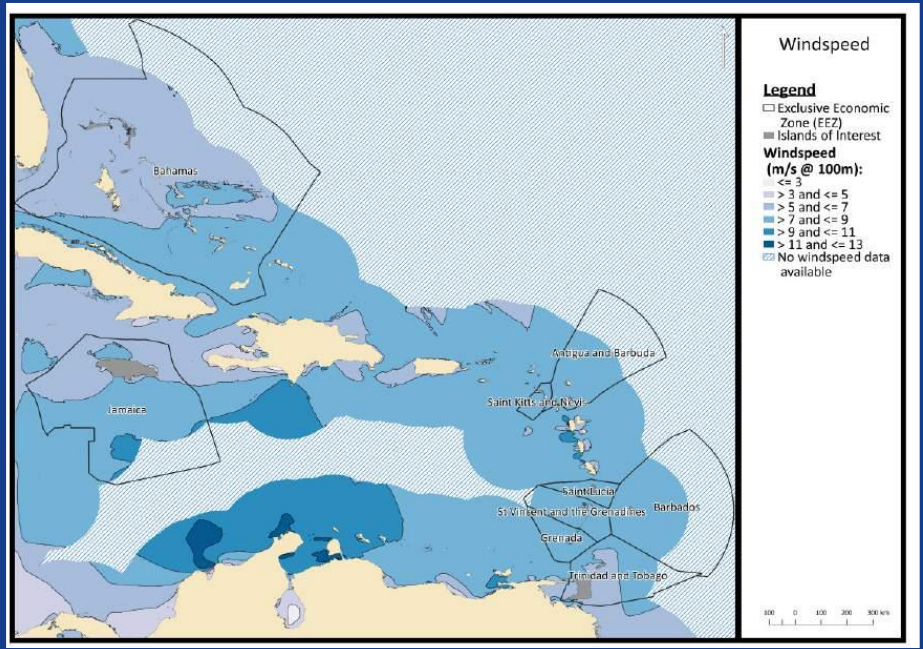
Marine Renewable Energy

"Marine Renewable Energy' (MRE) technologies offer the potential for a **secure, reliable and renewable supply of indigenous clean energy** – this makes the sector particularly attractive and worthy of investigation for the Small Island Developing States (SIDS) of the Caribbean region."

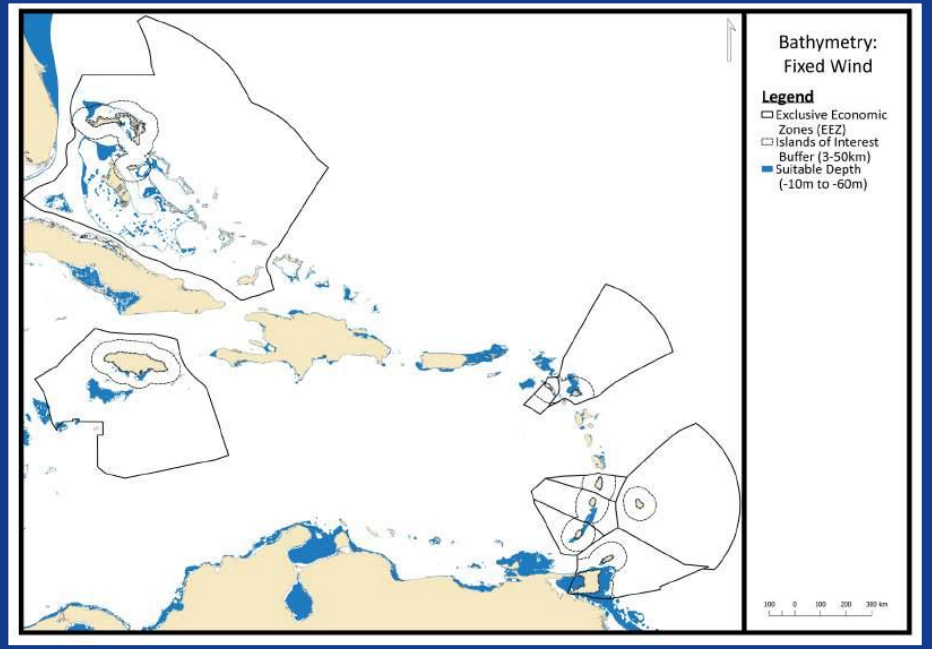
IDB-CDB, 2021,Ocean Energy in the Caribbean - Marine Renewable Energy Technical Note.



Most of our region has a good offshore wind resource at a reasonable depth.



Average wind speeds within 200km of land at 100m height. (IDB-CDB, 2021)



Caribbean Sea: areas with suitable sea depth for fixed Offshore Wind (OSW). (IDB-CDB, 2021)

Potential technically exploitable resource is very high

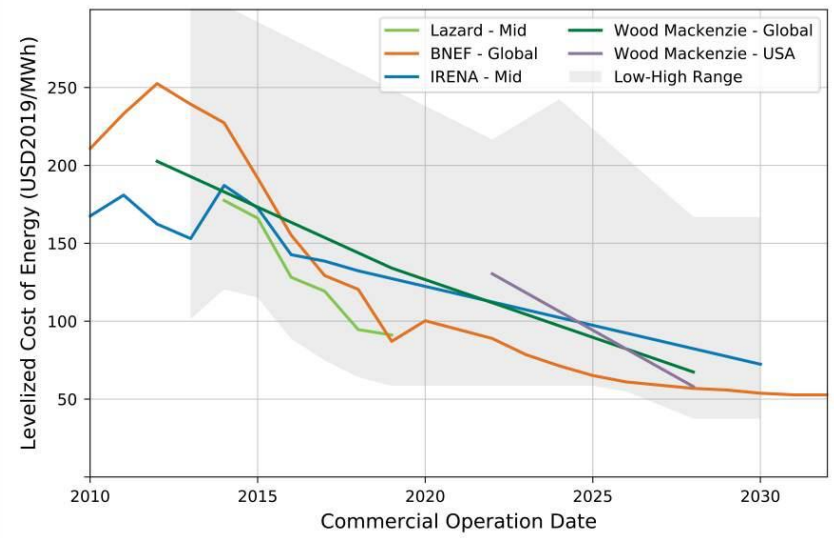
- 138GW is the estimated technically Exploitable Resource in the nine countries studied.
- These nine SIDS have a total electrical demand of 2GW.

Country	Maximum Technically Exploitable Resource (MW)					Average electrical demand (MW)
	Fixed OSW	Floating OSW - Conventional	Floating OSW - Deep	OTEC	Total	
Antigua &	4,935	1,477	11,718	100	18,230	38
The Bahamas	10,955	6,321	16,723	220	34,219	220
Barbados*	0	112	7,063	140	7,315	104
Grenada	2,618	476	7,196	110	10,400	25
Jamaica	1,211	1,848	9,709	180	12,948	498
Saint Kitts &	399	196	9,135	40	9,770	24
Saint Lucia	105	224	4,025	90	4,444	46
Saint Vincent &	3,227	385	3,017	70	6,699	17
Trinidad &	16,597	12,460	4,963	50	34,070	1,064
Total	**40,047**	**23,499**	**73,549**	**1,000**	**138,095**	**2,036**

*Recent work using higher resolution country specific data has shown that there is in fact some limited potential for fixed wind in Barbados (Barbados Government, 2021).

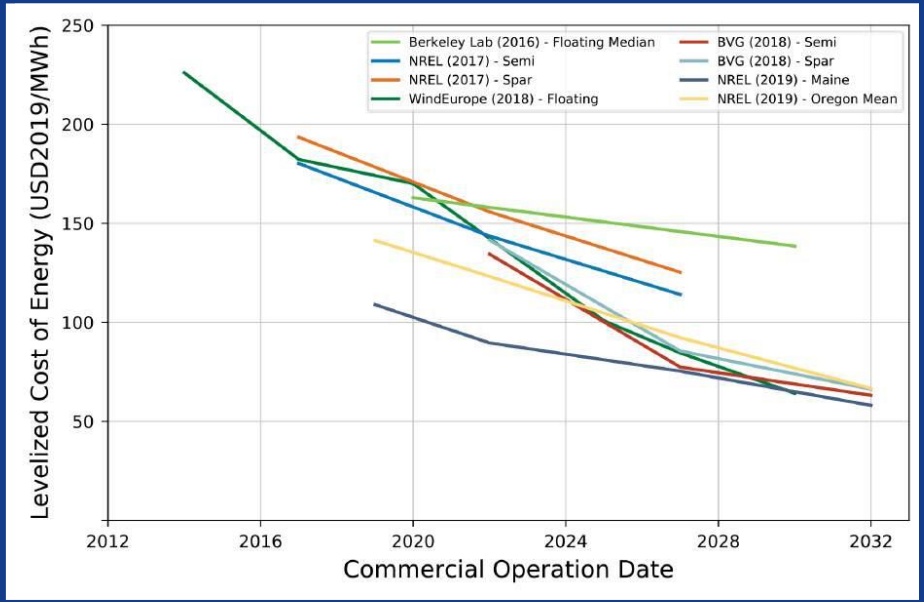
Fixed and Floating Offshore Wind costs are trending down

Fixed OSW LCOE estimates and forecasts - sees costs reducing to $0.05/kWh by 2030. (US DOE, 2020)



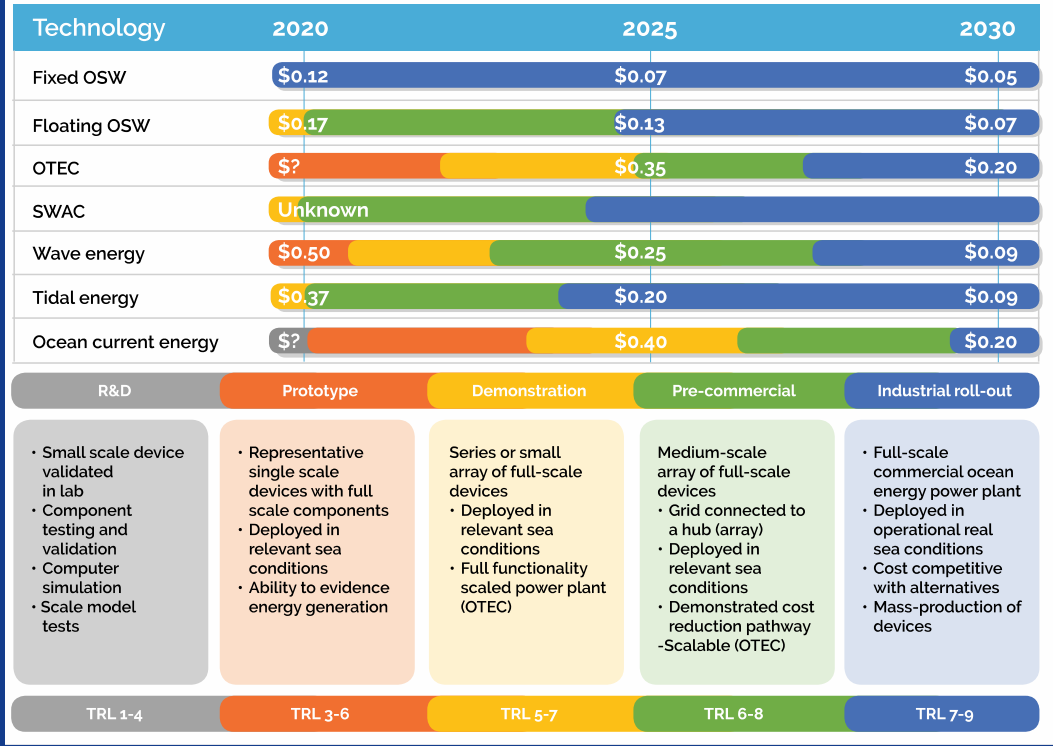
Source: US DOE (2020)

Floating OSW LCOE estimates and forecasts - predicted to reduce to around $0.06/kWh by 2032 (US DOE, 2020).



Fixed and Floating Offshore Wind leading the technical options

- Fixed and floating OSW have:
  1. Good technological readiness;
  2. Good resource quality; and
  3. A Levelised Cost of Energy (LCOE) that is trending downwards.



Thanks.

Available for download from:

https://publications.iadb.org/publications/english/document/Ocean-Energy-in-the-Caribbean-Technology-Review-Potential-Resource-and-Project-Locational-Guidance.pdf