Global Trends in Wind Energy for Electricity

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Virginia Offshore Wind Project

44 km (27 miles) Offshore from Virginia Beach

6 MW Orstedt Wind Turbines

By 2026 2,640 MW
Wind Turbine Height

187 m = 110 m hub height + 77 m radius

Washington Monument is 169 m above ground

UK Offshore Wind Energy Project
California Offshore Wind Energy Project

Massachusetts Offshore Wind Energy Project
588 MW installed rated capacity (7 x 7 turbines per lease block)

38% annual capacity factor

20% PJM capacity factor (peak hours)
Global Installed Wind Capacity (GW) 2001-2019 (Cumulative)

CAGR – compound annual growth rate of investment

Source: GWEC Global Wind Report, 2019
Future Wind Power New Capacity Growth (GW) 2019 - 2024

CAGR – compound annual growth rate of investment

Source: GWEC Global Wind Report, 2019

Total Onshore and Offshore Installed Wind Capacity
Top Ten Countries 2019

Source: GWEC Global Wind Report, 2019
New Onshore and Offshore Installed Wind Capacity
Top Ten Countries 2019

New installations onshore (%)

- PR China 44%
- USA 17%
- India 6%
- Spain 6%
- Sweden 3%
- France 2%
- Mexico 2%
- Germany 2%
- Argentina 2%
- Australia 2%
- Rest of World 18%

54.2 GW

New installations offshore (%)

- PR China 19%
- United Kingdom 20%
- Germany 18%
- Denmark 6%
- Belgium 4%
- Rest of World 23%

6.1 GW

Source: GWEC Global Wind Report, 2019

New Capacity Additions by Region (MW)
(2019 - 2024)

Source: GWEC Global Wind Report, 2019
Offshore Wind Electricity in Virginia

Source: The Economist 5-11 December 2020
Thank You

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- PES University
- PES Corporate Engagement Program
- PES Chapters’ Councils in China, India, Africa and Latin America

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