



European
Commission

Technology factsheet: Competitiveness of clean energy technology – Ocean Energy

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Key technologies

Currently only a limited amount of devices have reached commercial readiness and there is little commercially deployed capacity.

tech 1

Technological Readiness Level (TRL) 5-9: Wave energy

tech 2

TRL 6-9 Tidal stream

tech 3

TRL 9: Tidal barrage

Key value chain figures

- **EU production:** EUR 7.4 billion (2022) including all manufacturing installation and trading.
- **Global employment:** 1288 (direct) – leading 928 in UK and 350 in Spain. Potential to create 505 000 new direct and indirect jobs.



Key facts

Fact 1

Current global installed capacity of 522 MW is expected to grow to 2.2 GW by 2030 based on the existing project pipeline and could reach up to 10 GW. The potential global capacity should reach 350 GW by 2050, suggesting fast growth.



Fact 2

Tidal barrage is 98% of total ocean energy capacity today (mainly in France and South Korea), however no new tidal barrage projects are planned. Ocean Thermal Energy Conversion has the highest potential for power generation (44 000 TWh) globally, followed by wave energy (29 500 TWh).

Fact 3

Current Levelised Cost of Electricity (LCOE) estimations for wave and tidal energy are €0.11-0.75/kWh and projected to fall to as low as €0.10/kWh by 2030 by IRENA.



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