Oceans powering the energy transition: Progress through innovative business models and revenue support

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TUESDAY, 12 MAY 2020 • 10:00AM – 10:30AM CET
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Current Deployment and Outlook

Current Deployment (MW):
- Total: 535.1 MW
- Tidal Barrage: 13.6 MW
- Tidal Stream: 521.5 MW
- Others: 0.23 MW
- Wave: 2.31 MW
- OTEC: 0.05 MW
- Salinity: 10.96 MW

Ocean Energy Forecast (GW):
IRENA REmap forecast 10 GW of installed capacity by 2030

Ocean Energy Pipeline Capacity (MW)
IRENA Analysis for Upcoming Report

Mapping deployed and planned projects, visualizing by technology, country, capacity, etc.

Examples:

- Announced ocean energy additions by technology in 2020
- Announced wave energy capacity and projects by device type
- Countries in ocean energy market (deployed and / or pipeline projects)
- Filed tidal energy patents by country
Innovative Business Models

Coupling with other Renewable Energy Sources
Create hybrid energy systems with other offshore energy sources to complement each other, create hybrid energy sources and/or benefit from synergies.

Coupling with other Offshore Sectors
Positions ocean energy as a source to power other sectors.

Apply both on Islands
Benefit from the ideal preconditions on islands as market entry.
## Innovative Business Models: System Coupling

### Coupling Renewable Energy Technologies

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<th>Electric Energy Source</th>
<th>Solar</th>
<th>Wind</th>
<th>Floating Wind</th>
<th>Pumped Hydro</th>
<th>Storage</th>
<th>Microgrid</th>
<th>Hydrogen</th>
<th>Examples</th>
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Renewable energy provider AUKO Energy and tidal developer Sabella (horizontal axis turbines) have joined forces to develop a multi-energy project to replace the high carbon energy carriers (now 100%) and substitute it by a hybrid renewable power scheme. It will showcase the integration of variable resources with OE in an island setting on Ushant Island in the French Channel Islands, where ideal topographic and bathymetric preconditions for tidal energy are available.

**Key Features:**

- 1 MW tidal power (2 x 500 kW Sabella D12)
- 0.9 MW wind power (1 x 0.9 MW)
- 0.5 MW solar PV power
- Energy storage system (EDF SEI)
- Minigrid
## Innovative Business Models: Blue Economy

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Key Messages

Technology and Market
• Convergence in technology
• Taking up speed: 25 MW new ocean energy deployments in 2020, pipeline capacity almost 4 GW

Commercialisation
• More attention on the enhancement of the business case
• Unlock the synergies between the blue economy and Ocean Energies for islands

Support and Policies
• Resource assessment and planning is crucial
• Policy and revenue support are needed
• International cooperation continues to be critical. IRENA is strengthening the work in ocean energy. Reach out to IRENA!
Questions & Answers

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