

Virtual Event

Ocean Energy

29 June 2021

9:00 – 10:30, New York time

Draft Concept Note

Background

Renewable sources of ocean energy include offshore wind and marine technologies that can generate electricity from waves, tides or currents as well as from differences in temperature and salinity of the ocean. Currently, offshore wind is becoming a mature renewable energy technology with a global installed capacity of about 32 GW. Its growth in the next decade is expected to be very strong playing an important role in future energy systems.

Most other ocean energy technologies are still in developmental stages, with some just reaching commercialization. The cumulative installed capacity only amounted to 529 MW in 2018. Nevertheless, substantial growth in deployment and installed capacity is expected in the coming years. Whereas the technical potentials of some ocean energy technologies are indeed promising, high costs and other challenges represent considerable barriers preventing a wider and faster commercialization.

Tidal stream and wave energy converters are technologies of great medium-term relevance. They are ocean energy technologies available, albeit at a pre-commercial stage. Several pilot projects are also under way to generate electricity from ocean waves. Tidal range systems are in operation in France, the Republic of Korea, China, Canada, and the Russian Federation. Offshore tidal energy systems account for the smallest portion of renewable electricity globally, and the majority of projects remains at the demonstration phase. However, with large, well-distributed resources, offshore tidal has the potential to scale up over the long term. A number of pioneering companies is also exploring hybrid renewable energy projects with combined wind and wave technology, as well as ocean-based floating wind or solar farms.

Other ocean energy technologies that harness energy from the differences in temperature and salinity of ocean water such as Ocean Thermal Energy Conversion (OTEC) may become increasingly relevant over longer time horizon. The largest OTEC plant is in Hawaii. OTEC plants continue to be of interest, particularly in island applications, as they provide the possibility of using the cold deep water as well as the warm surface water flow for purposes other than energy generation, such as desalination, aquaculture and cooling.

Leading global intergovernmental organization dedicated to energy transformation are supporting countries in gaining access to the latest knowledge on marine energy, in the context of national strategies to achieve SDG 7 (energy) and SDG 14 (oceans), and support capacity building and international cooperation to foster a global blue economy. It is important to disseminate best marine energy experiences providing case studies, business cases and facts on ocean energy technology to policy makers.

Ensuring universal access to modern and sustainable energy, water and sanitation services while reducing related environmental impacts lies at the heart of sustainable development. The Division for Sustainable Development Goals of UN DESA is conducting a number of initiatives and events designed to support the integrated implementation of SDG 6 (water) and SDG 7 (energy). One of these initiatives is the Global Sustainable Water and Energy Solutions Network founded with Itaipu Binacional in 2018 (<https://www.un.org/en/waterenergynetwork>). This capacity development event, organized by this Network in cooperation with its member SINTEF, will bring together multi-stakeholders to discuss and showcase existing initiatives and disseminate information on ocean energy.

Objective

The objective of this capacity building event is to provide a virtual space for the exchange and dissemination of knowledge and experiences related to ocean energy. The expected outcome is audiences with knowledge about sustainable ocean energy systems. The event will allow information exchange about efficient and effective uses of ocean resources for a more sustainable world. Participants will also have the opportunity to learn and discuss the synergies that can be realized when integrated approaches on ocean energy are implemented.

PARTICIPANTS

Participants will include representatives from Member States and from public, private, and non-profit organizations, as well as international organizations, civil society and practitioners involved and interested in the research, development, management and implementation of integrated water and energy systems and programmes in general, and in particular about ocean energy systems.

TIME

This event will be held on 29 June 2021 as a virtual meeting from 9:00 to 10:30, New York Time.