International Renewable Energy Agency (IRENA)
Input to 2021 Report of the Secretary-General on oceans and the law of sea as per RES 75/239

- The International Renewable Energy Agency (IRENA) acknowledges the mentioning of renewable energy in the UN RES 75/239 para 297: *Welcomes the increasing attention being focused on oceans as a potential source of renewable energy, and notes in this regard the summary of discussions of the Informal Consultative Process at its thirteenth meeting, in 2012*.
- IRENA furthermore welcomes the mentioning of renewables in the 2020 Report of the Secretary-General on oceans and the law of sea.

As an intergovernmental organisation, IRENA is working closely with over 164 member states and 20 states in accession to strengthen the momentum of a global energy transformation driven by the **widespread adoption and sustainable use of all forms of renewable energy, including ocean energy.** IRENA supports **international cooperation, capacity building and knowledge exchange** to accelerate the deployment of offshore renewables in a way that also **protects and preserves the marine environment**. Developing countries are key beneficiaries of its assistance and capacity building activities in this area.

Energy harnessed from the oceans, through offshore renewables including offshore wind, tidal, wave, ocean thermal energy conversion, salinity gradient, and floating solar photovoltaic, can contribute to the **decarbonisation of the power sector and to other end-use applications that are relevant for a blue economy.**

Furthermore, these technologies can provide significant **socio-economic opportunities** to countries with coastal areas and island territories, such as job creation, improved livelihoods, and local value chains. Ocean energy is highly predictable, making it very well suited to complement variable renewable energy sources such as wind and solar PV. Finally, this technology could specifically provide clean power and ensure energy security for **SIDS** and many of **LDCs.**

The theoretical potential for electricity generation differs among technologies, with the aggregated potential for all ocean energy technologies combined ranging from **45 000 TWh to well above 130 000 TWh per year**. This means that ocean energy could cover more than twice the current global electricity demand. Ocean energy in the form of tidal stream and wave energy are picking up at an increasingly rapid pace. A total capacity of **12.9 MW** of this technology is now operational, and a significant number of devices of both technologies are being scaled up quickly. IRENA estimates that around **10 GW** of ocean energy capacity could be commercially deployed by 2030.[1]

Renewable energy, including new innovative technologies, can also serve as a clean power source for shipping (biofuels, green hydrogen, synthetic fuels) as an alternative to oil and **desalination of water, further fostering the blue economy.**

<u>Current IRENA activities in the area of ocean energy</u>

In response to a call by its global membership, IRENA has created collaborative frameworks that serve as an effective platform for increased dialogue and coordinated action among its Members. The ***Collaborative Framework on Ocean Energy / Offshore Renewables*** has been established to bring countries together to identify priority areas and actions and to foster

[1] https://www.irena.org/publications/2020/Dec/Fostering-a-blue-economy-Offshore-renewable-energy

international collaboration to understand the role of the ocean and offshore renewables in the energy transition and ensure its widespread deployment in the future. The platform aims to foster advancements in areas relevant to offshore renewables, including technology development, research and innovation, market incentives, regulatory frameworks and sustainability. On 8 June 2021, IRENA convened the third meeting of ***the Collaborative Framework on Ocean Energy / Offshore Renewables***. The objectives of the third meeting were to collect input from members of the Collaborative Framework into the report commissioned to IRENA by the G20 Presidency; and to share good practices to foster regional collaboration for offshore renewables.

Recognising the role of IRENA and its Collaborative Framework in a global context, the 2021 Presidency of the G20 held by Italy has commissioned IRENA with the organization of a G20 Event and the development of a **report that outlines the elements for a recommended G20 Action Agenda to accelerate the deployment of offshore renewables worldwide.** On 21 May 2021, the Italian Presidency of the G20 and IRENA co-organised the Collateral Event to the G20 Energy Working Group, ***"Energy from the sea: an action agenda for deploying offshore renewables worldwide"***.[2] The event provided input into a Global Action Agenda for Offshore Renewable energy supported by G20 countries. The event presented the status and outlook of offshore renewable energy technologies and markets, the latest trends and developments from the incumbent industry and private sector. During the event, an experts' panel discussion, moderated by the G20 Presidency, discussed and elaborated on the good practices on policy instruments to support the scale-up of offshore renewables at the global level. The subsequent report from IRENA to the G20 Presidency on the Global Action Agenda for Offshore Renewables will be launched on July 23rd at the Ministerial Meeting on Energy of the G20.

IRENA is continuously committed to sharing knowledge and support governments in pursuit of the deployment of ocean energy. In 2020, the Agency has published two reports on offshore renewables and ocean energy *Innovation Outlook: Ocean energy technologies* and *Fostering a blue economy: Offshore renewable energy*. These reports provide state of art in ocean energy markets and technology development and the outlook for the next decade. They also contain analysis on innovative business models, benefits on a blue economy and an inventory of projects worldwide.

Launched by IRENA in 2014, the **SIDS Lighthouses Initiative** supports small islands in scaling up renewable energy through partnerships between public institutions, the private sector, inter-governmental and non-governmental organisations.[3] After the initiative's initial targets for 2020 were met ahead of schedule and even considerably exceeded, a new, even more ambitious phase of the initiative was launched in 2018. The action areas for the second phase include promoting all renewable sources, including ocean energy.

The joint side-event: *"**New Horizons - Europe Driving Ocean Energy Development Worldwide"*** between Ocean Energy Europe and IRENA took place on 19 June 2020 as part of the European Sustainable Energy Week.[4] The event delivered valuable insights into the benefits that the sector can bring to countries, both in terms of clean energy and economic growth. The event was enriched by a panel of industry experts discussing case studies based on current and future projects in Japan, Canada, Taiwan, the Faroe Islands and Indonesia.

[2] https://www.irena.org/events/2021/May/An-Action-Agenda-for-Deploying-Offshore-Renewables-Worldwide
[3] https://islands.irena.org/
[4] https://www.irena.org/events/2020/Jun/New-horizons-Europe-driving-ocean-energy-development-worldwide

IRENA supported the organisation of the ***SIDS Global Business Network Forum***, an initiative of UN-OHRLLS.[5] The Forum's focus, which took place virtually from 30-31 March 2021, was ocean energy. With around 140 participants and high-level speakers from the government, multilateral organisations, finance and private sector, the Forum stimulated the discussion on how the private and public sector can collaborate towards the upscale of ocean energy.

[5] https://www.un.org/ohrlls/news/business-network-explores-ocean-energy-partnerships-small-island-developing-states