Theme: Sustainable energy, mineral resources and innovative industries

Creating economic growth that is inclusive & sustainable

The sustainability of energy and mineral resources within and around water bodies is important in the public discourse on the blue economy. There is an increasing primary energy demand across key fuels, including:

- oil
- gas
- coal
- hydro
- nuclear
- biomass
- other renewables

This makes the subject of energy efficiency a critical driver for sustained blue economy developments.

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Sustainable extraction

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Many of the world's minerals are found around inland water courses and within nearby seas, lands and oceans.

States want to benefit from the resources within their jurisdictions and in shared trans- boundaries. This makes protecting fragile marine and water ecosystems with sustainable extraction vital. Greening the blue economy provides the world with an important avenue for realizing the sustainable development objectives under the UN's 2030 Agenda for Sustainable Development.

Alternative energy

The blue economy has diverse components, including:

- traditional ocean industries, such as:
  - tourism
  - fisheries
  - maritime transport
- new and emerging activities, including:
  - offshore renewable energy, like:
    - wind
    - tidal waves
    - salinity gradient and biomass
    - ocean thermal energy conversion
  - seabed extractive activities, like oil and gas

These are important to the energy sector as they offer alternative sources of energy from renewable and nonrenewable sources. Sustainable marine energy exploration and development can play a vital role in social and economic growth. It can also offer realistic alternatives for climate adaptation and mitigation.

Offshore wind energy is becoming more common, but other forms of marine energy extraction are still at the experimental phase. In most cases, they have not yet been fully developed to a commercial scale.

Opportunities

Adopting sustainable blue economy interventions will result in a low-carbon pathway based on sharing, resilience, opportunity, collaboration and interdependence.

It is an economy driven by investments that:

- enhance energy efficiency
- reduce carbon emissions and pollution
- harness the power of natural capital, such as the oceans
- halt the loss of biodiversity and the benefits that ecosystems provide

The blue economy is a framework for achieving the sustainable development goals. Exploiting marine energy and mineral resources can provide valuable ecosystem goods and services, but it also impacts other valuable ecosystem services. Consideration of the economic value of both positive and negative impacts on ecosystem services supports blue economy sustainable economic growth objectives.

The blue economy has the potential to contribute to:

- carbon sinks
- food security
- transportation
- bio-prospecting
- tourism development
- hydrocarbon sources

It also offers huge untapped potential for renewable energy from:

- wind
- tides
- waves
- biomass sources
- salinity gradients
- Ocean Thermal Energy Conversion (OTEC)

The International Seabed Authority

The United Nations Convention on the Law of the Sea (UNCLOS) established the International Seabed Authority (ISA). The ISA is the international body that organizes and controls seabed mining–related activities in the area beyond national jurisdiction.

Multilateral Agreements and SDGs deal with prospecting and exploration for mineral resources by providing a comprehensive set of rules, procedures and regulations.

Deep-sea habitats

Little is still known about:

- deep-sea habitats
- their recovery potential
- the impact that mining operations are likely to have on:
  - ecosystems
  - the wider functioning of oceans

The short and long-term impacts of deep-sea habitats on economy and society in general remain largely unknown. The problem is made worse by the lack of information across Exclusive Economic Zones (EEZs) on the economic values of:

- ecosystem services
- enforcement regimes
- comprehensive and dedicated regulation

Challenges to transitioning to renewable energy

The transition from nonrenewable to renewable sources of energy has been slow. To sustainably develop and support the transition, countries need:

- capacities
- technologies
- comprehensive policies and regulatory frameworks

There is a need to strengthen institutions and frameworks for regulating and managing the exploration and extraction of coastal and marine resources, including deep-sea activities. This is to ensure sustainability and compliance with global instruments, such as ISA, UNCLOS and regional and sub-regional frameworks.

Realizing the potential

Since the blue economy is a relatively new concept, countries need to:

- invest in, and use, the best available data, science and technology
- support diverse groups of scientists, including women

- develop expertise and contribute innovatively in these areas

For long-term changes, they need to strengthen:

- reforms
- governance
- knowledge bases
- management decisions

Managers should apply the precautionary approach principle to avoid irreversible damage to the ecosystem. They need to ensure appropriate social and environmental safeguards are put in place as part of strong governance arrangements.

There is also need for capacity building and strengthening partnerships for regional and global cooperation in order to realize the full potential of blue economy.

Questions

Panelists will guide discussions on:

1. What innovative renewable energy technologies should be used to ensure the blue economy is both sustainable and inclusive?
2. What effective policy and industry mechanisms can drive successful leapfrog transitions into sustainable energy sources?
3. Which hydro and marine energy technologies are suitable for use in developing countries?
4. What are some of the best practices in social enterprise models for sustainable and inclusive (women, youth and the vulnerable) energy and mineral extraction development?
5. What social innovations could be developed and deployed to assess who is participating and benefiting from ocean-based mining and energy sources? Who is excluded, and what can be done to ensure inclusivity?