

## ICP-13 HIGHLIGHTS: WEDNESDAY, 30 MAY 2012

On Wednesday, 30 May 2012, the Consultative Process continued with morning and afternoon panels considering the topic of marine renewable energies (MREs). In the morning, delegates heard presentations detailing on-going or planned MREs projects and work at the global and regional levels. In the afternoon, panelists discussed opportunities and challenges in the development of MREs, including for cooperation and coordination.

### DISCUSSION PANEL

**ON-GOING OR PLANNED MARINE RENEWABLE ENERGIES PROJECTS AND WORK AT THE GLOBAL AND REGIONAL LEVELS: Presentations:** Arjon Suddhoo, Mauritius Research Council, discussed the implications of MREs for small islands, focusing on Mauritius as a case study. Mauritius, he explained, has an exclusive economic zone totaling 2.4 million square km, which is 1,100 times its land area. He said Mauritius is developing an ocean-consolidated vision, which sees the country as an “ocean state,” and he reviewed the potential of a bundled approach to MREs that could mean Mauritius will generate 80% of its energy demand from MREs by 2020. Land-based renewables, he said, would only bring the renewables contribution to 28% by 2020.

Masahiro Matsuura, University of Tokyo, described slow progress in Japan towards widespread usage of MREs, citing opposition from fishing communities. He explained that expansion of offshore turbines must meet regulatory, cultural, political, and environmental conditions, underscoring the need for involvement of key stakeholders in future MRE development. Noting that regulatory structures and constraints for MREs are unique to every country, he encouraged being cautious when trying to create a global regulatory instrument, stressing the need for information sharing and collaboration.

Omar bin Yaakob, University of Technology of Malaysia, discussed MRE initiatives in Malaysia and South East Asia. He said MRE development in the region has focused on small-scale prototypes of various devices, since ocean current speeds, tidal range, and wave heights are low in global terms. On challenges, Yaakob highlighted: the lack of sound policy and institutional frameworks protecting the marine environment from MRE impacts; low levels of technological development; unsustainable research-and-development activities; and conflicting use with

other marine activities. To spur the development of MREs, he underscored the need for technological expertise and financial assistance from developed countries.

Segen Estefen, Federal University of Rio de Janeiro, presented the ocean-related segments of the Intergovernmental Panel on Climate Change’s (IPCC) report on “Renewable Energy Sources and Climate Change Mitigation,” focusing on: technologies; market development; cost; resource potential; emission reduction; and deployment. On MREs, he highlighted that: while currently immature, technologies can advance rapidly, their technological potential exceeds current energy requirements; environmental impacts are low; and successful deployment can reduce costs. He also discussed Brazil’s MRE potential and research projects.

**Discussions:** Responding to BRAZIL, Matsuura explained that landscape impacts of offshore wind technologies have proven controversial in the US Cape Wind Project over loss of sunset views. Yaakob explained that MREs in areas beyond national jurisdiction hold great potential but an international regime for control and regulation is required. Estefen said that when using ocean thermal energy conversion (OTEC), environmental impacts can be minimized by using closed circuit technology.

To Denmark, for the EU’s request for elaboration on eligible candidates for MRE developments, Suddhoo explained that Mauritius does not have a precise business model, but envisages cooperative activities between the government, private sector and community stakeholders. Responding to the EU’s question on strengthening research and development, Yaakob explained that commonalities amongst South East Asian countries and Pacific small island developing states (SIDS) support focusing on OTEC, ocean and tidal technologies. To a question from the EU on synergies achieved with the oil and gas industries, Estefen explained that facilities in Brazil for testing MRE devices were originally built for these industries. Yaakob added that MRE devices require platforms, and could learn from experiences in developing oil and gas platforms.

To VENEZUELA’s question on regulating activities related to MREs, Estefen said the UN Convention on the Law of the Sea is the proper forum. Yaakob said rules modeled after those of the International Seabed Authority (ISA) could apply, adding that possible transboundary regulations are also needed when MREs are located near national borders. Matsuura added that in some countries many regulations already exist. SINGAPORE raised

the issue of the impact of MRE devices on rights of passage for navigation. Matsuura and Suddhoo responded that inter-agency coordination and compromise would be necessary.

Responding to TRINIDAD AND TOBAGO's question about how SIDS can adapt to challenges of developing MREs, Suddhoo stressed the importance of political commitment.

NEW ZEALAND and the UK described examples of their successes with MREs, citing the NZ\$8 million Marine Energy Deployment Fund and the SeaGen Tidal Turbine, respectively. THAILAND expressed willingness to share best practices to promote cooperation and technology transfer.

#### **OPPORTUNITIES AND CHALLENGES IN THE DEVELOPMENT OF MARINE RENEWABLE ENERGIES, INCLUDING FOR COOPERATION AND COORDINATION: Presentations:**

**Vanessa E.H. Stewart, Soltage LLC,** drew on the history of solar and wind industries to discuss conditions needed to create a stable investment environment for MREs. She reviewed a number of risks facing the development of MRE markets: site assessment and access risks, including permitting and environmental assessment requirements; transmission timeline and costs, which include the challenges of linking remote sources of MREs to existing electrical grids; equipment cost uncertainty; limited data on operational production and performance; instability and uncertainty in operational revenue flows; and the creditworthiness of operators.

**Martin J. Attrill, University of Plymouth,** presented research showing minimal negative impacts on populations of organism from operational noise, collisions and electromagnetic radiation caused by certain MREs. He said the presence of physical structures, while changing the habitat, could have positive benefits, including providing: new habitat for colonization and increasing fish populations; protection from other maritime activities, creating *de facto* marine protected areas; and opportunities for co-locations, including aquaculture and wind farms. He ended by saying the environmental impacts of large MRE projects remain uncertain.

**Dengwen Xia, National Ocean Technology Centre,** described developments in China's MRE sector. On policy, he described the work of the State Ocean Administration in conducting investigations into MRE resources and managing technologies, both existing and pilot devices. On opportunities, he referred to funds received for MRE policy promotion, and participation of public institutions, universities and corporations. On challenges, he pointed to limited funding, environmental impacts of MRE, and conflicts amongst sea users. He concluded by suggesting the UN is an appropriate forum for a global coordination framework.

**Joseph Williams, Energy Caribbean Community (CARICOM) Secretariat,** presented on the opportunities and challenges in the development of MRE in the Caribbean. He noted that most Caribbean countries are dependent on imported petroleum, with Trinidad and Tobago being the only exporter of energy resources. He addressed energy challenges in CARICOM, including: security, due to over-dependency on imported petroleum; sustainability; energy poverty; and high-energy tariffs. Williams noted MRE has significant potential in the region, but progress has been very modest. He discussed opportunities, such as cooperation with industrialized countries and co-development rather than transfer of technology, and addressed challenges, including potential conflict with tourism promotion objectives,

and weak legal and regulatory frameworks. On the way forward, he mentioned the Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) as an opportunity to make further progress.

On BRAZIL's question regarding the availability of a global repository of environmental impact assessments (EIAs), Stewart mentioned that as part of the US National Environmental Policy Act all EIAs are available on the Environmental Protection Agency's or local governments' websites, while Attrill said in the UK most EIAs are performed by private companies and considered commercially sensitive. SINGAPORE added that EIAs should also include impacts on vessel navigation, especially concerning risks of changes in current speeds around MRE devices.

To the EU, Stewart noted possibilities of feed-in tariff differentiation by the stage of technology development, and country involvement in site identification assessments to reduce investor risks. Williams responded that C-SERMS includes the possibility of using instruments like the Green Climate Fund, while also mentioning it is a work in progress. NEW ZEALAND said non-commercially viable technologies should be developed by countries that can bear the risks and commended the long-term vision taken by the Caribbean countries.

To OCEAN CARE and INTERNATIONAL OCEAN NOISE COALITION, Attrill mentioned that a balanced approach on the pros and cons of all the ecological, social and economic impacts should be taken concerning the cumulative effects of additional noise from large-scale MRE projects and of large underwater turbines in migratory areas.

Responding to the UK on challenges MRE developers face, Stewart said policies separating development from technological risks are better able to identify promising technologies and weed out poor technologies only considered successful due to certain factors, such as available resources or successful site assessments and project approvals.

To the IUCN, Attrill responded that water brought up by thermal gradient projects should be discharged above the surface to limit the spread of invasive species.

#### **IN THE CORRIDORS**

As ICP proceeded with panel discussions on various aspects of MREs, delegates continued to divide their attention between these discussions and the Rio+20 "Informal-Informal" negotiations. According to one delegate, while this year's theme is extremely relevant, outcome expectations are not too high. Although the topic is supposedly "not contentious," difficult issues, such as possible regulatory gaps for managing MREs and the possibility of the ISA extending its mandate to regulate bio-derived resources, are simmering under the surface and could rise up later in the week. Furthermore, one delegate noted that the controversial topics of an implementing agreement for biodiversity beyond national jurisdiction (BBNJ) and ocean fertilization are key areas of contention on the oceans agenda in the "Informal-Informal" negotiations. Given their importance, these issues may do more than just split delegates' attention this week. Whether and how they feature will reflect the persistent discussions about the ICP's role: should it remain, as one delegate put it, "a non-political process to inform delegates about emerging and challenging ocean issues," or should it tackle core challenging issues such as BBNJ? It could be that delegates turn to these concerns in the closing days of ICP-13, or if not then, as they prepare to review the ICP at the 67th session of the General Assembly.