

A PECC International Project
Sustainable Management of Marine Resources 2011-2012

Concluding Seminar
The Management of Deep Sea Marine Resources and
Oceans as a Means of Communication

December 4-5, 2012, Auckland, New Zealand

Co-hosted and organized by NZPECC, FPTPEC, and the University of Auckland

BACKGROUND

Major economic, environmental and social challenges come to the fore when dealing with management of oceans and coastal areas. An integrated and sustainable management of marine resources is a prerequisite for better protection and use of marine resources while also allowing for the development of various recreational and economic activities. Economic activities and facilities are mostly located on coastal areas. Today, 40% of the world's population lives in the coastal areas or within a 70km range; in particular, in the emerging economies of the Asia-Pacific region. The World Bank estimates that by 2025 this figure would dramatically increase. Such challenges deserve a serious attention; they have a worldwide bearing. Oceans account for more than 75% of earth's surface; and it is for this very reason that it is necessary to promote a sustainable management of the oceans.

On October 22, 2010, at the PECC Standing Committee meeting in Tokyo, a PECC international project on the **Protection and Sustainable Management of Marine Resources**, in a series of three seminars, proposed by FPTPEC was endorsed. New Caledonia constituency of FPTPEC hosted the first seminar, followed by second hosted by the East West Center and the Natural Energy Laboratory of Hawaii Authority (NELHA) in Hawaii, and the concluding seminar is to take place in **Auckland, New Zealand** on **December 4-5, 2012**, hosted by NZPECC and the University of Auckland. The PECC International Secretariat is providing support to the lead organizing committee FPTPEC.

PAST SEMINARS

The first seminar was held in November 2011 in Nouméa, New Caledonia, focusing on the **Protection of Ocean's Resources** including fisheries, ocean and coastal area protection regulations, and management of challenges from global climate change.

The Nouméa seminar has put forward four main issues:

- an increased vulnerability of the coastline due to climate change;
- a need to change direction immediately to avoid risks for international security;
- a need for more solidarity amongst countries worldwide; and
- a need for new economic models for a better governance.

The second seminar entitled, ***"Oceans as a Source of Renewable Energy"*** held in Hawaii in March 2012, with the support of the East West Center and NELHA, covered four key areas:

- Development of new technologies for efficient use of marine energy;
- New energy sources to the sea: the operation of ocean thermal energy conversion (mainly in the Pacific), wave energy, tidal energy, the hydraulic energy, etc.;
- the means to increase the use of marine energy through technical and financial support from the public and private sector; and
- the role of marine energy in the future cities and the adaptation requirements of urban infrastructures.

The seminar highlighted a number of aspects to the various benefits and constraints to new forms of ocean energy. For example, the use of ocean thermal technology is useful for dense urban centers, with proximity to deep seas to benefit from significant differences in temperature between warm surface water and cold water from significant depth. Seawater air conditioning technology is simple and reliable for cooling buildings, and operational in many cities around the world. Wind turbines are more efficient on the sea than onshore as wind is more regular and consistent. Current energy is deemed more predictable and consistent than wave energy. In general, however, environmental conditions at sea are harsher and more aggressive than on land due to quicker corrosion, problems of anchoring, and accelerated aging. Technologies are available; taking the innovation to work in marketplace and to grow in economy of scale is the biggest existing challenge, which would need sizable companies to buy into, and invest in the new technologies.

The expected benefits of marine energy are significant: less dependence on oil, lower power consumption, reducing greenhouse gas emissions (and even zero emissions), minimal or no refuse, and reduced use of water resources. However, this requires rethinking the integration of urban services in developing better governance, by seeking the agreement of stakeholders and developing public-private partnerships. Existing networks are not formatted for renewable energy. It is therefore necessary to revisit the entire chain of production and distribution if we wish to develop renewable energy.

AUCKLAND SEMINAR

While building on the two previous seminars, the concluding seminar held in Auckland also brought in new aspects to the broad theme of marine resources management. It is now more obvious that despite the strong potential of marine resources, market by itself will not be enough to facilitate their further development; it would require all stakeholders to contribute concerted efforts and financial support. The development of marine resources calls for strong political will in support of the research and development efforts conducted by the private sector. A thorough and well-thought out industrial policy is required to develop a solid industry. In addition, various socio-economic as well as technical and environmental barriers should not be neglected: the need to collect more reliable data for sound decision-making, development of new digital tools, risks related to operations at sea, evolution and compatibility of norms must also be tackled. This is a multidisciplinary field where technologies are not yet stabilized or sufficiently protected.

We are facing a new paradigm; new research and new investments will be required to develop a sound exploitation of oceans' resources, namely when considering deep sea exploration. Some sources of exploitation of marine minerals are more likely than others to further develop and become viable; the transition from experimentation to exploitation will then define internationally recognized standards. The development of clusters and alliances between local and multinational firms will become necessary to develop high technology and risky exploitation. It will provide less developed economies with the possibility to reap benefits from the exploitation of their oceans' natural resources even without having mastered the technology. Such development also requires calls to the financial and development sectors, mainly through public-private partnership.

Exploitation of oceans requires also the capacity for the economies, owners of the resources, to be able to control and protect them from non-authorized users. New technologies are to be implemented for a better surveillance of the oceans. Considering the increasing global call for new resources, the legal aspects related to access, preservation and environmental protection are not to be neglected.

The contents of the series of three seminars will be published as a PECC international publication in 2013.