INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION  
(of UNESCO)

Tenth Intergovernmental Session of the IOC Sub-Commission for the Western Pacific  
(WESTPAC-X)  

Phuket, Thailand, 12-15 May 2015  

PROGRESS REPORT (MAY 2012-MAY 2015)  

ON  

MARINE RENEWABLE ENERGY DEVELOPMENT IN THE WESTERN PACIFIC  
(WG 004: MRET)

In accordance with the Terms of Reference of IOC Sub-Commission for  
the Western Pacific, the report is provided to facilitate the consideration by the  
Sub-Commission on the progress made by WESTPAC Working Group on  
Marine Renewable Energy Development in the Western Pacific (WG 004:  
MRET)

The Sub-Commission is invited to provide comments on its present  
activities, and further decide whether to continue or terminate this Working  
Group, taking into account the suggestions made by the Working Group.
I  Project

1. Marine Renewable Energy Development in the Western Pacific (WG 004: MRET)

II  Project Objectives and Expected Outputs/Outcomes

2. MRE WESTPAC WG formed by WESTPAC as a complementary mechanism for WESTPAC Programs/Projects. It enables leading scientists to deliberate on focussed scientific topics, marine-related societal concerns and other international emerging issues.

- To organize and report the 1st Marine Renewable Workshop, Melaka, Malaysia
- To review and publish on The Status of Marine Renewable Energy Technology Development in The Western Pacific, MRE survey presentation
- To participate in regional capacity building program – as a side workshop in the 9th International Scientific Symposium, Nha Trang, Vietnam

III  Project Leader (Chairperson) and Project Steering Group

1. Prof. Dato’ Dr. Nor Aieni Haji Mokhtar, (UTM, Malaysia)
2. Prof. Dr. Omar Yaacob, (UTM, Malaysia)
3. Wenxi Zhu, Nachapa (IOC/WESTPAC Secretariat, Bangkok)
4. Experts in WESTPAC (ref: list of experts in 1st IOC/WESTPAC MRE workshop in Melaka)
5. In Malaysia, the National Oceanography Directorate, SIRIM of MOSTI as well as UTM are the joint secretariat for this WG.

IV  Terms of Reference of the Project Steering Group

3. Established to:
- Provide baseline information, identify challenges & share practices among Member States
- Develop regional pilot project proposal(s) on the development of MRET in the region
- Working period of this group is four years, from 2012-2016.
- Experts from 11 Participating countries in workshop: Australia, Cambodia, Fiji, Indonesia, Japan, Malaysia, New Zealand, Philippines, China, Republic of Korea and Vietnam.

V  Activities Carried out and/or to be Carried Out During the Last Intersessional Period (May 2012 – May 2015)

3. Following the workshop, an MRE survey form was prepared to identify, collate and report the present state of implementation for MRE among IOC WESTPAC Member Countries.


VI Problems Encountered and Actions to be Considered by the 10th Intergovernmental Session, tentatively scheduled for May 12-15, 2015, Phuket, Thailand

5. The Task force committee on RE, MOSTI focus a lot more on Solar, wind, PV, Hydro and bio-gas, whereas new awareness on ideas where marine algae for biofuel and ocean energy derived from wave and current were introduced. New challenges in advancing green approach include R & D Innovations using Ocean Thermal Energy Conversion (OTEC)-UTM has established a center for OTEC. Research funds, human skill and competencies in this area are rather limited since R & D is still at nascent stage, At the regional level, WG activities tends to rely on IOC/WESTPAC office direction and budget support for encouraging knowledge sharing and best practices.

6. Lack of communication among the WG of technical experts and workshop speakers were identified. Response to the survey was also not encouraging, resulting in a small sample of the study. Working Group Meeting requires funding support for the organization and hosting of the event and to participate in related program elsewhere. Without support and budget allocation from the lead country, the WG is immobilized. Many countries are still working on the early stage of R & D in MRE and only few pilot projects for field case studies (which are site specific) are near commercial stage. Separate global events for promotion of MRE are not happening in the participating nations in WESTPAC, but more so in Europe and Singapore.

7. To accelerate collaboration and implementation of actions at the regional level, Governmental initiatives and International bodies for Ocean Energy Systems (IA OES) may can support Knowledge Exchange through social media and joint development programs through regional pilot project collaboration. Technical issues to deal with include System Integrity (reliability, safety, production, operational life, installation, maintenance etc. Furthermore, knowledge and training on regulation and standards as well as aspects of economics (load factor, investment cost, financial schemes, feed-in-tariff, subsidy) need to be clearly comprehended.

8. The proposed action for consideration prior to the 10th Intergovernmental Session in May 2015 is to convene an MRE Focus Group Meeting to review the survey report on status of MRE Development in WESTPAC and to discuss the feasibility of pursuing the R & D efforts towards innovation by proposing a pilot project. This meeting is to be held in Malaysia either Kuala Lumpur, Putrajaya or Kuala Terengganu. It is encouraged to invite the private sector as well. Other WESTPAC countries are also welcome to suggest hosting for meetings (Indonesia did volunteer).
# VII Workplan and Budget for May 2015 – May 2017

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| **1. Focus expert Working Group Meeting** | To review report from MRE survey and to discuss technical status and plan for next steps for possible proposal for pilot project  
To identify experts, participating and key donor countries for MRE project  
To seek further interest from participating countries in sponsoring and constructing a pilot project | Work Plan proposal  
Report | 1st week May 2015  
Kuala Lumpur/Putrajaya/  
Kuala Terengganu | Travel support & per diem for WESTPAC Coordinator  
USD10,000 | National & International Sources  
For budgeting | To confirm on Report readiness and publication of the MRE Survey Findings |
| **2. Participation in IOC/WESTPAC Intergovernmental Session** | To present the proposed Work Plan for endorsement by IOC/WESTPAC | Endorsement of Work Plan | 12-15th May 2015  
Phuket, Thailand  
10th Intergovernmental Session | Travel support & per diem for WG leader  
And experts identified  
USD15,000 | Travel & per diem support for members from participating countries  
Side Event | Request approval from IOC/WESTPAC & from host country |
| **3. Workshop on designing a proposal for pilot project** | To review and support for Feasibility of a Pilot Project on MRE in WESTPAC  
To prepare Detailed Design and implementation Plan | Project design proposal, site selection  
Detailed Design & implementation Plan | 2016  
TBC | Travel support & per diem for WESTPAC Coordinator and experts  
USD 30,000 | Travel & per diem support for National & International experts, private sectors | Request approval from IOC/WESTPAC & from host country  
Project Financial support & sustainability |