

Proposed IRENA Activities for the Pacific Region in 2012

Based on the fruitful discussions during the Workshop on **Accelerated Renewable Energy Deployment on Islands with Emphasis on the Pacific Islands** that was held from 26-28th October 2011 in Sydney, IRENA has identified a number of *Work Activities* that it could contribute to in order to accelerate the deployment of renewable energy systems in the Pacific Region. These need to be aligned with the IRENA Work Programme and Budget for 2012 which will be discussed and adopted at the second Assembly in January 2012. This document will also be presented to a Pacific Leaders Meeting in Abu Dhabi on 13 January 2012 for discussion. The proposed IRENA activities for the Pacific region include:

1. Develop IRENA as a one-stop-shop for renewable energy technology strategies.

The region needs a platform to provide easily accessible, up to date and accurate information on renewable energy technologies suitable for the conditions of the Pacific. IRENA can develop a web-based platform which provides authoritative information on renewable energy technologies by collecting cost and performance data from the region, information on successful development projects in the region, and combining this with relevant information from other regions collected as part of IRENA's ongoing work. IRENA recognises the important role of existing regional organisations and programmes, as well as the local private sector and manufacturers, and so will build on and work with these existing organisations and their activities and expertise. This information will be complemented by IRENA providing advice on renewable energy technology strategies in the region.

2. Assess grid stability in renewable energy system in the Pacific.

The current limited knowledge and experiences in integrating high proportions of renewable energy into transmission/distribution grids in Pacific islands was raised as one of the key challenges for significantly expanding the use of available renewable energy resources. Both the operation of such grids and the transition to such grid configurations needs to be better understood, including strategies for the operation of diesel generators efficiently at partial load. IRENA can highlight existing studies and experiences carried elsewhere in the world, and bring this knowledge to the Pacific, with the aim to adapt the findings and support specification of technical requirements to ensure system stability. This includes power system design and equipment standards for proven and reliable renewable energy technologies and the supporting grid equipment. A key focus of the work will be to identify how better coordination among island states can help achieve harmonization of French, US and AUS/NZ standards. This activity will be carried out in partnership with Pacific regional institutions, local utilities, and the private sector and will complement the activity 3.2.

3. Assess a sustainable renewable energy market development in Small Island Pacific States - policy advice, technology cooperation, education and training. In association with regional institutions, this will include four main components:

3.1 Creating an interface with the Pacific utilities: Utilities are facing specific difficulties integrating a high share of some types of renewable energy systems. By creating the dialogue with the utilities, IRENA expects to increase the level its understanding of the constraints utilities are facing in the Pacific region, identify the opportunities for progress, and take those into account to support increasing the share of renewable energy for electricity generation in the Pacific region.

3.2 Support for an enabling environment that improves the ability of the private sector to work

effectively with governments and utilities to develop and implement cost-effective renewable energy production: For some countries, renewables can be cost-competitive at current retail prices of electricity. This is an incentive to switch to renewable energy, but most countries lack the appropriate regulatory framework and technical expertise to do so on a large scale. The majority of Pacific utilities, who are usually the main electricity providers in their area, are state-owned, self-regulating institutions which often lack the resources to develop frameworks to allow Independent Power Producers (IPP) access to the market or to introduce their own renewable energy projects. IRENA proposes providing policy advice and guidance to utilities in creating a policy framework that will assist utilities to increase the use of cost effective renewable energy generation through their own investment and for allowing IPPs to engage in renewable energy projects by making policy recommendations on specific challenges such as designing net metering regulations, feed-in-tariff structures and drafting Power Purchase Agreements (PPAs).

3.3 Strengthen the private sector role: Due to the high level of investment needed and the technical complexity of large scale renewable energy systems, private power producers are likely to be needed in the region to enable a high proportion of renewable energy deployment in the electricity sector. IRENA can provide advice and support to help the private sector in the region to develop viable business models and to learn from others regarding their technical, operating, and business experience in the Pacific. IRENA will:

- *Highlight the available renewable energy resources.* IRENA will make available its platform on existing renewable energy studies, to ensure the existing knowledge on renewable potentials in the Pacific is shared widely. Through its work programme activity on renewable energy potentials, IRENA will make available the tools and data sources necessary for a first screening of the resource options in the Pacific. Representatives from the Pacific region will be involved in designing the services that will be provided to the end-users.
- *Promote technology cooperation.* IRENA will bring together technology providers, installation companies and operators/maintenance companies to share knowledge.
- *Capacity building for the installation companies and financial institutions.* Training will be supported on the fundamentals of designing a business plan for renewable energy projects and for the assessment of the business potential for renewable energy development.

3.4 Institutionalizing education and training: It is important to ensure that once the market for renewables is created that there is no shortage of trained professionals for the system design, installation, operation and maintenance of renewable energy systems. There will be a need to promote a range of educational and training programmes including in particular local vocational training, ideally based on a common certification system, so that the renewable energy market can be promoted as an interesting career opportunity among young professionals. IRENA will help develop curricula and training programmes based on existing experience, but tailored to local needs.

4. Assess the use of more renewable energy in the transportation sector.

In the Small Island Pacific States, typically 60-75% of all petroleum is used for transport (land, air, and shipping) and this is usually the largest component of total energy use in the region. IRENA can help explore the role of renewables in the transport sector by reviewing renewable energy technology solutions for sea and land transport around the world and make the information tailored to the islands. Furthermore, as the role of renewables in the transport sector is identified, IRENA can help develop pilot projects for implementing concrete action plans in the region.

5. Assess renewable energy technologies adapted to the Pacific conditions - Gaps and solutions.

Not all available renewable technologies are suited to conditions in the Pacific. For example, the supply of suitable wind turbines that are resistant to cyclones is very limited. Similar problems exist for other types of equipment which are not designed for the region's conditions. IRENA will help to identify where gaps exist in the current technology portfolio and devise strategies on how to overcome these.

6. Assess the land use, energy and water nexus.

Small islands, and especially atolls, have very limited land and water resources, which has implications for energy production and use. Managing these natural resource constraints optimally must be done in an integrated way. IRENA will help to identify the challenges and opportunities renewable energy technologies create and devise integrated strategies to optimize resource use and implement pilot projects to address the land use, energy and water nexus problems in the atoll islands.