



## **Asia Pacific Regional Workshop on Biomass Energy Resource Assessment**

**6-8 July 2015, Bangkok, Thailand**

**(Venue: Rama Gardens Hotel, 9/9 Vibhavadi Rangsit Road, Laksi, Bangkok, Thailand)**

### **Background**

Countries around the world are deeply concerned about the effects of climate change and the long-term security of energy supply from fossil fuels for meeting their developmental needs. For most countries in the Asia Pacific region, diversifying their energy supply is key to effectively combat these twin challenges. Increasing the share of renewable energy in the total energy mix while enhancing energy efficiency measures for conserving energy is a significant step towards achieving energy security. Countries in the Asia-Pacific region have a huge untapped renewable energy potential in areas such as wind, solar, biomass and hydro. Yet, these countries have very limited technical expertise available for identifying potential renewable energy resources, developing effective policy instruments for supporting renewable energy as well as identifying potential market opportunities for renewable energy technologies. Hence, it is imperative that these countries collaborate with other developing countries in the Asia-Pacific region through South-South Cooperation to benefit from cross-border transfer of skills, knowledge and technologies that can directly contribute to the growth of renewable energy generation, in a manner that leads to sustainable and inclusive development.

Many countries in the Asia Pacific region have abundant biomass resources. These biomass resources can contribute the energy mix and can reduce the dependence on imported fossil fuels, if this potential is efficiently harnessed. Further, biomass based technologies also offer the prospect of providing electricity, heat and transport fuels and in many cases can provide energy in off-grid rural applications.

Several countries in the region, particularly in South East Asia, have been working to promote the development, transfer and adoption of renewable energy technologies, with a focus on biomass energy owing to the abundance of these resources in the region. In order to leverage the maximum potential for biomass energy resources in a sustainable and inclusive manner,

these countries need to strengthen their capacities in performing and applying renewable energy resource assessments. This involves various methodologies, tools and techniques for estimating the potential for the generation of renewable energy using the available natural energy flows, in a specific location. Accurate resource assessments are crucial to the successful development of appropriate renewable energy systems that best suit the local conditions and harness maximum energy from the available natural resources specific to the location. The biomass resource assessment needs to cover a range of complex issues including, but not limited to, land use planning, forecast increases in agricultural productivity, and projected food demand over time. Since the biomass resource assessment is very sensitive to the local context and political choices, biomass resource assessment must be a country-driven exercise<sup>1</sup>.

As a Regional Institution of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), APCTT has strong linkages with the S&T and R&D community, technology transfer intermediaries, and SMEs in the countries of the region and can play an important role in promoting renewable energy technology transfer, capacity building, and knowledge networking. Through the establishment of Renewable Energy Cooperation-Network for the Asia Pacific (RECAP) with a membership of 15 countries including Thailand, APCTT has built a robust institutional mechanism for facilitating cross-border cooperation for promoting the adoption and use of renewable energy in the region.

At the global level, the International Renewable Energy Agency (IRENA) headquartered in Abu Dhabi, UAE is working towards promoting the widespread adoption and sustainable use of all forms of renewable energy. IRENA is an intergovernmental organization with a specific mandate to promote renewable energy and has a membership of there are currently 139 Members (138 countries and European Union). IRENA manages a project called the Global Atlas, an online GIS platform to map renewable energy resources worldwide. It is also cooperating with the World Bank's ESMAP initiative which is funding the assessment of renewable energy resources in selected developing countries. The Global Atlas is an online repository of existing datasets on wind, solar, biomass and geothermal energy resources which is a powerful tool for renewable energy planning and deployment. IRENA has also developed several guidebooks and working paper series on biomass including a Renewable Energy Technologies: Cost Analysis Series exclusively focusing on biomass energy during 2012. IRENA is also participating in the IEA and FAO work to develop the "*How2Guide for Bioenergy*", a manual for policy and decision makers to develop and implement bioenergy roadmaps at regional or national level, including consideration of resource assessment, technology assessment and bioenergy pathways .

As an initial step towards identifying the needs of member countries, APCTT and IRENA jointly organized an Expert Group Meeting on Renewable Energy Resource Assessment for Countries in the Asia-Pacific Region from 25 to 26 September 2014 in Bangkok, Thailand. This EGM was hosted by APCTT's focal point in Thailand, the Ministry of Science and Technology. Twenty-six

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<sup>1</sup> K. Stecher A. Brosowski D. Thrän, Biomass Potential in Africa, International Renewable Energy Agency (IRENA) 2013 (Source: [http://www.irena.org/DocumentDownloads/Publications/IRENADBZ\\_Biomass%20Potential%20in%20Africa.pdf](http://www.irena.org/DocumentDownloads/Publications/IRENADBZ_Biomass%20Potential%20in%20Africa.pdf) )

experts from 13 member states (Afghanistan, Australia, Cambodia, China, Japan, Kazakhstan, India, Indonesia, Islamic Republic of Iran, Pakistan, Singapore, Thailand and Viet Nam) participated in the EGM and shared global expertise and practices as well as country perspectives for renewable energy resource assessment. The meeting participants concluded that increased capacity to undertake and apply renewable energy resource assessments at the national level is key to leverage the huge untapped renewable energy resources available in countries in the region. The deliberations during the EGM also led to the consensus that APCTT and IRENA should work together and facilitate South-South Cooperation for strengthening national capacities of countries in the Asia Pacific region, including the Pacific Island countries and Least Developed Countries (LDCs) to undertake and apply their own renewable energy resource assessments.

The proposed Asia Pacific Regional Workshop on Biomass Energy Resource Assessment is another concrete step by APCTT and IRENA towards strengthening the existing capacities of member countries in the Asia Pacific region to undertake biomass renewable energy resource assessments at the national level. It is envisaged that this training programme will provide a platform for strengthening the existing capacities of member countries for identifying and assessing the potential biomass energy resources and to initiate efforts to fully realize the social, economic and environmental benefits with a specific focus on sustainability of biomass resources as a key priority.

APCTT and IRENA will be partnering with the Ministry of Science and Technology of the Royal Thai Government for organizing this programme in Bangkok, Thailand during **6-8 July 2015**. APCTT and IRENA will also bring together experts from internationally renowned renewable energy related organizations as well as key stakeholders from countries across the region to participate in this important training programme.

### **Key Objectives**

A three day capacity building programme will be co-organized by APCTT and IRENA, with the support of the Ministry of Science and Technology, Royal Thai Government. The objectives for the training programme will be:

- To enhance knowledge of key regional stakeholders on regional and global initiatives on biomass energy resource assessments and build institutional capacity in member country governments, institutions and the private sector in biomass resource assessment and related policy making.
- To provide training on various methodologies, tools and techniques for biomass energy resource assessments that are developed by IRENA and other international organizations that are readily available for estimating the national renewable energy potential.
- To share regional experiences, successes, challenges and best practices on biomass energy resource assessments and preparing resource assessment maps.

- To create a pool of experts in biomass resource assessments who could further disseminate the trainings in their respective countries.
- To learn international initiatives, governance frameworks and guidelines related to sustainability of biomass resources

### **Target Audience**

Participants will include policymakers and government officials in the renewable energy sector, renewable energy researchers and private sector representatives, with a specific focus on biomass energy.

### **Expected Outputs/Outcomes**

- Enhanced knowledge on methodologies, tools and techniques for biomass energy resource assessments.
- Increased awareness on best practices from the regional and global perspectives biomass energy resource assessments.
- Increased capacity for translating biomass energy resource information into effective policies and strategies.
- Enhanced level of networking among key stakeholders in the region and creation of a knowledge community on biomass energy resource assessments.
- Development of a trained pool of experts from the participating countries who could further disseminate the training in their respective countries.

### **TENTATIVE PROGRAMME**

#### **Day 1: 6th July 2015**

08:30 - 09:00	<b>Registration</b>
09:00 - 09:10	<b>Welcome Address</b> – Mr Alongkorn Laowngam, Assistant Permanent Secretary, Ministry of Science and Technology (MOST, Thailand)
09:10 - 09:25	<b>Inaugural Address</b> – Mr. Michael Williamson, United Nations ESCAP
09:25 - 09:40	<b>Inaugural Address</b> – Mr Masaomi Koyama, Senior Programme Officer, IRENA
09:40 - 10:00	<b>Key Objectives of the Workshop</b> Dr Krishnan S Raghavan, Coordinator, Technology Transfer, APCTT-ESCAP Mr Masaomi Koyama, Senior Programme Officer, IRENA
<b>10:00 - 10:30</b>	<b>Group Photo and Coffee Break</b> <b>Host country will lead the photo session.</b>

<b>10:30 - 12:00</b>	<b>Technical Session I: Introduction to Renewable Energy Resource Assessment – Biomass energy</b> <b>Moderator:</b> Mr. Masaomi Koyama, Senior Programme Officer, IRENA
10:30 - 11:00	<b>The Importance of Biomass Resource Assessments in Countries the Asia Pacific Region – Mr. Michael Williamson, United Nations ESCAP</b>
11:00 - 12:00	<b>Introduction to Biomass Energy Resource Assessments and IRENA’s Work Programme Related to Biomass Energy Resource Assessment - Mr. Shunichi Nakada, Bioenergy Analyst, IRENA</b>
<b>12:00 - 13:00</b>	<b>Lunch break</b>
<b>13:00 - 16:00</b>	<b>Technical Session 2: Global Initiatives, Online Tools and Regional Best Practices in Biomass Energy Resource Assessments</b> <b>(Moderator: Prof Mark Brown, Forest Industries Research Centre, University of The Sunshine Coast, Australia)</b>
13:00 - 13:30	Presentation on IEA Task 43, Biomass Supply Chains – EU & Australian Experience – Prof. Mark Brown
13:30 - 14:00	Presentation on the framework and current status of global resource mapping on Bioenergy – Mr. Shunichi Nakada, IRENA
14:00 - 14:30	Presentation on the Japanese Experience – Dr Daisuke Kunii, Ministry of Agriculture, Fisheries and Forestry, Japan
14:30 - 15:00	Presentation on the Scenario in New Zealand – Dr Paul Bennett, Scion Research, New Zealand
15:00 – 15:30	Presentation on the Thailand Experience – Dr Shabbir Gheewala, KMUTT
15:30 – 16:00	Discussion
<b>16:00 - 16:15</b>	<b>Coffee break</b>
<b>16:15 - 18:00</b>	<b>Technical Session 3: Country presentations</b> <b>(Moderator: Dr Aparat Mahakhant, Chief Research Expert, Thailand Institute of Scientific and Technological Research)</b>
16:15 - 16:45	<b>Keynote: Translating Bioenergy Global Analysis into National Policies, Strategies and Roadmaps – Mr. Simone Landolina, International Energy Agency (IEA) (Video-conference)</b>
	<b>Best Practices Related to Biomass Energy Resource Assessment</b>
16:45-17:05	China (Prof Zhenhong Yuan)
17:05-17:25	Indonesia (Dr Euis HERMIATI )
17:25-17:45	India (Prof Yogender Kumar Yadav)

**Tuesday, 7<sup>th</sup> July 2015 (Day 2):**

<b>09:00 - 10:20</b>	<b>Technical Session 3: Country presentations (Contd.)</b>
09:00-09:20	Thailand (Dr Yaowateera Achawangkul )
09:20-09:40	Lao PDR (Mr Chantho Milattanapheng)
09:40-10:00	Nepal (Ms. Shrestha Shubha Laxmi)
10:00-10:20	Pakistan (Dr Ali Ehsan)

- 10:20 - 10:35**                    **Coffee break**
- 10:35 - 12:15**                    **Technical Session 3: Country presentations (Contd.)**  
 10:35-10:55                    Philippines (Ms. Emelia Asuncion Dimapilis)  
 10:55-11:15                    Iran (Dr Hassan Ali Ozgoli)  
 11:15-11:35                    Sri Lanka (Mr Punchibanda Dambagahawela)  
 11:35-11:55                    Fiji islands (Mr Ravinesh Nand)  
 11:55-12:15                    Japan (Mr. Keiichi Sugita)
- 12:15 - 13:15**                    **Lunch break**
- 13:15 - 14:55**                    **Technical Session 4: Creating for Biomass Energy Investment – Public-Private Cooperation and Private Sector Perspectives**  
**Dr Masayoshi Saito (JIRCAS) will lead the session.**  
 13:15 – 13:20                    Introduction by Dr Masayoshi Saito, JIRCAS  
 13:20 - 13:40                    Presentation by Mr. Shunichi Nakada, IRENA  
 13:40 - 14:00                    Presentation by Dr. Shuquan Tang, IHI ASIA PASIFIC Pte Ltd, Singapore  
 14:00 - 14:20                    Presentation by Dr. Chakrit Tachaapaikoon, KMUTT, Thailand  
 14:20 - 14:40                    Presentation by Mr Luu Ngoc Anh, BPOVN, Viet Nam  
 14:40 - 14:55                    Discussion
- 14:55 - 15:10**                    **Coffee break**
- 15:10 - 16:40**                    **Breakout session on Policies and Support Mechanisms for Promotion of Biomass Energy (Facilitator: Mr. Shunichi Nakada, IRENA)**

**Wednesday, 8<sup>th</sup> July 2015 (Day 3):**

- 09:00 -10:30**                    **Technical Session 5: Demonstration of Tools & Databases on Biomass Resource Assessment (Hands on Training) – FAO**  
**Hands on Training – Mr Sergio Luis Rivero Acha, FAO**
- 10:30 -10:45**                    **Coffee break**
- 10:45 - 13:00**                    **Technical Session 5: Demonstration of Tools & Databases on Biomass Resource Assessment (Hands on Training Contd.)**
- 13:00 - 14:00**                    **Lunch break**
- 14:00 - 15:30**                    **Open Forum on Effective Use of Tools and Databases for Biomass Resource Assessment (Moderator: Mr Shunichi Nakada, IRENA)**
- 15:30 - 15:45**                    **Coffee break**
- 15:45 - 17:30**                    **Panel Discussion on Training Opportunities on Biomass Resource Assessment and Member Country Perspectives (Moderators: APCTT and IRENA)**
- 17:30 - 18:00**                    **Summary and Way Forward – APCTT / IRENA**