

## Report of the Asia and the Pacific Regional Preparatory Meeting on “Science, Technology, and Innovation for Promoting Renewable Energy Technologies for Sustainable Development in Asia and Pacific” for the 2013 Annual Ministerial Meeting of the Economic and Social Council

### Summary

As part of the preparation of the 2013 Annual Ministerial Review of the Economic and Social Council, a regional meeting was held on 13 March 2013, in Bangkok, Thailand on the theme “Science, Technology, and Innovation for promoting Renewable Energy Technologies for Sustainable Development in Asia and Pacific”. The meeting was hosted by the Royal Government of Thailand and co organized by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the United Nations Department of Economic and Social Affairs (DESA).

The meeting brought together a diverse group of stakeholders from the region

promote the use and dissemination of renewable energy:

- x STI can play an important role as means of implementation for sustainable energy and sustainable development as long as it is driven by the needs of the poor and the critical objectives of sustainable and inclusive development.
- x STI systems focused on renewable energy can help overcome some of the technological and economic challenges associated with integrating RETs in existing delivery mechanisms of energy services for example, in integrating RETs with grid-based conventional power supply in rural areas
- x STI agendas, in particular, should explicitly include achievable renewable energy targets.
- x Policy and institutional frameworks promoting the use of RETs in key sectors of the economy contributing to sustainable development are critical to promote a wider dissemination of RETs at the national level.
- x National STI policies promoting the use of renewable energy and RETs for sustainable development should also address the interlinkages between energy, water and food security, in order to ensure a balanced approach to the three dimensions of sustainable development.
- x Financial, fiscal, and regulatory incentives together with innovative financial mechanisms and an adequate regime for intellectual property rights are critical to foster the development, innovation, and commercialization of RETs

On improving the role of and partnerships with all relevant stakeholders :

- x Building collaboration and partnerships among the broad range of stakeholders involved in the value chain from development to commercialization of RETs e.g. government agencies, research institutes, and venture capital – is critical to ensure RET adoption and adaptation at the national level;
- x Promoting collaboration and partnerships with all relevant stakeholders in the RET value-chain through specific policy measures is also critical to create awareness and build national capacity to disseminate these technologies.



In his introductory remarks, H.E. Néstor Osorio, President of the United Nations Economic and Social Council (ECOSOC), drew attention to the enormous global challenges that are putting into question the current development models and sustainable

attracting private sector investment in renewable energy through various financing schemes and tax incentives and had installed over 300 MW of power plants. Further progress towards a path of sustainable energy-based economy, however, required STI. He stressed that the AMR regional meeting was an important opportunity to develop concrete proposals for the region in this regard, as well as contribute to the 2013 ECOSOC Annual Ministerial Review and to the work of the High Level Panel on the post-2015 Development Agenda.

In its key note address on “STI as a means of implementation for sustainable development in the post-2015 development agenda and for global partnership”, Dr. Agus Rusyana Hoetman, Senior Adviser for Energy and Advanced Material, Ministry of Research and Technology of Indonesia, drew attention to the diminishing world supply of traditional fossil fuel-based energy sources. Nonetheless, demand was growing rapidly in the Asia and Pacific region due to rapid industrialization, expanding transportation systems, population growth, and electrification of rural areas. Oil and coal were increased by 7.024 billion tonnes.

Bangladesh revised its power system master plan in 2010 to match a 8% of GDP growth. The Government objective was to increase the country's dependable power capacity, currently standing at 7500, to produce MW 39,000 MW by 2030. The Government also adopted a renewable energy policy in 2008 with a renewable energy target of 5% by 2015 and 10% by 2020 and a target to increase energy efficiency by 10% by 2015. Bangladesh successfully installed 1.5 million units of solar home systems (SHS) in rural areas, with Grameen Shakti as the leading NGO installing SHS in the country. Part of this success was the fact that the energy strategy has spelled out clear targets for renewable energy, addressing the demand and supply side. On the demand side, it aims at encouraging the business community to use renewable energy, especially in rural areas. Bangladesh had successfully implemented renewable energy programmes in rural areas (e.g. mini-grid, solar, etc) through public-private partnerships – e.g. installation of solar home systems in rural area with the support by the Grameen Bank. He stressed that these and other good practices in the region could be shared and benefit other countries. It would thus be useful to establish a dedicated forum on renewable energy that would allow this exchange and promote renewable energy in the region.

Mr. Rajiv Garg, Programme officer of UNEP, pointed out that technology should be considered as a package including es( es)2Bcl%

promote the achievement of all MDGs by improving household practices and providing income generation opportunities. In Asia and the Pacific, renewable energy technologies were used for a wide range of applications, especially to address specific power issues in remote communities –e.g. by providing off-grid and decentralized energy power systems. Other innovations, such as ocean energy, cellulosic ethanol, geothermal power were becoming popular. He stressed that to mimicking by modeling nature-oriented technological innovations bear great potential to improve technology efficiency and their applications. He also underscored that shifting towards a renewable energy-driven economy would require capacity to generate good ideas/research; strong intellectual assets to transform ideas/research into products; and funding to invest in their development and commercialization. The government played a key role in creating an enabling environment for innovation– e.g. through appropriate IP systems, policies, institutions, financial mechanisms/incentives and market opportunities and public private partnerships - to transform STI into commercially viable and sustainable RETs.

A number of points emerged from the debate that followed the round table discussion. Several participants stressed the need to focus on the impact of all sources of renewable energy in order to understand how R&D can help promote their balanced and sustainable use. For example, it was critical to address the inter linkages between energy, water and food security needs. Other participants argued against setting RET targets at the global level, suggested by the Secretary-General's initiative "sustainable energy for all", as this was a national responsibility. Many stressed the importance of ensuring RET access to all countries in Asia and the Pacific as an effective way to meet the growing energy demand in the region. Promoting advanced fossil fuel technologies (clean coal, natural gas etc) was also critical, together with safe nuclear energy because of its huge potential in meeting energy demands. Some speakers stressed the need for RETs to reach the Pacific, still heavily reliant on fossil fuel. A number of speakers stressed the need to reduce costs and increase access to renewable energy, particularly in rural areas to meet basic needs through appropriate RETs. APCT drew attention to its Renewable Energy Cooperation Network for the Asia-Pacific (RECAP), which can provide support to member countries on technology information, choices of technologies, market information, as well as information on policies and institutional frameworks for promoting renewable energy in countries in the Asia-Pacific region. Mr. Bhavsar pointed to several examples of clean energy innovations already commercialized, such as smart grid technologies, as optimal solutions for meeting energy demands. Waste to energy approaches such as municipal Solid Waste technologies, for example, held a huge potential for Asia-Pacific. He also noted that South-South cooperation was an important platform to mobilize technology.

C. Session II: Good Practices on Effective STI Policies to Promote Renewable Energy



solar projects and 160 MW of social solar power projects. The Biogas programme was also advanced with 100,000 plants expected to be financed by 15.

During the ensuing discussion, participants stressed the importance of mobilizing the private sector in developing and disseminating RETs. A number of participants underlined the important role of the government in ensuring that private sector involvement in the renewable energy sector leads to solutions benefiting the poor in remote areas. The government could also be a guarantor for companies providing services to these under

stressed that access to renewable energy could promote the achievement of many MDGs. Improving access, however, was a complex operation requiring action at various levels: government investment in STI to reduce production costs and increase efficiency investment in higher education and communication to increase renewable energy awareness and capacity; market access for RETs; enterprise development; access to clean water and so on. In the Asia-Pacific region, in particular, human resources development would be critical to adapt existing RETs to local contexts. In this regard, he presented a number of successful case studies from Nepal (Biogas Sector Partnership) and the Philippines (Alliance for Mindanao Off-grid Renewable Energy). This information, together with other services was available in the Renewable Energy Cooperation Network for Asia and the Pacific (RECAP).

In the ensuing discussions, participants underscored the issue of energy storage, especially for off-grid applications, as a challenge to a broader dissemination of renewable energy in the region. Others focused on the importance of technology transfer. They stressed the need for interregional mechanisms, including South South cooperation and IP systems, to facilitate transfer of technologies that effectively address regionspecific challenges and build on the abundant renewable energy sources in the region to help countries blessed with these sources to become suppliers. APCTT, in particular, stressed the need to increase regional skills to facilitate successful technology transfer. Others underscored the importance of having a balanced mix of RETs and not rely on a single source. The importance of promoting clean technologies (clean coal utilization, carbon capture technologies and so on) together with RETs was also highlighted. A number of participants reiterated that the green growth principles should be adapted to regional and national circumstances and adopted through national and not regional policies. On the issue of storage, drawing on the distinction between centralized and decentralized energy systems, APCTT underscored the need to ensure that storage becomes an integral part of offgrid decentralized systems to ensure their cost effectiveness.

E. Session IV: Main Messages and Policy Recommendations to Be Transmitted to the 2013 ECOSOC Annual Ministerial Review Session



Recommendations:

1. Governments should support and promote private sector joint ventures to obtain RETs in order to increase their affordability and facilitate their dissemination in the region, especially in the poorest and most remote areas.
2. Governments should strengthen collaboration between SMEs and larger corporations in the renewable energy sector as an effective way to develop and disseminate RETs.
3. Governments should explore innovative financial mechanisms, both at the national and regional level, to fund the development, transfer and adoption of renewable energy technologies as critical to renewable energy use and diffusion in the region.
4. The private sector must collaborate actively with the public enterprises,