

ACTION PLAN



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



Expert Group Meeting UNIVERSAL ENERGY ACCESS IN THE EAC PARTNER STATES

22-23 October 2015

Kabira Country Club, Kampala, Uganda

Austrian
Development Agency



1 Introduction

1.1 The United Nations Industrial Development Organization (UNIDO), in cooperation with the East African Community (EAC) Secretariat, organized an Expert Group Meeting “Universal Energy Access in the East African Community (EAC) Partner States” on 22 and 23 October 2015 in Kabira Country Club, Kampala, Uganda.

1.2 The aim of the Expert Group Meeting was to identify the current gaps in the provision of sustainable energy access to the East African countries and explore the advantages of a regional approach to achieve the SE4All and Sustainable Development Goals (SDG) under the regional platform of the East African Centre for Renewable Energy and Energy Efficiency (EACREEE).

- 1.2.1 Exploring best practices and lessons learned from on-going sustainable energy projects in the region in the context of universal energy access for productive uses and increasing the presence of renewable energy in the overall energy mix;
- 1.2.2 Showcasing the technical feasibility, economic viability and reliability of different renewable energy technology solutions in the African context and the potential for regional synergies through resource sharing;
- 1.2.3 Identifying viable national and regional solutions and opportunities to promote coordination, coherence, integration and knowledge management in the field of renewable energy;
- 1.2.4 Promoting the formation of a strong network of experts and institutions within the EAC region;
- 1.2.5 Devising a Plan of Action and/or Programmatic Approach to assist the EAC Partner States in achieving inclusive and sustainable industrial growth that is aligned with the national and regional priorities and contributes to the achievement of the SE4ALL initiative; and
- 1.2.6 Bringing together key development partners to jointly focus on funding a regional programme for Sustainable Energy for All (SE4All).

1.3 The high-level platform brought together more than 40 key actors, such as policymakers and senior officials from the Ministries of Energy, Renewable Energy Associations and the Rural Electrification Agencies of the EAC Partner States, among others, donors and development partners, as well as practitioners from the fields of renewable energy and energy efficiency.

1.4 The Expert Group Meeting adopted a consolidated regional plan of action to assist the EAC Partner States in achieving inclusive and sustainable industrial growth in line with national and regional priorities and agreed that the regional platform, the EACREEE, to be set up in the Makerere University with the support of UNIDO and the Austrian Development Agency (ADA), would be an effective approach for the region to achieve the goals of SE4All, as well as the UN SDGs.

1.5 The following institutions were represented:

- Agence Française de Développement (AFD), Kampala
- Austrian Development Agency (ADA)
- Centre for Small Hydropower in Tanzania, COET, University of Dar es Salam
- Climate Technology Centre & Network (CTCN)
- East African Community (EAC) Secretariat
- ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)
- Centre for Research and Energy Conservation (CREEC), Mekerere University, Kampala

- College of Engineering, Design, Art and Technology (CEDAT), Makerere University, Kampala
- Ministries of Energy of the EAC Partner States
- Ministry of New and Renewable Energy (MSME), India
- Poly Solar Technology (Beijing) Co., Ltd.
- Project Gaia
- Renewable Energy Associations of the EAC Partner States
- REN21 Secretariat
- Royal Norwegian Embassy, Kampala
- Rural Electrification Agencies of the EAC Partner States
- Strathmore Energy Research Centre (SERC), Nairobi
- United Nations Industrial Development Organization (UNIDO)

The Expert Group Meeting Agenda, as well as the list of participants, are attached to this report as Annex A and Annex B, respectively.

2. Proceedings

2.1 OPENING AND INTRODUCTION

2.1.1 On behalf of the Secretary General of the EAC Secretariat, Mr. Peter N. Kinuthia, Senior Energy Officer, addressed the audience and informed that on 11th September 2015 the Sectoral Council on Energy had designated the Makerere University College of Engineering, Design, Art and Technology (CEDAT) as a Centre of Excellence for the EACREEE. Expressing that “the EAC Secretariat is in support of the objectives of this Expert Group Meeting,” Mr. Kinuthia also noted his appreciation to UNIDO and the ADA for the support extended to the EAC on preparations to establish the EACREEE.

2.1.2 “We all acknowledge that access to modern energy is fundamental” said Eng. Mubiru, Director of Energy Resource Development, Ministry of Energy and Mineral Development of the Republic of Uganda. As the host country, he offered all support for the smooth establishment and function of the EACREEE. Mr. Hans Peter Christophersen, Counsellor, Trade & Energy, Royal Norwegian Embassy, present during the meeting, added that: “I very much look forward to the opening of the EACREEE in the near future. I also hope you will succeed in a constructive collaboration with the other renewable energy programs at Makerere University. I am convinced that the EACREEE will be an important initiative to help meet the ambitious targets for all Ugandans to achieve affordable, reliable, clean energy in the not too distant future. This will also be the foundation stone for creating jobs and businesses, and improving education and health – for a prosperous future to all Ugandans.”

2.1.3 On behalf of the Director of the Energy Branch, UNIDO, Mr. Jossy Thomas highlighted the significance that UNIDO places on the promotion and support of inclusive and sustainable industries in developing countries and economies in transition, as well as reiterated that the success story of the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) showcases the potential of the Global Network for Regional Sustainable Energy Centres for achieving SDG goals 7 and 9.

2.1.4 Mr. Robert Zeiner, Head, Programmes and Projects International, ADA, mentioned that without any doubt the establishment of the EACREEE is accompanied by challenges, but by bringing the enablers together, the centre can serve as an excellent platform for facilitating and optimizing resources, creating networks and linking them together, and contribute to new opportunities and concrete measures in the region. Thus, this Expert Group Meeting would provide a great opportunity to brainstorm strategies and possible measures for achieving

universal access to sustainable energy in the EAC region under the regional platform of the EACREEE.

2.2 SESSION 1 | Universal Energy Access – Trends, Gaps, and Challenges

2.2.1 The provision of affordable, reliable, and sustainable energy is essential for the development of sustainable economies, as it advances and strengthens productive capacities that promote job creation and income generating opportunities for both women and men in local communities and cities. Furthermore, in the context of climate change and energy security concerns, it is imperative that a significant portion of the concomitant energy demand comes from sustainable and renewable sources. Given the huge financial and technical cooperation requirements for the productive capacity agenda, neither the countries alone, nor business-as-usual practices, are sufficient; hence, there is a need for innovative, renewed and strengthened partnerships. Specifically, this session aimed at exploring the policy initiatives and best practices at the global and sub-regional levels in order to facilitate the development of productive economic capacities, as well as the importance of innovative partnerships for sustainable energy adoption in the context of the post-2015 agenda and recently adopted SDG goals.

2.2.2 The session concluded that an appropriate solution to achieve clean, reliable and affordable sustainable energy for productive uses in the region must entail: (i) high quality, reliable, comprehensive, transparent, and validated information and data on renewable energy and energy efficiency; (ii) harmonized policies aligned with national priorities; (iii) institutional strengthening and capacity building; (iv) human capacity building (e.g. young engineers; policymakers; project developers, etc.); (v) awareness raising and financing elements to sustain the initiatives/programmes in the region; and (vi) bundling different stakeholder groups and partners together. In general, utilizing the successful example of the ECREEE, the EACREEE should serve as the regional focal institution for the implementation of the SE4All Initiative in the context of the post-2015 development agenda process and position itself as a think-tank in the EAC; whereas different centres of excellence in the region and/or regional energy institutions could foster greater energy integration and work hand-in-hand with the EACREEE.

2.3 SESSION 2 | Promoting Universal Energy Access – Best Practice Solutions

2.3.1 Building on the conclusions of session 1, this session aimed at exploring some of the best practices and experiences, e.g. smart micro / mini grid solutions for off-grid access, scaling up small hydro power (SHP), etc. in the region.

2.3.2 The session identified (i) scholarship at all levels; (ii) a good managerial concept and clear business plan; (iii) clear economic viability; (iv) projection of future energy demand; (v) a concrete awareness model for consumers and the community; (vi) political framework; (vii) funding sources and financial mechanisms, and; (viii) cooperation of all enablers (e.g. REN21, IRENA, R&D institutes, universities, NGOs, etc.) facilitated by the EACREEE, to encourage promotion and commercialization of smart micro / mini grids, SHP, etc. as a solution for off-grid access to energy in the region. Moreover, it was pointed out that mini grids are the solution to electrify the estimated 120 million homes in the EAC that currently does not have electricity connection. Clearly, the private sector must be involved to achieve this target; while financing facilities and a conducive environment are also required to attract investors. The best practices for micro / mini grids and capacity building, in general, include (i) rollout phases/strategies; (ii) finance appliances; and (iii) capacity trainings at the multi-country level. The potential of Africa's natural gas resources should also be taken into consideration as it can provide ample demand for the remote areas of the region and create synergies with renewables as well.

2.3.3 Specifically on the EACREEE, the centre would have a significant role to play in promoting mini grids using SHP and other RE resources and technologies in the region that would include (i) intermediary role between utilities and government; (ii) holistic integrated planning; (iii) consumer and community engagement; (iv) provision of expertise to communities throughout the implementation period; and (v) policy and standard stipulation and drive, especially considering the fact that regulation for mini grids is not available in the EAC.

2.4 SESSION 3 | Clean Cooking Alternatives – Benefits for the EAC Region

2.4.1 Ethanol fuel switching is an alternative approach to promote clean cooking fuels. Ethanol fuel production represents a significant opportunity for economic and social development in the EAC Partner States. Ethanol can be produced locally using a variety of feedstocks that can be selected based on unique local conditions. Economic opportunities can be generated along the value-chain from growing crops to fuel production and sale, embracing activities from the manufacture and marketing of ethanol cook stoves to distributing and retailing of fuel. Furthermore, by adopting ethanol as a household fuel, fuel energy production will move from the forest to the farmer's field, that is to say, from the cutting of wood to the growing of high yielding biomass crops that can be harvested several times in a year. In this context, this session aimed at identifying the benefits of ethanol fuel as an alternative clean cooking fuel for the EAC region.

2.4.2 The session concluded that while the outcomes of the study, "Ethanol Cooking Fuel Pilot Study in Zanzibar," and the study itself, presented by the beneficiary from Zanzibar, are of great importance and encourage the widespread use of ethanol as a clean cooking technology alternative, it is only one of the available options, and each county should look for their own national country solutions based on cultural preferences and aligned with national priorities. In brief, some of the recommendations for further fuel switching and promotion of clean cooking alternatives in the EAC include: (i) validation of feedstock; (ii) ethanol micro-distillery (EMD) should allow processing of multiple feedstock; (iii) local manufacturing of certain components of the EMD; (iv) tax incentives on fuel, stove and distillery, and clear policies to differentiate food vs fuel feedstock; (v) standards set for fuel-ethanol; and (vi) available funding sources and financial mechanisms, etc.

2.4.3 As mentioned by Mr. Hans Peter Christophersen, Counsellor, Trade & Energy, Royal Norwegian Embassy, the centre's focus on clean and efficient cooking solutions will also be an extremely important part of its work. Norway is already supporting the centre through its funding to REN21, and also supports a number of other renewable energy initiatives at Makerere University, e.g. the Renewable Energy Business Incubator (REBI), a research cooperation between Makerere University and University of Trondheim on the use of solar power for cooking, and a cooperation between Makerere and the University of Bergen on Climate Change, as well as a master's level student program on renewable energy.

2.5 SESSION 4 | Energy Policy, Knowledge Management and Capacity Building

2.5.1 All plausible long-term energy policies depend on effective capacity building and knowledge management. Capacity building and training activities constitute key ingredients of successful long term energy policies aimed at enhancing universal access to energy. They foster ownership of stakeholders and increase the likelihood of sustainability after the withdrawal of external partners. Ensuring access to relevant knowledge and expertise is the key to empowering stakeholders to take informed decisions on the design and implementation of policies to enhance universal access to energy, in particular in the context of the rapid growth of global renewable energy. Information dissemination and knowledge sharing are, therefore, important objectives to be pursued by EAC Partner States in order to achieve universal access

to energy. In this context, the session aimed at identifying existing experiences, lessons learned and best practices within the EAC region that can be built upon.

2.5.2 Building on the conclusions reached in earlier sessions, this session highlighted the need of: (i) harmonized regional policies and standards on renewable energy and energy efficiency; (ii) capacity needs assessment as one of the first steps to ensure the success of EACREEE and the overall achievement of universal energy access; (iv) utilization of the strength and capacities of the existing organizations/centres/training institutions in the Partner States (e.g. Centre for Small Hydropower in Tanzania, Centre for Research in Energy and Energy Conservation (CREEC) in Uganda, etc.); (v) proactive action from the country leaders/policymakers; (vi) strengthened base for networking across the region; and (v) involvement of relevant partners and agencies (e.g. utilities, NGOs, R&D institutions, universities, etc.) in the further discussion of achieving universal energy access in the EAC under the regional platform of the EACREEE. As mentioned by Professor da Silva, actors must “walk the talk” in order to achieve the set goals.

2.6 BREAK-OUT SESSIONS

2.6.1 During the break-out sessions, “Group A on Promoting Universal Energy Access in EAC – Plan of Action”, and “Group B on Energy Policy / Standards / Capacity Building,” deliberated and recommended an action plan for implementation by EACREEE.

3. Action Plan - Expert Group Meeting outcomes

3.1 The expert group made a number of general and specific recommendations which were adopted during the concluding session. The recommendations will be a guide for future programmes implemented by EACREEE, EAC, and UNIDO, Partner States and other relevant development partners.

3.2 The key recommendation of the Expert Group Meeting is that **the EACREEE should act as the SE4All coordinator in the region and support regional evaluation and monitoring of renewable energy and energy efficiency initiatives**, and this should entail:

- 3.2.1 Strong advocacy and lobbying for renewable energy and energy efficiency; including the development of a regional policy on renewable energy and energy efficiency, aligned with the national and regional priorities, by 2017;
- 3.2.2 Renewable energy and energy efficiency long-term integrated development strategy and plan formulated, in cooperation with the relevant development partners, within the first year of the EACREEE operation;
- 3.2.3 Information and Knowledge Platform (e.g. stock taking and baseline report; resources assessment and geographic information system (GIS) mapping – developing an observatory; mapping of stakeholders; identify key institutions with expertise, etc.);
- 3.2.4 Standards for renewable energy and energy efficiency technologies to be adopted by the Partner States are developed and harmonized; including inventory and gap analysis of the existing infrastructure for the development of enforcement and delivery support mechanisms;
- 3.2.5 Demonstration projects, regional events, expositions, etc. organized to raise awareness and promote the importance of regional cooperation, coherence and integration, etc. in the field of renewable energy and energy efficiency.

3.3 A further key recommendation of the Expert Group Meeting is a **joint focus on and support for fund mobilization from public, private and international sources and partners**, in order to clearly define the financial viability of the EACREEE. Additionally, the Expert Group Meeting **emphasized the need for major donors to support the EACREEE its activities** to promote the sustainable universal energy access for productive uses in the region.

3.4 Other general recommendations were divided into three main topics, namely **off-grid and cooking energy solutions**, as well as **capacity building**.

3.4.1 Recommendations on Off-grid

- Rural Electrification Master Plan for off-grid and grid solutions formulated;
- Best practices and lessons learned from on-going sustainable initiatives in the field explored, identified and replicated;
- Local manufacturing and entrepreneurship development encouraged and promoted;

3.4.2 Recommendations on Cooking Energy

- Regional Cooking Action Plan that will include socio-economic mapping formulated;
- Regional approach to clean, efficient, safe and affordable cooking fuels, services, appliances, policies, testing standards, etc. formulated;
- Upscaling of manufacturing of clean and safe cooking appliances.

3.4.3 Recommendations on Capacity Building

- Institutional and technical capacity building needs assessment and delivery on sustainable energy related equipment and value chains, services and other related issues by 2017;
- Capacity building and further strengthening of local authorities, i.e. the renewable energy associations, local vendors, etc., in the context of achieving universal energy access for productive uses and increasing the presence of renewable energy in the overall energy mix;
- Awareness and Communication strategies, aligned with national and regional priorities, for renewable energy and energy efficiency solutions formulated;
- Inventory of technical centers/institutions, i.e. in-house expertise, existing facilities, etc., and development of well-suited linkages and modalities between the latter to be utilized in regional activities by 2017;
- Document, showcasing and dissemination of the best practices, lessons learned, the technical feasibility, economic viability and reliability of different renewable energy technology solutions.