

INTERNATIONAL RENEWABLE ENERGY AGENCY

Fifth meeting of the Council

Abu Dhabi, 24 – 25 June 2013

**Programmatic Discussion III:
Potentials for investment and implementation**

1. The Council's third programmatic discussion covers IRENA initiatives aimed at spurring renewable energy investment and implementation in regional and sector-focused settings as well as through broad-based enablers. Specifically, these include grid extension plans in Africa and off-grid rural electrification tied to accelerated renewable energy uptake, along with private sector engagement to enrich IRENA's ongoing cost studies on renewable energy.

I. Africa Clean Energy Corridor

2. The Africa Clean Energy Corridor (CEC) initiative was launched at IRENA's third Assembly in January 2013 to accelerate the adoption of renewable power options in Eastern and Southern Africa power pool countries. The initiative seeks to obtain high-level political support for a renewable energy Action Agenda, which IRENA is developing with major stakeholders in the region. The goal is to build political support for measures to move the Corridor ahead, including measures to enhance renewable *resource assessment*, demonstrate the *business case* for renewable power, and identify *transmission grid enhancements* for expanded renewable power trade.

3. **Resource Assessment:** Renewable energy, which is clean, reliable, indigenous and increasingly affordable, is well-positioned to fill Africa's growing needs for generating capacity. Ethiopia, Kenya and Tanzania combined have roughly 15 GW of cost-effective geothermal potential. The Democratic Republic Congo, Ethiopia and Mozambique have large amounts of cost-effective hydro potential. Ethiopia alone has more than 1,000 GW of theoretical wind potential. South Africa and Egypt have substantial wind potential as well. Very large solar energy resources also remain to be developed. The Africa CEC will build upon the Global Renewable Energy Atlas and IRENA's other efforts to highlight

for governments, financial institutions and power producers the vast renewable power potential that can be developed.

4. **Business Case:** In an increasing number of countries, renewable power options make business sense, as they could provide the most economical alternative to traditional sources of energy. IRENA's latest study shows that the rapid deployment of renewables, combined with high learning rates, has produced a virtuous circle that is leading to significant cost declines in different renewable energy technologies. Wind and solar costs have declined significantly since 2009, while much more experience from deployment has also been gained in some African countries. These trends will continue in the future and, coupled with the abundance of renewable energy potentials along the CEC, renewable energy makes a compelling business case. The Africa CEC will raise the profile of cost-effective renewable power investments with civil society, governments, investors and financial institutions, so that more such power systems can be built.

5. **Transmission Enhancements:** Renewables require a strong transmission grid to realise their potential. The stronger the grid, the greater the ability to transmit clean, low-cost renewable electricity to areas dominated by high-cost thermal generation. Efforts to better coordinate and interconnect transmission grids in Africa include the establishment of the Southern African Power Pool (SAPP) in 1985 and the Eastern Africa Power Pool (EAPP) in 2005, as well as initiatives carried out through the Common Market for Eastern and Southern Africa (COMESA) and Southern African Development Community (SADC). Major new transmission projects are moving ahead, including Ethiopia-Kenya and Kenya-Tanzania-Zambia interconnectors. The Africa CEC will work to identify new transmission infrastructure that could be built to enable expansion of cost-saving renewable power trade.

Progress to date

6. A two-day workshop is being organised by IRENA in Abu Dhabi on June 22 and 23, prior to the Council, convening major stakeholders from Africa, including government energy ministries, electrical generation and transmission companies, regional power pools, multilateral financial institutions and regional political institutions, to discuss how the Africa CEC can best be advanced. Workshop conclusions will be presented to the Council plenary.

For Council discussion

7. The Council may wish to discuss key conclusions from the workshop on desired actions to advance renewable power resource assessment, expound the renewable power business case, and mobilise investment in enhanced transmission infrastructure for the Africa CEC.

II. Follow-up to the ‘International Off-Grid Renewable Energy Conference’

8. The traditional approach of grid extension-based electrification will not suffice to meet the target of providing electricity access to all by 2030. An estimated 60 percent of the additional power generation needed to achieve this goal would need to come from off-grid installations, either mini-grids or stand-alone. The economic equation for off-grid renewable energy technologies has changed drastically over the last few years. Today, they represent the most economic option for off-grid electrification in most areas. While this highlights the central role that off-grid renewables can play in expanding electricity access, their large-scale deployment continues to face challenges.

Progress to date

9. In November 2012, IRENA co-organised the International Off-Grid Renewable Energy Conference (IOREC), a global conference dedicated to off-grid renewable solutions. Held in Accra, Ghana, the event brought together over 350 participants, including representatives from rural electrification agencies and ministries in charge of renewable energy from over 30 African countries. IOREC provided a platform to discuss the main barriers and solutions to scaling up rural electrification through off-grid RE systems. Discussions at IOREC emphasised that, although there is no “one-size fits all” approach, there is tremendous potential for cross-regional exchange of experience from rural electrification initiatives based on off-grid renewables.

10. In order to build upon the work to date, IRENA is looking at the possible activities that can support the creation of an environment that is conducive to the rapid and sustainable growth of the off-grid RE sector, while fostering the development of local enterprises and supply chains. Platforms such as IOREC facilitate dialogue with different stakeholders in off-grid solutions, including rural electrification agencies. IRENA can stimulate cross-regional exchange of best practices by identifying and highlighting the knowledge that exists among sector “champions”. Other activities could include analysing financing and business models for off-grid renewables, in particular mini-grids, and formulating recommendations to overcome the main deployment barriers.

For Council discussion

11. The Council may wish to discuss IRENA’s future activities with respect to the off-grid body of work.

III. IRENA Renewable Costing Alliance

12. Renewable energy is secure, reliable and increasingly affordable, contributes to improved electricity access, promotes development and reduces energy price volatility. However, without reliable information on the relative costs and benefits of the available renewable energy technologies, it is difficult for governments and investors to accurately assess which technologies are the most appropriate for their particular circumstances and what the support levels should be. Furthermore, a better understanding of

local cost levels relative to other locations may provide guidance to policy makers on how to improve the enabling framework to accelerate renewable energy deployment.

13. IRENA's work programme on renewable costing for power generation is designed to reduce the barrier that a lack of accurate, up-to-date cost data presents for the accelerated deployment of renewables. The report "Renewable Power Generation Costs in 2012: An Overview" has received considerable attention in the renewable energy world. The focus of IRENA's analysis in 2013 has been transport and stationary applications.

14. Following an extensive study in 2012 of the costs of renewable power generation, the IRENA Renewable Costing Alliance will be launched in 2013 to build on the opportunity that on-going costing work has created. The Costing Alliance will bring together companies, industry associations, governments and researchers to confidentially share with IRENA their data for real-world renewable energy projects.

15. With an enlarged database, IRENA can produce increasingly accurate, reliable data on the costs and relative performance of renewable technologies. This will allow more concrete policy recommendations and provide inputs to other IRENA activities, whether for analysis and planning purposes, or to communicate a strong business case for investing in renewables.

Progress to date

16. IRENA hosted three webinars on its costing work at the end of May, followed by a technical meeting in Bonn, Germany, on 19 June, with a view to discussing the structure, goals and future activities of the Costing Alliance, and to engage more closely with potential members from the private sector.

17. Initially, the Costing Alliance will work at a technical level on data collection and availability, although it could evolve to include working groups on specific themes where there appears to be interest. Members of the Alliance (including companies contributing data) will benefit from the ability to query IRENA's database in more detail than the general public for their analysis and/or communication goals, in addition supporting IRENA's work and outreach. IRENA Members that join the Costing Alliance will be invited to provide feedback and guidance on what types of costing analysis are most useful. They will be invited to participate in the Alliance's workshops and will receive regular updates on IRENA costing work.

18. A presentation to the IRENA Council will highlight:

- The importance of costing work and the rationale for launching the Alliance, including how the Costing Alliance will support and enhance IRENA's expanding range of cost studies and other work areas;
- Plans for the Costing Alliance, including its structure, and how IRENA Members and the industry can participate;

- The benefits of joining the Costing Alliance, for IRENA Members and for businesses, as well as the obligations of Costing Alliance members;
- IRENA's plans for promoting the Costing Alliance and outreach to industry.

For Council discussion

19. The Council may wish to discuss how the Costing Alliance could enhance IRENA's costing activities and strengthen efforts to promote accelerated renewable energy deployment worldwide.