

## Review of Renewable Energy Zones in SAPP and Initiation of Project Sites Analysis

### Concept Note

In 2015, the Renewable Energy Resource Assessment and Zoning study for the Africa Clean Energy Corridor (ACEC), identified, valued and prioritized high-quality and cost-effective large-scale wind, solar PV, and concentrated solar power (CSP) zones for grid integration. This identification was based on techno-economic criteria, generation profiles, and socio-environmental considerations in 21 countries of the Eastern Africa Power Pool<sup>1</sup> (EAPP) and the Southern African Power Pool<sup>2</sup> (SAPP).

ACEC is an initiative led by IRENA that aims to accelerate the expansion of renewable electricity production, taking advantage of the continent's enormous untapped potential and helping to sustain future growth through renewable power development zoning, planning processes, enabling mechanisms, capacity building and public information.

The zoning work is being reviewed and updated in order to account for latest developments on the ground since the finalisation of the study. It is being deepened at national levels, and used in IRENA planning models to allow a more accurate assessment of renewable energy deployment potential within each country. Working with key stakeholders, IRENA is translating results of this work into projects to be considered in the regional and continental planning processes and possible development.

Also based on the zoning outcomes, IRENA, together with national stakeholders plan to assess the financial feasibility and suitability of specific sites in order to guide renewable investments. Moreover this assessment will bring some of the zones, and particularly those sites which have been earmarked for development, closer to having investment grade data. The site assessment would enable the local authorities and project developers to, amongst other outcomes, have a clearer understanding of the economic feasibility and investment needed to develop the sites, the return on investment that would be generated, how tariffs could be set, etc.

The above activities planned under the ACEC, aim to support achieving at least 10 GW of new and additional renewable energy generation capacity by 2020, and mobilize the African potential to generate at least 300 GW by 2030 as set out under the Africa Renewable Energy Initiative (AREI).

In this regard, a workshop was held in Windhoek, Namibia, on 24 and 25 April 2017.

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<sup>1</sup> EAPP member countries: Burundi, Djibouti, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Libya, Rwanda, Sudan, United Republic of Tanzania and Uganda

<sup>2</sup> SAPP member countries: Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, United Republic of Tanzania, Zambia, and Zimbabwe

## **The overall objectives of the workshop are to:**

- 1) Review the zones in each country identified in the 2015 study to take into account any developments that may have happened after the study;
- 2) Collect complementary data on projects developed or planned since the 2015 study;
- 3) Initiate project site analysis by collecting information and status of planned national/regional generation projects from country stakeholders and presenting an overview of the planned financial feasibility (characterizing, qualifying and screening) of selected potential sites earmarked for development;
- 4) Agree on the project sites to be assessed under the site assessment study;
- 5) Present an overview of the AREI to technical stakeholders in the Southern Africa region and explore collaborative work; and
- 6) Present an overview of SACREEE work and explore collaborative work.

## **Participants of the workshop**

The workshop convened representatives from Ministries of Energy, national utilities, regulatory bodies and research institutions.

## **About the Organisers**

### **IRENA**

The International Renewable Energy Agency (IRENA) is an inter-governmental organisation, mandated by Member States around the world to promote the widespread and increased adoption, and sustainable use of all forms of renewable energy (RE).

### **SACREEE**

The SADC Centre for Renewable Energy and Energy Efficiency (SACREEE), was established by the Southern African Development Community (SADC) Member States in 2015 to promote market-based adoption of RE and energy efficiency (EE) technologies and energy services in SADC Member States thereby supporting the region's sustainable development objectives through: resource mobilisation; policy; quality assurance; capacity building and knowledge management; communication; and promoting investment in RE, EE projects and programs.

## REVIEW OF RE ZONES IN SAPP AND INITIATION OF PROJECT SITES ANALYSIS

**24 – 25 April 2017  
Windhoek, Namibia**

### AGENDA

Day 1: 24 April 2017	
<b>08:30 – 09:00</b>	<b>Registration</b>
<b>09:00 - 09:45</b>	<b>Welcoming remarks by Government of Namibia, SACREEE and IRENA</b> <b>Introduction of attendees</b> <b>Adoption of the Final Agenda</b>
<b>09:45 – 10:15</b>	<ul style="list-style-type: none"> <li>- <b>Brief presentation on SACREEE</b> (by Kuda Ndhlukula, SACREEE)</li> <li>- <b>Brief presentation on ACEC</b> (by Safiatou Alzouma Nouhou, IRENA)</li> </ul>
<i>10:15 – 10:30</i>	<i>Tea break</i>
<b>10:30 – 11:30</b>	<b>Recap of IRENA-LBNL Renewable Energy Zoning study for the Africa Clean Energy Corridor</b> (by Tijana Radojicic, IRENA) <ul style="list-style-type: none"> <li>- <i>Recap/Overview of the zoning study (objective, methodology involving data collection and validation, final results including interactive map and zone ranking excel tool)</i></li> <li>- <i>Overview of the zoning maps in a few countries to highlight the results, and solicit understanding of the utilisation of these results, the need to review certain areas/zones in preparation for the next session.</i></li> </ul>
<b>11:30 – 13:00</b>	<b>Country group work – Updating the RE Zones</b> <ul style="list-style-type: none"> <li>- <i>Each country will create its own group in order to go through the interactive zoning maps and excel tool in detail and discuss any developments (e.g. transmission lines, environmentally protected areas, any other notable information such as planned projects etc.) which need to be taken into account for the update of the zones. Participants will come to the workshop equipped with information on planned projects, transmission lines, environmentally protected areas.</i></li> </ul>
<i>13:00 – 14:00</i>	<i>Lunch</i>

<b>14:00 – 15:30</b>	<b>Country group work presentations</b> <ul style="list-style-type: none"> <li>- <i>Based on the previous session, each country will present (max. 10 mins) any updated information on the zoning study, give an account if the zoning study is being used in their country and how they plan to utilise it better within their institutions. In the presentation, the country will also give an account of the latest developments in their country which will include generation and transmission projects, technical barriers to initiation of project development/feasibility analysis.</i></li> <li>- <i>SAPP will also present their latest developments at regional level (master plan update, generation and transmission projects).</i></li> </ul>
<i>15:30 – 15:45</i>	<i>Tea break</i>
<b>15:45 – 16:15</b>	<b>Planning as a follow up to Zoning (by Asami Miketa, IRENA)</b> <ul style="list-style-type: none"> <li>- <i>Overview of IRENA's planning work in SAPP.</i></li> </ul>
<b>16:15 – 17:00</b>	<b>Summary and Site Assessment Overview (by Nicolas Fichaux, IRENA)</b> <ul style="list-style-type: none"> <li>- <i>A brief highlight of the information collected during the day. In response to the previous session's highlighted barriers for project development/feasibility analysis, one of the solutions IRENA and SACREEE can provide is the site assessment of projects ear-marked for development. An overview of the next day's agenda will be provided along with the overall objective of Site Assessment.</i></li> </ul>
<b>Day 2: 25 April 2017</b>	
<b>08:30 – 10:30</b>	<b>Resource maps, prospection and site assessment for solar and wind (by Nicolas Fichaux, IRENA)</b> <ul style="list-style-type: none"> <li>- <i>Presentation on "The National Wind Resource Assessment Project of Namibia - Description and Observed Wind Climates" (by Eugen Siepker – NUST)</i></li> <li>- <i>Presentation of the Global Atlas for renewable energy, including latest 1 km maps, solar and wind.</i></li> <li>- <i>Presentation of the Global Bioenergy Simulator.</i></li> <li>- <i>Presentation of the Global Wind kWh cost simulator.</i></li> </ul>
<i>10:30 – 11:00</i>	<i>Tea break</i>
<b>11:00 - 13:00</b>	<ul style="list-style-type: none"> <li>- <i>Presentation of suitability analyses.</i></li> <li>- <i>Presentation of the virtual met-mast and financial site characterisation.</i></li> </ul>
<i>13:00 – 14:00</i>	<i>Lunch break</i>
<b>14:00 – 14:45</b>	<ul style="list-style-type: none"> <li>- <i>Group discussion by countries about the sites they would have identified – location, status, development plans.</i></li> </ul>
<i>14:45 – 15:00</i>	<i>Tea break</i>
<b>15:00 – 17:00</b>	<ul style="list-style-type: none"> <li>• <b>Africa Renewable Energy Initiative (AREI) and collaboration (by Youba Sokona, AREI)</b></li> <li>• <b>Way-forward with ACEC (by Safiatou Alzouma Nouhou, IRENA)</b></li> <li>• <b>Closing remarks from IRENA and SACREEE</b></li> </ul>