



Thirteenth session of the IRENA Assembly and related meetings

Concept note

African Continental Power Systems Master Plan (CMP) – Establishing continent wide planning process

Pre-Assembly day 13 January 2023, 10:30 – 12:45
Room A1, St. Regis Hotel, Saadiyat Island, Abu Dhabi

Background

Africa has significant power sector investment needs relating to the generation, interconnections, transmission and distribution, mini-grids, and off-grid access. While there are different drivers behind these needs in the different regions of the continent, electricity demand growth is a prime motivating factor. Even with efficiency measures in place, energy demand in African economies is expected to nearly double by 2040, as populations grow and living standards improve. Consequently, the task of developing farsighted, affordable and climate-friendly expansion plans for energy systems, holds high priority on the national agendas of most countries in the region.

Given the immense potential for renewables in the region, there exists also a strong economic case for energy transformation in Africa. The flexibility required to accommodate high shares of renewables in the power grid can also be cost-efficiently met through continued investment in cross-border transmission infrastructure and a deepening of electricity trade. This would allow for a more diversified generation structure and builds resilience into the continent's power system.

To realize such a transformation, while strengthening the ownership of the Africa-driven planning process, the African Union Specialised Technical Committee (STC) on Transport, Infrastructure, Intercontinental and Interregional Infrastructure, Energy and Tourism decided to develop a Continental Power System Masterplan (CMP) to serve as a blueprint for the African Single Electricity Market (AfSEM). Led by African Union Development Agency (AUDA-NEPAD), the CMP aims to establish a long-term continent-wide planning process for power generation and transmission involving all five African power pools.

CMP initiative brings an opportunity for African countries to align their energy planning processes in a pan-Africa spirit. This also marks the culmination of a [multi-year effort of national energy planners in Africa and IRENA](#) to grow capacities of long-term energy planning and the governance processes around it, at national, regional and continental levels. The country-owned planning processes can constitute the building blocks of the CMP process of the future.

Objectives

This event aims to achieve following objectives:

1. Showcase champions of the energy planning process in Africa at the national, regional and continental levels
2. Highlight the importance of building robust and nationally owned processes for designing long-term energy scenarios as a means to meet national and pan-African energy milestones affordably and in a climate-friendly manner
3. Communicate the high-level outcomes of the CMP initiative to country delegates and collect their feedback on its current and future link with the national planning processes



4. Collect impressions from key African institutes, power pool representatives and major international partners on the role of CMP in Africa

Associated Publications

[Energy Planning and Modelling Support in Africa](#)

Scenarios for the energy transition: Experience and good practices in Africa (forthcoming)

[Planning and prospects for renewable power: North Africa](#)

[Planning and prospects for renewable power: Eastern and Southern Africa \(2021\)](#)

[The renewable energy transition in Africa \(2020\)](#)

[Planning and prospects for renewable power: West Africa \(2018\)](#)

[Planning and prospects for renewable energy: Africa Power Sector Synthesis report \(2015\)](#)

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