

EAPP members address Regulatory Convergence



Executive Summary

- The Eastern Africa Power Pool (EAPP) is preparing the rules which will govern its emerging regional market.
- It is working on harmonized tariffs and grid codes to address emerging gaps in this market. It would also benefit from a supranational regulatory body to supervise market operations and resolve disputes.
- The most important hurdles are the ongoing deficit in transmission infrastructure and the difficulty of financing cross-border interconnectors. At the regulatory level there is still a degree of fragmentation with different investment policies, subsidies and regulatory frameworks in member countries.
- In 2024, the IRB Secretariat identified as critical the need to develop uniform grid codes for voltage levels, frequency control, and interconnection rules.
- Official documents cite unified licensing and permit systems as an opportunity for cross border regulation.
- There is also an opportunity for real time balancing mechanisms, while also implementing wheeling charges and transmission loss frameworks.
- The EAPP regulators envisage the creation of a joint regulatory body and dispute resolution framework

A new era of integration

Eastern Africa is entering a new era of regional electricity integration, driven by the need to improve energy access, enhance grid stability, and leverage economies of scale. After years of stasis, transmission interconnection projects are moving ahead, opening new prospects for cross-border trade. At the same time new sources of clean power generation have been built. Now the Eastern Africa Power Pool (EAPP) is preparing the rules which will govern this emerging market.

Advances at several key transmission interconnectors in recent years have been a strong indicator of the shift in outlook. These include the 500kV HVDC Ethiopia-Kenya Electricity Highway, supported by the African Development Bank (AfDB) which opened in 2023 after ten years of development. This has already boosted east African power trading. The Kenya-Tanzania-Zambia interconnector will open further opportunities while also strengthening the links between EAPP and the Southern Africa Power Pool (SAPP).

“This is a step in the right direction, creating the Southern Synchronized Grid within the power pool,” noted Eng. Ziria Tibalwa Waako, the Chief Executive Officer of Uganda’s Electricity Regulatory Authority (ERA) in an interview in mid-2025. Eng. Tibalwa also chairs EAPP’s Independent Regulatory Board (IRB). IRB’s responsibility is to ensure the development and efficient operation of the regional electricity market and to lay out a conducive environment for regional infrastructure investments.¹

She added that interconnectors such as the Ethiopia–Kenya highway, the North-South Power Transmission Corridor, and the Mozambique-Zimbabwe-South Africa corridor are essential for regional trade and power flow balancing.

Other cross border developments include the Kenya-Uganda 400kV line, currently under construction, and the Mirama-Shango 220kV transmission line interconnecting Rwanda and Uganda, that was energized in 2023.

¹ Africa Energy Interview – Kampala, May 2025

Generation expansion in response to regional needs

A main reason why these transmission schemes are now advancing is that they will immediately open up sources of clean baseload power for consumers across the region. The Grand Ethiopian Renaissance Dam (GERD) is already exporting power to Kenya. Tanzania's Julius Nyerere Dam also has export potential, which would add to Dodoma's 57MW of already contracted power exports.

Egypt is also gearing up to supply power into the wider region. It has hugely expanded domestic supply of wind and solar power, which will eventually be supplemented by nuclear powered baseload generation. It intends to export power to Europe as well as to neighboring African nations.

Conversely, a possible impact of Kenya's lengthy moratorium on private sector power purchase agreements, lifted by the National Assembly in late 2025, is that the country will need to import more power in the next few years. While it has substantial geothermal prospects in the pipeline, it will take some time for this clean baseload power to be built. Low-cost reliable imports, and the requisite transmission infrastructure, may give the country the time it needs to develop these new resources.

Developing hydroelectric generation capacity with a regional supply rationale is not an entirely new phenomenon for EAPP. Member countries have already pioneered the development of shared cross-border project with the 147MW Ruzizi III from which Rwanda; Burundi and the Democratic Republic of Congo are the off-takers.

In 2020, this became the first project utilizing a common regional resource to be financed by multilateral lenders, development financial institutions and private investors in sub-Saharan Africa. It is expected to generate power in 2030, to be shared equally between the three countries.

The 15.57MW Kikagati hydro plant on the Uganda-Tanzania border is another example of this kind of cooperation which shows that integrated markets are attractive to independent power producers (IPPs), can reduce off-taker risk, and expand clean energy options. In the same interview, ERA CEO and IRB chair Eng. Tibalwa said this created reliability gains from shared reserves and power pooling, which strengthen grid resilience.¹

Policy Harmonization, Power Pool and Continental Market

While cross-border power trade is not only in place but growing in volume and importance, the question is how far can this go? And can EAPP establish a fully operating market with the further benefits that would bring?

The first step will be a day-ahead power market with standardized trading rules scheduled for launch in 2026. With the increase in hydro and renewable energy generation within EAPP, smart energy management systems that use day-ahead prices can help to reduce costs, increase flexibility and improve grid stability. But to gain these benefits, countries must have energy laws in place or enact specific new legislation that facilitates power trade at a regional level, and ultimately, continental convergence.

So regulatory reform and innovation are needed at both national and power pool level. EAPP is working on harmonized tariffs and grid codes to address emerging gaps in its regional electricity markets. It could also benefit from a supranational regulatory body to supervise market operations and resolve disputes.

Progress on regulatory reform

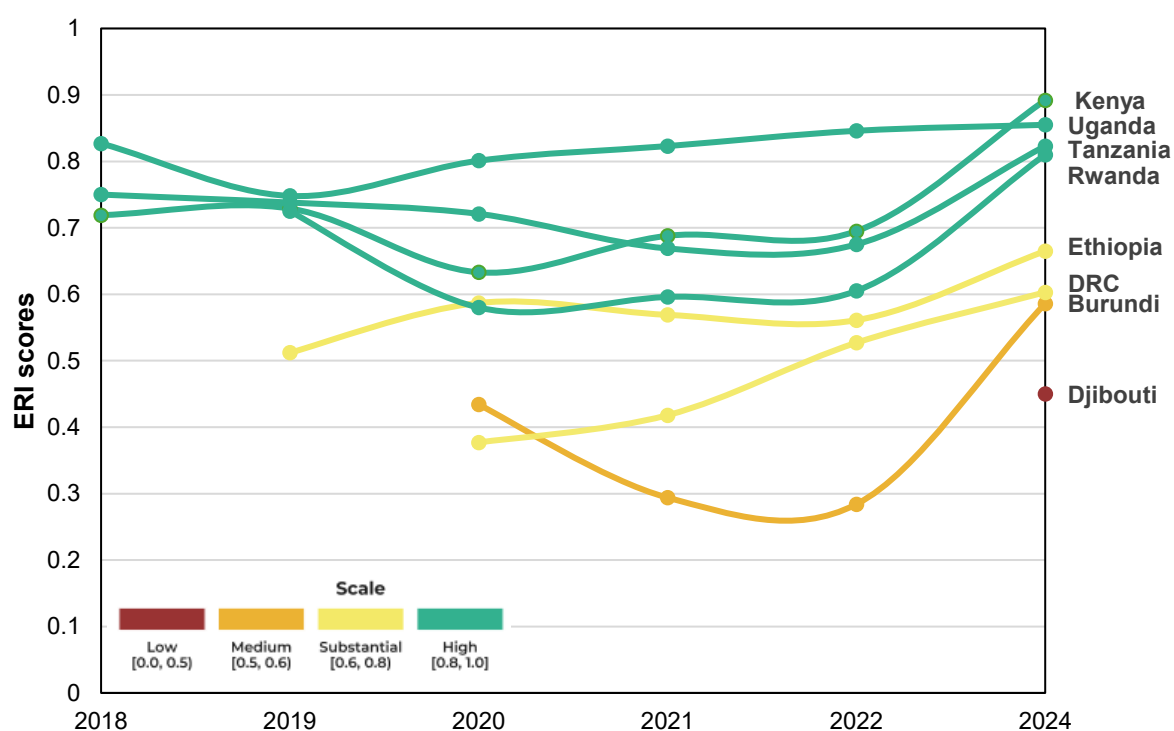
Comparative ERI scores for EAPP countries						
Country	2018	2019	2020	2021	2022	2024
Burundi	..	..	0.434	0.294	0.284	0.586
Congo Democratic Republic	..	..	0.377	0.418	0.527	0.603
Djibouti	..	..	..	..	..	0.45
Egypt	..	0.694	..	0.609	0.785	..
Ethiopia	..	0.512	0.587	0.569	0.561	0.665
Kenya	0.719	0.729	0.633	0.688	0.695	0.892
Rwanda	..	0.725	0.58	0.596	0.605	0.81
Tanzania	0.75	0.738	0.721	0.669	0.675	0.823
Uganda	0.827	0.748	0.801	0.823	0.846	0.855

Inevitably there are hurdles still to overcome in EAPP's regulatory convergence. According to the IRB Secretariat's analysis the most important are the ongoing deficit in transmission infrastructure and the difficulty of financing cross-border interconnectors, which are almost always funded by external financiers. At the regulatory level there is still a degree of fragmentation with different investment policies, subsidies and regulatory frameworks in EAPP member countries.

But EAPP is fortunate also to have some of the best performing national regulatory frameworks on the African continent. Kenya ranked second in the ERI for the whole continent, Uganda third, Tanzania fifth and Rwanda seventh.

While progress varies across regions and countries, key reforms have enabled market liberalization, enhanced private sector participation, and laid the foundation for cross-border electricity trade.

Figure 1: ERI Scores in EAPP – Kenya, Tanzania, Rwanda and Burundi show a trend



In 1999, Uganda liberalized its power sector by unbundling its electricity generation, transmission, and distribution utilities – a first on the continent – following the enactment of the Electricity Act. Subsequently, the country was able to open up the sector for private investment with the offer of concessions for power generation and distribution to South African firm Eskom and end-user utility Umeme, respectively.

More recently, Uganda has further opened up, allowing private investors and operators of high consumption data centers to invest in transmission with additional infrastructure – hitherto a monopoly of state-owned utility Uganda Electricity Transmission Company. Umeme’s concession ended in March 2025, with the government taking back control of

distribution via new parastatal Uganda Electricity Distribution Company Limited (UEDCL).

“Uganda is ready [for power trade] following the amendment of the Electricity Act 1999,” said Eng. Tibalwa in the same interview, adding that legislation was necessary to equip regulators with the tools to police the electricity market and achieve the goal of the African Single Electricity Market (AfSEM).¹

Other countries in the region have followed Uganda’s example and allowed new players – particularly IPPs – to enter electricity markets. This has led to increased installed capacity within the power pool and a reduction in monopoly control by vertically integrated state-owned utilities.

Today, Egypt, Kenya, Ethiopia, Uganda and Sudan have unbundled power sectors, albeit with government ownership and control of utilities in Ethiopia, Sudan and Egypt. Most member-states of the power pool have registered increased private sector participation in the generation business especially for renewable energy procurements – except for Burundi, Sudan – creating a competitive framework for regional power trading by allowing non-state actors.

Across the region, there has been a shift toward cost-reflective tariffs, which has improved utility finances and reduced subsidies, and more credible and bankable power purchase agreements. According to the IRB secretariat, “Improved financial viability of utilities increases their ability to participate in regional markets and helps standardize pricing models, a prerequisite for regional trade platforms”.

Officials in the region are understood to believe that while EAPP’s member states have laws in place to derive value from the trends, increased collaboration and energy trade between different power pools is the key to delivering AfSEM.

Ethiopia is enacting market and institutional reforms, which will allow the country to transition from the state-dominated utility structure of Ethiopian Electric Power and Ethiopian Electric Utility towards competitive generation frameworks that allow IPP participation.

These reforms are partly driven by the export of power from the GERD. While the country’s regulatory frameworks are being adjusted to accommodate bilateral export agreements

and align with regional grid codes, the IRB is encouraging a review of domestic tariffs to move toward cost-reflectivity, a requirement for sustainable trade and bankability.

So far, Ethiopia has revised its grid code and system operations procedures to be compatible with the EAPP, supporting smoother integration into regional systems while its regulator expands capacity to regulate cross-border transactions, manage third-party access to transmission infrastructure, and monitor compliance.

Like Ethiopia, Tanzania intends to become a net exporter of electricity after investing in large projects headlined by the 2,115MW Julius Nyerere Hydropower Plant. With plans to export power to Kenya and Zambia via planned and existing interconnectors, Tanzania is engaging in regional grid planning with both EAPP and SAPP, as it is a member of both pools.

Tanzania's Energy and Water Utilities Regulatory Authority (EWURA) is reinforcing its regulatory functions to oversee export pricing mechanisms, licensing for cross-border trade and third-party access to transmission lines. It is also reforming its grid code and technical requirements to facilitate synchronization and compatibility. The country is also gradually unbundling its energy sector and creating clearer separation between generation, transmission and future market participants (See the report on regulatory reform in the Southern Africa Power Pool for more details).

Regional institutional convergence

These examples show that East Africa is witnessing institutional convergence, with the IRB – and the Energy Regulators Association of East Africa (EREA) for the East African Community bloc – strengthening regulatory coordination over grid codes, market rules, tariff methodologies, power purchase agreement templates standard trading contracts, and the like.

Specifically in 2024, the IRB Secretariat identified as critical the need to develop uniform grid codes for voltage levels, frequency control, and interconnection rules. Coordinated renewable energy policies and green corridors provide another opportunity in the EAPP region for joint procurement of renewables such as regional solar/wind tenders while also exploring green energy export agreements.

Official documents cite unified licensing and permit systems as an opportunity for cross border regulation, offering single licensing for regional IPPs to avoid approvals duplication while also fast-tracking permits for cross border transmission projects

There is also an opportunity for real time balancing mechanisms, while also implementing wheeling charges and transmission loss frameworks.

The EAPP regulators envisage the creation of a joint regulatory body and dispute resolution framework, as has happened in West Africa with the ECOWAS Regional Energy Regulatory Authority policing the industry, while arbitration courts for cross border disputes.

Member countries have adopted laws that support membership and participation in other regional entities. These include the Regional Association of Energy Regulators in Eastern and Southern Africa (RAERESA) – a specialized agency of COMESA – signaling their intent to strengthen legal and institutional frameworks for power pools.

RAERESA energy experts and COMESA ministers last year validated and adopted a report on regulatory convergence in the trading bloc – which includes all members of the EAPP except Tanzania – focusing on their energy markets, institutional structure and tariff determination.

The report is due for implementation in 12 EAPP member states: Burundi, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Rwanda, Somalia, Sudan, Uganda and South Sudan as well as Tunisia, a non-member of the power pool.

Since 2022, the AfDB has supported an initiative to improve regulatory frameworks, actualize harmonization and strengthen the sustainability of the electricity sector in eastern and southern Africa.

Alignment of national and regional planning processes and regulatory environments is one of the key deliverables of the World Bank-funded Accelerating Sustainable and Clean Energy Access Transformation (ASCENT) program, administered by COMESA.

In an interview in May 2025, COMESA Secretariat director of infrastructure and logistics Bernard Dzawanda said harmonization of energy policy and regulatory frameworks has

started and will run through the seven-year lifespan of the ASCENT project from 2024 to 2030.²

So far, the following milestones, with a direct bearing on regulatory convergence at EAPP and other power pools where the program is implemented, have been achieved:

- The COMESA Model Energy Policy was developed and approved by ministers of energy.
- The COMESA Model Solar Standards were developed and approved by ministers of infrastructure.
- The COMESA Model Public Private Partnership (PPP) Guidelines and Primary Law were developed and taken into consideration by ministers of infrastructure in June 2025 for adoption.

The project's accords were signed in December 2023, and it has been up and running since June 2024, implemented in nine EAPP member states; Burundi, DR Congo, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Tanzania and Uganda.

Case study – Day-ahead trading and regulatory convergence will increase growing cross-border trade in eastern Africa

During the run-up to the launch of full trading on EAPP's day-ahead market, cross-border power transactions have already increased substantially within the eastern region. As regulatory convergence and interconnection infrastructure progress, the amounts of power exchanged between countries will increase.

State-owned utility Ethiopian Electric Power (EEP) announced that its revenues almost doubled in the first quarter of the 2025/26 financial year largely thanks to export of power from the 5.15GW Grand Ethiopian Renaissance Dam (Gerd), which was fully commissioned in August. Kenya and Tanzania accounted for 4.6% of EEP's total sales and Djibouti for 2.2%.

Kenya is expected to double its existing 200MW power purchase agreement in late 2026, and further export opportunities will open once EAPP trading begins.

² Africa Energy Interview, May 2025