

## **SDG-STYIP Impact Labs Issue Paper for SDG 7: Affordable and Clean Energy**

### **1. Introduction**

This Issue Paper identifies emerging issues, systemic challenges, and barriers to progress on the achievement of SDG 7 - Affordable and Clean Energy.

### **2. Landscapes of Issues under SDG 7**

#### **Insufficient generation capacity, high transmission and distribution (T&D) losses undermining reliable electricity supply**

- Roughly 25% of healthcare facilities and 31% of primary schools across Africa lack electricity, affecting healthcare delivery, digital education, and water and sanitation services. Without reliable and affordable electricity, Africa's industrialization ambitions face major constraints.
- Average T&D losses in many African power systems exceed 20 - 30%, compared to a global average of around 8–10%, reflecting chronic underinvestment in grid maintenance, metering, and loss-reduction technologies. This gap persists despite long-standing power-sector reform programs and access-expansion initiatives.
- High losses are particularly pronounced in West and Central Africa, but remain a continent-wide issue, contributing to utility financial distress, higher end-user tariffs, and load shedding.

#### **Affordability and sustained use constraints in clean cooking solutions for low-income households**

- Over 970 million Africans continue to rely on traditional biomass, leading to poor health, gendered time burdens, and environmental degradation. Notably, reliance on polluting cooking fuels has caused more than 400,000 premature deaths annually due to indoor air pollution.<sup>1</sup>
- Affordability remains an important barrier to the adoption of clean cooking solutions. However, supply-side constraints also limit sustained use, including limited availability of clean cooking technologies, weak distribution networks and maintenance services, and insufficient local production capacity.
- Rural households and poor urban populations require further investment in affordable clean cooking facilities to close the development gaps. The issue cuts across all African subregions except North Africa.

#### **Limited grid integration capacity constrains the utilization of renewable energy**

- Despite the urgent need of scaling up green energy, many countries in Africa remain fossil fuel-dependent due to grid constraint, except leading countries in solar

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<sup>1</sup> Mo Ibrahim Foundation. (2022). The Road to COP27: Making Africa's Case in the Climate Debate.

Available at:

[https://mo.ibrahim.foundation/sites/default/files/2022-05/2022-Ibrahim-Forum\\_Facts-Figures.pdf](https://mo.ibrahim.foundation/sites/default/files/2022-05/2022-Ibrahim-Forum_Facts-Figures.pdf)

development, such as Morocco and Kenya.

- Investments in grid capacity (storage, grid digitalization, grid modernization) are not sufficient, restricting the continent from maximizing the use of its rich renewable energy.
- The lack of grid integration and inadequate interconnection with Africa has limited the possibility for African countries to benefit from the regional power pool and other potential regional infrastructures, including power corridors. The further development of integrated regional electricity markets, including the African Single Electricity Market (AfSEM) and African Continental Free Trade Area (AfCFTA), is needed to strengthen regional and cross-border power trade and improve system efficiency across the continent.

#### **Weak enforcement of energy efficiency standards across sectors**

- Africa's energy intensity declined only slightly from 4.05 MJ/PPP in 2015 to 3.91 MJ/PPP in 2022,<sup>2</sup> well below the global pace needed to double efficiency gains.
- Although minimum energy performance standards are in place in several countries, enforcement capacity remains weak. Wide subregional variations can be observed, with East Africa exhibiting the highest energy intensity.
- Grappling with this issue requires manufacturers and retailers to support compliance through labeling and self-regulation, as high energy intensity reflects inefficiencies in industries, transportation, and building sectors.

#### **Limited private sector participation in distribution-level and off-grid energy infrastructure**

- Annual investment in energy access in Africa is around \$4 billion, far below the estimated \$25 billion needed. Investment in distribution infrastructure determines whether households, firms, schools, and clinics receive reliable electricity.
- Private sector participation remains limited, particularly in rural and peri-urban areas. Public utilities alone cannot meet the scale, speed, and service quality required for universal access, especially in rural areas.
- In remote and underserved areas, extending the main grid remains economically challenging. This highlights the importance of off-grid and mini-grid solutions, including systems incorporating energy storage technologies, in expanding electricity access. Strengthening regulatory frameworks and improving the investment environment will be critical to mobilizing private capital.<sup>3</sup>

#### **Gender inequalities in energy access, decision-making, and economic participation**

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<sup>2</sup> Indicator Energy intensity level of primary energy (megajoules per constant 2021 Purchasing Power Parity GDP) from UNDESA

<sup>3</sup> Initiatives such as ECA's ROAR (Regulatory Openness, Attractiveness and Readiness) platform, developed with RES4Africa, provide tools to assess and improve the regulatory environment for distributed energy and private-sector investments.



- Women and girls spend many hours collecting firewood or other biomass fuels for cooking and heating when modern energy is unavailable. This heavy physical labour increases their unpaid care workload and reduces time for education or paid work, and impacts their health and well-being.
- Limited access to energy disproportionately affects women, yet they are often excluded from policy and decision-making processes. Strengthening women's participation in these processes is essential to ensure that institutional frameworks effectively address gender inequalities and promote inclusive energy policies.
- Women's participation in energy entrepreneurship remains low across the region. Government and development partners need to promote equal opportunities for women to participate and support the clean and renewable energy sector and supply chains as entrepreneurs, technicians and employees.