A Brighter and Greener Future for Africa

Position Paper
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Electricity 4 Africa
“Energy is central to nearly every major challenge and opportunity”

UN SDG7
Electricity access has a transformational impact on development outcomes

Electricity is the preferred energy carrier of modern economies, used for lighting, communication, transportation, heating and cooling, as well as for powering a range of tools from industrial machinery to digital technologies. As such, access to electricity is a fundamental enabler for societies to improve their economic and social status, trigger positive socio-economic gains and kick-start virtuous cycles of development:
Electricity 4 People: electrification plays a direct role in sustaining the well-being of communities, supporting income generation and greater consumption expenditure, the provision of and access to health services, education and information.

Electricity 4 Prosperity: intrinsically linked to economic productivity, electrification enables an increase in the value-added of the agricultural, industrial, and service sectors, and has a fundamental role in strengthening national competitive advantages.

Electricity 4 Planet: electricity is the energy carrier that produces the least pollution during end use and with renewables being the cheapest available technology for its generation, electricity provides an option to decarbonise energy consumption, playing a central role in enabling the establishment of a climate-neutral society.

1. Electricity 4 Africa
Urgent actions are needed to advance Africa’s socio-economic growth

Universal access to affordable, reliable, and sustainable electricity is crucial for Africa’s future. In the last decades, Africa has made significant progress in reducing poverty, lowering inequalities, and expanding access to vital services, including electricity. However, the progress is still not on track for meeting the UN Sustainable Development Goals and the results obtained revealed to be fragile. The pandemic has exponentially stressed the chronic weaknesses of Africa’s socio-economic systems. Development actors warn that COVID-19 has put 10 years of socio-economic progress at risk of being wiped out: an evidence being the reversed trend observed in the expansion of electricity access, regressed in 2020 for the first time after decades of constant growth. As a consequence, less people had the opportunity to access work, education, health, entertainment in the year they potentially needed all of these the most.

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1. Electricity 4 Africa
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Evolution and perspective of electricity access rate in Sub-Saharan Africa (%)

- Stated Policy Scenario (STEPS)
- Sustainable Development Scenario (SDS)

Source:
- World Bank, Global Electrification Database, 2020
- IEA, SDG7: Data and Projections, 2020
Over the next decade, Africa will face a growing demand for food, clean water, electricity, access to services (e.g., healthcare, education, and transportation), and decent jobs. Its population is expected to reach 2.5 billion people by 2050—56% of which will live in urban areas—while tens of millions of young people will join the labour market every year. The need to reduce poverty, address inequalities, and provide a higher standard of living will become even more pressing. Urgent actions are needed to answer these current and future challenges, and the decisions taken today will shape the image of Africa in the next 10 to 20 years.

The year 2020 was meant to be first in the so-called “Decade of Action” for achieving the SDGs by 2030. In the current scenario, this seems unlikely and Africa’s promising future risks to be undermined. Business as usual approaches are no longer an option. Africa needs innovative, forward-looking strategies to walk the road of sustainable, long-term socio-economic progress and offer local communities and businesses the opportunity to grow. In this regard, recovery strategies and plans offer an opportunity to build a sustainable and resilient socio-economic system, allowing the achievement of the SDGs, the African Union Agenda 2063, and the commitments of the Paris Agreement.

A Sustainable Energy Transformation 4 Africa
“As countries across Africa respond to the global COVID-19 pandemic, they have a once in a generation opportunity to ‘recover better’ with sustainable energy.”

SEforALL
Renewables offer an opportunity to scale up the beneficial effects of electricity access

Pursuing a sustainable energy transformation for African economies as a cornerstone of recovery strategies offers the opportunity to build forward better. The African continent is endowed with vast renewable energy resources, specifically, outstanding potential solar capacity (10 TW), as well as abundant hydro (350 GW), wind (110GW), and geothermal resources (15 GW).\textsuperscript{04} This potential renewable energy capacity could generate up to 24,000 TWh of electricity each year, corresponding to 90% of the world’s electricity production in 2018 and over 26 times that currently generated by the continent.\textsuperscript{05}


\textsuperscript{05} RES4Africa (2020). Connecting the Dots, RES4Africa Foundation, Rome https://www.res4africa.org/library
2. A Sustainable Energy Transformation 4 Africa

10 TW

350 GW

111 GW

15 GW
The deployment of renewable technologies to achieve universal electricity access in Africa would maximise:

The affordability

Over the last decade, the cost of renewable technologies has fallen significantly below that of fossil fuels, becoming the lowest-cost option for the generation of electricity. Furthermore, unlike fossil fuels, renewables can also be deployed in

Average auction prices by region and global weighted average LCOE for solar, in $/MWh

Source: IEA database, 2020 IRENA, 2019

Note: LCOEs generally tend to be higher than awarded auction prices, partly due to the fact that auction prices may not always reflect full costs while may include financing terms or tax conditions.
of electricity supply
decentralised forms, and today represent the best solution for providing off-grid electricity access to the remote rural communities.

Average auction prices by region and global weighted average LCOE for wind, in $/MWh

Source: IEA database, 2020 IRENA, 2019

Note: LCOEs generally tend to be higher than awarded auction prices, partly due to the fact that auction prices may not always reflect full costs while may include financing terms or tax conditions.
The security of electricity supply

Renewable technologies guarantee the shortest time to market from commissioning to operation. Compared to fossil fuel technologies, which require 5 to 10 years to come online, renewables technologies can be connected to the grid within a 2-year timeframe, increasing energy security and reducing dependency on imported fuels.

Average power generation construction time (capacity weighted) 2014 - 2018

Source: IEA database 2019
The sustainability of electricity supply

Variable renewable technologies increase the resiliency of electricity infrastructure to extreme climatic events (e.g. droughts) on a continent which is already strongly affected by climate change, despite being responsible for only 2% of global greenhouse gas emissions. Renewables such as solar and wind not only transform unlimited forms of energy into clean electricity, but also reduce the consumption of other vital resources for energy generation, such as water.

Source: IPCC, 2014
2.2 Sustainable energy development is a multiplier of socio-economic spillovers

The extended adoption of clean energy technologies will enable African countries to maximise the transformative power of electricity access on development outcomes and put the Continent on the road for a sustainable and resilient socio-economic welfare.

- **GDP multiplier effect**: investments in clean energy technologies have a strong multiplier effect on GDP growth. It has been estimated that 1 USD invested in clean energy technologies results in an additional 0.93 USD of GDP growth: in Africa this would translate into an estimated 26.6 USD billion annual increase in GDP.\(^6\)

- **Enhanced direct and indirect job creation**: low-carbon strategies based on the expansion of renewable energies and on energy efficiency measures have a stronger effect on the job market than investments in the fossil fuel industry. While 10 USD million investments in renewable technologies and energy efficiency are estimated to create 75 and 77 new jobs, respectively, the same investment in fossil fuels creates only 27 new jobs.\(^7\)

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Increased food and water security: clean energy can enable agricultural activity and boost its productivity at lower costs. Electrical processing equipment can increase agricultural yields for small farmers by 30% and ease access to clean water for domestic and agricultural use.\textsuperscript{88}

Improved health conditions: clean energy can reduce the negative impact on health associated with traditional energy consumption, reducing the premature deaths from household air pollution, enabling better healthcare services, increasing the accessibility of medical equipment, providing proper storage for drugs and vaccines, and helping in expanding healthcare to rural and remote areas.

Greater social justice and gender equality: clean and efficient energy services benefit women’s empowerment by reducing their domestic burdens and ultimately increasing their engagement in household and local-level decision-making.
2.3 Seizing the opportunity of building forward better

Activating these multipliers requires the scaling up of investments in Africa’s electricity infrastructure. Investment in Africa’s electricity sectors has increased, but remains limited. In fact, while global installed RE generation capacity has more than doubled in the last decade, only 2% of this capacity was installed in Sub-Saharan Africa.\textsuperscript{89} Electricity networks, the backbone of sustainable and reliable electricity systems, have received even less investment.

Achieving SDG7 and fuelling Africa’s socio-economic transformation, while respecting the Paris Agreement, require the urgent scale-up of investments in clean energy technologies. In their absence, Africa risks remaining at the margins of the green energy revolution. The IEA’s Africa Energy Outlook, in the so called “Africa Case” scenario, quantified the effort necessary to achieve these goals\textsuperscript{10}:

\textsuperscript{89} RES4Africa (2020). idem

2. A Sustainable Energy Transformation 4 Africa

The average number of people gaining access each year should increase threefold from the current 20 million to over 60 million people.

Capacity additions of non-hydro renewables (such as wind, solar, geothermal, biomass) should reach 10 GW per year and account for 37% of total electricity generation by 2040.

The average annual investments in new on-grid renewable capacity should reach about **21.4 USD billion** between 2019 and 2040, while investments in renewables-based off-grid technologies (mini-grids and stand-alone systems) should reach about **16.3 USD billion**.

Investments in network infrastructure should reach **49 USD billion** per year on average to strengthen and expand transmission and distribution grids, and about **2.5 USD billion** per year for mini-grids.
Investment needs are immense, and **crowding-in private capital is essential to mobilising resources.** However, investors stress the lack of bankable project pipelines to which to commit their funds. So far, private participation in the expansion of Africa’s electricity systems has been minimal. Private sector participation has been concentrated in the generation segment, through the introduction of independent power producers (IPP), while less than 20% of Sub-Saharan countries allow private companies to participate in electricity transmission and distribution.\(^{11}\)

In addition to the narrow scope for private sector participation in the electricity sector value chain, private investors also stress the challenges of managing country and project risks and ensuring project bankability, guaranteeing long-term profitability of business models, and navigating the legislative and regulatory environment of African electricity markets.

The adoption of recovery strategies and plans offers a once in a generation opportunity to channel resources towards clean energy technologies and electricity infrastructure development. However, **creating an enabling environment for private sector investments is crucial for the success of Africa’s sustainable energy transformation** and should be at the top of the political agendas of African governments.

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\(^{11}\) IEA (2019), idem
Leading renewable energy industry players, governments, development partners, and civil society are all called to work together to build forward better and solve the issues that are preventing Africa from benefitting from the sustainable energy transformation to its full extent.

Fostering dialogue and effective cooperation among public and private actors is key to overcoming these barriers and finding innovative solutions to accelerate Africa’s sustainable energy transformation. This course of action calls for significant engagement from relevant stakeholders to deliver sustainable energy for all.

- **From engagement to policy**: political commitment must now be translated into policies that set concrete and achievable targets and a legislative and regulatory environment that favour their implementation.

- **From policy to planning**: once policy targets are set, realistic and detailed roadmaps for their achievement must be developed.

- **From planning to implementation**: finally, fit-for-purpose instruments to facilitate projects’ delivery must be implemented and progress towards the targets has to be monitored.
“A brighter and cleaner future for Africa”

RES4Africa Foundation
RES4Africa Foundation believes in a prosperous Africa, built on sustainable, inclusive, and resilient societies and economic systems.

We **ENVISION** the sustainable transformation of Africa’s electricity systems to provide reliable and affordable electricity access enabling job creation and socio-economic progress of all African business and societies.

Our **MISSION** is to work towards creating favourable conditions for scaling up investments in clean energy technologies in Africa, with Africa, for Africa.
A bridge between Europe and Africa, a convening platform for private and public energy sector stakeholders

**RES4Africa** brings together a wide network of members comprising utilities, manufacturers, financial institutions and consulting companies, all at forefront of the green energy revolution. RES4Africa members provide broad expertise, technological innovation and financial capabilities to support the fulfilment of RES4Africa’s mission.

RES4Africa functions as a bridge between Europe and Africa to ensure constant dialogue between the most relevant energy stakeholders of both Continents to jointly identify specific priority aspects where collaboration could bring benefits and mobilise investments in clean energy technologies.

From this perspective, RES4Africa identifies the youth and young entrepreneurs as the backbone of the sustainable future of Africa and collaborates with them to find innovative sustainable solutions for a prosperous Africa.

Relying on a cooperative approach and serving as a convening platform between the private and public sectors, RES4Africa activates an extended network of both local and regional partners to implement its activities in the countries and regions where it operates.
An operational model built on 4 main pillars

RES4Africa’s operational model reflects its commitment to work in Africa, with Africa, for Africa. The Foundation’s value proposition is built on four main pillars:

- **Support**: the adoption of sustainable solutions to respond to Africa’s electricity needs.
- **Analyse**: solutions to expand energy access and mobilise clean energy investments at scale to inform evidence-based decision-making towards the achievement of SDG7.
ADVOCATE

the opportunities and benefits of clean energy investments as the backbone of a prosperous Africa.

TRAIN

individuals and institutions to build the human capital necessary for leading the sustainable transformation of Africa’s electricity sectors.
Translating objectives into action, the Foundation develops and leads a diverse number of strategic initiatives and programs, implementing activities based on our value proposition:

- The **Missing Link** programme, which support African countries in improving the preparedness of policy and regulatory frameworks to crowd-in private investments in electricity generation, transmission, distribution, and off-grid infrastructure;

- The **renewAfrica** initiative, an industry-backed initiative which advocates for the creation of a comprehensive de-risking programme, to be promoted and owned by EU institutions, for renewable energy investments in Africa;

- The **Access to Energy** programme, aiming to support knowledge-building and the development of solutions in the field to foster sustainable access to renewable energies on the African continent;

- The **Grids4Africa** programme, focused on raising awareness about the status of African electricity networks and creating public-private partnerships to channel additional resources towards grid extension and reinforcement;
The RES4Med programme, a leading platform for public-private dialogue in light of the renewable energy potential and growing energy demand of Southern and Eastern Mediterranean countries (SEMC);

The Just Energy Transition for Sub-Saharan Africa programme, an initiative dedicated to supporting a fair and equal sustainable energy transformation of African economies, leaving no one behind;

The Advanced Training Course (ATC), RES4Africa’s flagship institutional capacity building program addressed to senior professionals and middle managers working in Africa’s RE sector;

The Micro-Grid Academy (MGA), a vocational capacity building programme aiming to create a working skills and entrepreneurial competences for the deployment of decentralised renewable energy solutions and off-grid systems;
3.3 A unique added value

Thanks to its nature and activities, RES4Africa brings unique value added as:

- A transparent and honest broker to build dialogue between private and public actors in Europe and Africa;

- A think-tank sharing the experiences of the leading clean energy technology industry to promote the sustainable transformation of Africa’s electricity sector;

- An independent connecting platform for cooperation among the energy industry, development organisations, and energy stakeholders in Europe and in Africa;

- An open hub, which facilitates the sharing of information by means of its communication channels.

- A flexible, adaptive, and responsive organisation to support African stakeholders’ needs.
3.4 Our goals

Through its programme, RES4Africa pursues concrete targets that will contribute to the development and integration of clean electricity infrastructure for sustainable, affordable and reliable electricity for all. Its actions are meant to facilitate the wider participation of private players in delivering investments to accelerate the sustainable transformation of Africa’s electricity systems by working with all interested stakeholders towards improving policy and regulatory framework preparedness to crowd-in private investors, enhancing existing financial and non-financial de-risking instruments to build bankable projects’ pipelines to deliver on the ground, building the human capital and the transfer of necessary knowledge for the successful sustainable transformation of African energy systems, and supporting the uptake of innovative, sustainable technologies to expand access to electricity.

RES4Africa is ready to cooperate with all willing parties and intensify its efforts for the achievement of its mission and the full realisation of the socio-economic benefits of the sustainable energy transformation for African businesses and households.
This is

the decade

of action,

the time
to act

is NOW