

Global Agenda Council on Sustainable Development (GAC-SD)

Driving Renewable Energy in sub-Saharan Africa through Public-Private Cooperation

Andrew M. Herscowitz, Coordinator, Power Africa
Katrina Pielli, Lead – Beyond the Grid, Power Africa

May 2016

Energy poverty keeps hundreds of millions of people and entire countries behind the rest of the world. In sub-Saharan Africa in particular, an alarming two out of three people do not have electricity access, which limits economic advancement for 600 million people who lack quality health care, education, business opportunities and more. [Power Africa](#) is improving lives and energizing economies by working through public-private partnerships to remove the barriers, particularly the financial and regulatory challenges, that stand in the way of power delivery to all in sub-Saharan Africa. This approach can be seen in Power Africa's engagement and support for diverse, private sector led energy projects of all sizes, many in partnership with public entities, across the African continent. Indeed, public-private cooperation is inherent to Power Africa's transaction-driven approach to [meeting its ambitious goals](#) of adding 30,000 megawatts and 60 million new household and business connections in sub-Saharan Africa by 2030.

As the world's leaders look to achieve the [United Nations Sustainable Development Goals](#) (SDG) to end poverty, protect the planet, and ensure prosperity for all, partnership is at the heart of the path to success. Partnership is at the core of our strategy toward supporting SDG seven – ensuring access to affordable, reliable, sustainable and modern energy for all. [McKinsey estimates](#) that \$835 billion is needed to build all the infrastructure necessary to connect everyone in Africa to electricity by 2030; far exceeding the funding available from the public sector and requiring partnership with the private sector. Examples of Power Africa's partnership approach include its support for companies like Off-Grid Electric and Virunga Power, and its multilateral partnerships like the Lake Turkana Wind Power consortium.

[Off-Grid Electric](#) focuses on providing clean, distributed energy through a solar home system, branded M-POWER, paired with an innovative payment structure. This model has garnered the company the reputation as a rising star in transforming the way electricity services are delivered in sub-Saharan Africa. Off-Grid Electric uses mobile money payments to reduce the cost and risk for low-income households to adopt solar. Its offer includes energy services beyond lighting, such as mobile phone charging, efficient radios and TVs. As a result, the company has grown and attracted substantial private capital investment, including [\\$25 million of equity raised](#) in October 2015 to expand its business in East Africa, as well as \$45 million of debt to further its growth in Tanzania.

Attracting this level of private investment came after several years of partnership. Since 2013, the U.S. government's Power Africa initiative has provided sustained support to Off-Grid Electric. The United States Agency for International Development (USAID) provided a \$100,000 [Development Innovation Ventures](#) (DIV) grant to pilot operations in Tanzania. An additional \$200,000 was provided by the Overseas Private Investment Corporation (OPIC) to upgrade internal processes and supply chain management. In 2014, USAID provided a \$1 million grant for last-mile distribution activities to further operations in Tanzania. Most recently, DIV provided \$5 million in follow-on funding to catalyze additional financing and to help Off-Grid Electric reach its goal of serving over one million Tanzania households. This funding played an important role in leveraging additional private sector financing and is helping to demonstrate the potential for future investments in the space. Today, Off-Grid Electric is installing solar systems in over 10,000 homes and businesses per

month and employs nearly 1,000 people in Tanzania and Rwanda – the future is bright for this Power Africa partner as it brings cost-effective solar energy solutions to East Africans.

In northwest Kenya near Lake Turkana, Africa's largest wind farm at 310 megawatts is under construction. Upon completion, expected in 2017, the [Lake Turkana Wind Power consortium](#) (LTWP) will add approximately 13 percent more installed capacity than Kenya has today. This project is the product of a large partnership among stakeholders to bring clean, low-cost power to one of the poorest sections of Kenya, including project developers, public and private sector investors, the Government of Kenya and the local Kenya utility. Power Africa provided technical assistance and financing to contribute to the LTWP reaching financial close the end of 2014. Since wind power is intermittent, as a condition precedent to financial close, Kenya Power needed to strengthen grid operations and infrastructure to accommodate this clean energy resource. Through Power Africa's Grid Management Support Program, technical assistance was provided to Kenya Power to meet these requirements. In addition, LTWP utilized a number of financing instruments to reach financial close, including several from Power Africa partners, including the African Development Bank and OPIC. The [African Development Bank](#) served as the lead broker for the project and provided a \$115 million loan and \$20 million partial risk guarantee. [OPIC](#) is providing a \$250 million guarantee and \$46 million in insurance. Through robust PPC, LTWP is moving forward and will provide many benefits to Kenya and East Africa through new clean energy capacity and a reduction in the cost of electricity in Kenya.

Off-Grid Electric and LTWP demonstrate that Power Africa is advancing small energy solutions at the household level and large solutions at the national level. On the community energy scale, partners like Virunga Power are focused on providing clean energy resources to rural areas in strong partnership with local community leaders. Through these unique partnerships, Virunga is able to provide additional value to its customers, including working with microfinance institutions to expand asset-backed consumer finance for rural, farm-based income-generating equipment (such as efficient electric pumps). Virunga has a goal to supply 50 megawatts and connect 150,000 households in the East African region by 2020. It is well on its way through projects such as a small hydroelectric project on the Mutonga River near the rural market center of Mutunguru, at the eastern edge of the [Mt. Kenya National Forest](#). Mutunguru leaders were interested in further developing the hydro resource on the Mutonga River (the existing micro-hydro plant generated only 26 kilowatts), which provided an opportunity for Virunga to partner with them. In 2014, Virunga received \$295,000 grant from the Overseas Private Investment Corporation's [U.S.-Africa Clean Energy Finance Initiative \(ACEF\)](#) to help with project preparation activities, including feasibility study and design, environmental review, and legal work. Upon completion, expected in late 2017, this project will generate 7.8 megawatts and will connect the community of 5,000 households to clean electricity.

Public-private cooperation is essential to dramatically increasing access to electricity in sub-Saharan Africa. Power Africa has brought together more than 120 public and private partners, committing nearly \$43 billion in resources to accelerate power transactions in Africa. Power Africa has laid out a clear, specific plan for achieving its ambitious goals in its [Roadmap to 30,000 MW and 60 million connections](#). Power Africa's model is already showing success with over 4,300 megawatts reaching financial close and an additional 45,000 megawatts being tracked on Power Africa's mobile application called the [Power Africa Tracking Tool](#) available for [download from the Apple App store](#). The continued momentum and growth in investments in the power sector is contributing to economic growth, poverty reduction, increased security and reduced contribution to climate change. We are confident that in the coming years, all those hoping to make significant headway in developing sustainable energy and other critical infrastructure will adopt Power Africa's approach, not only in Africa but across the globe.

This paper was prepared as part of the Global Agenda Council on Sustainable Development's Knowledge Hub, a group product by Member (and their representatives) who are convened by the 2014-2016 Global Agenda Council on Sustainable Development, organized by the World Economic Forum. A list of GAC-SD Members is available here: <https://www.weforum.org/communities/global-agenda-council-on-sustainable-development>. All co-authors contributed in a personal capacity. The views expressed are not necessarily those of all contributors, who may have had different opinions on some issues.