



# **Power Africa's Off-Grid Energy Access Focus – Beyond the Grid**

Katrina Pielli, Senior Energy Advisor and Lead – Beyond the Grid

*Webinar: Energy Access “Movers and Shakers” Showcase: State of Play and Potential for Scale in sub-Saharan Africa*

United Nations Foundation's Energy Access Practitioner Network and the Clean Energy Solutions Center

# The Opportunity

Over 600 Million  
people in sub-Saharan  
Africa are  
without electricity





**Our partnerships provide the resources to help us achieve our collective goals to electrify the continent.**

Power Africa's model focused on practical solutions:

- Deep knowledge of the power sector
- A private-sector-led engagement approach
- Experience working with governments, development partners and civil society to improve policies and governance

## Power Africa goal: Double Access to Electricity in sub-Saharan Africa

- 30,000 MW of new, cleaner power generation capacity
- 60 million new household and business connections



# Private Sector Commitments

Over **120 private sector partners** committing to **\$31B+** worth of power project development

Including over **60 Beyond the Grid partners**



# Development & Strategic Partner Commitments



- The **World Bank Group** - committing **\$5 billion** in new technical and financial support, including loans and guarantees.
- The **African Development Bank** - Power Africa anchor partner, with an initial commitment of **\$3 billion**.
- The **Government of Sweden** - catalyze **\$1 billion** to advance Power Africa, including support for transmission and distribution upgrades.
- The **EU** - providing **\$2.8B** over the next five years to advance goals of establishing modern and sustainable energy sectors and to fight energy poverty.
- **UK DFID** - **leverage investments in cleaner energy; support power pools and access through regional integration**. Power Africa also supports the [Energy Africa campaign](#).

# Development & Strategic Partner Commitments

- **Norway** - bringing online **1,500 MW** in renewable energy projects over the next five years.
- **SE4All** - coordinate on **off-grid and small-scale solutions; sharing project information and investment data; and expanding country-specific collaboration.**
- **NEPAD** - advance **key Africa Power Vision transactions** that meet the shared goals of increased energy production and access.
- **IRENA** - information sharing to maximize use of the **Power Africa Tracking Tool** and IRENA's **Sustainable Energy Marketplace.**
- **Canada** - implement commitments to the **Africa Renewable Energy Initiative (AREI)**, work closely with Canadian companies and transaction advisors, and support **gender-inclusive growth.**



# THE ROADMAP

A Guide to Reaching 30,000 Megawatts  
and 60 Million Connections

# THE POWER AFRICA ROADMAP



## TOOLS & RESOURCES

Transaction Assistance • Finance • Policy / Regulatory Design & Reform • Capacity Building • Legal Assistance

## PARTNERSHIPS

Working together to increase energy across the continent by supporting innovation, effective and suitable development.



- Beyond the Grid (BTG) launched in June 2014 at U.S.-Africa Energy Ministerial in Addis Ababa, Ethiopia.
- Over 60 investor and practitioner partners have committed to invest over \$1 billion into off-grid and small-scale solutions.
- Sub-initiative of Power Africa (Roadmap pillar 2.2) to unlock investment and growth for off-grid and small-scale energy solutions on the African continent.
  - 25-30 million connections through BTG efforts by 2030

*“With close to **600 million people without access** to modern-day electricity, it is clear that **centralized grid access is not a comprehensive solution** for these countries in one of the world’s least urban continents. But through solutions including **off-grid and small scale energy projects, we can bring electricity to these rural areas.**”*

- U.S. Energy Secretary Ernest Moniz.

- Two strategic BTG priorities:
  - Addressing recurring market constraints in the **household energy** market by increasing access to financing and providing technical assistance.
    - Goal: **17-20 million connections - solar home systems**
  - Striving to achieve scalable, cleaner **community-level solutions** that offer electricity access greater than the first tier of task lighting. Ensuring enabling environments are supportive through regulatory and policy regimes is critical to facilitate private sector success.
    - Goal: **8-10 million connections - micro-grids**

# Achieving Off-Grid Energy Access Goals

- Assisting Power Africa partners with achieving their energy access goals
- Utilizing Power Africa partnerships with donors and strategic partners
- Utilizing U.S. Agency & Partner tools and resources
- Promoting integrated energy access – focus on off-grid energy access and grid roll-out together
- Identifying and leveraging related issues (i.e. energy efficiency, efficient off-grid appliances, etc.)

- Beyond the Grid has 11 advisors supporting off-grid energy access across sub-Saharan Africa:
  - Kenya
  - East Africa Regional (enabling environment)
  - Tanzania
  - Nigeria
  - Uganda
  - Rwanda
  - West Africa Regional
  - Southern Africa Regional
  - Senegal
  - Pan-African (2)
- Focus is to provide transaction and technical assistance to private companies and governments to accelerate new connections.

## Examples of assistance provided to private-sector companies:

- Assist with review (ensuring sufficient data is included, framing, etc.) for grant and commercial finance applications.
- Make connections to private investors and financiers.
- Assist with navigating the regulatory processes for company registration (both micro-grid and SHS companies) and distribution licensing for micro-grid companies.
- Assist with refining and strengthening marketing and retail strategies, including developing new partnerships with distribution and retail partners.
- Coordinate activities with private sector and other donors to promote regulatory changes that would encourage investment by SHS companies in the country.
- Supporting off grid companies in their efforts to improve and expand their operations through business and network distribution advice.

## Examples of assistance provided to governments:

- Assist with review of existing policies and offer recommendations to provide incentives for off grid rural electrification
- Provide best practices from other African and global countries on key energy access policies
- Provide technical assistance to governments on key technical issues (e.g., micro-grid interconnection)
- Support the development of technical standards to facilitate micro grid and SHS deployment
- Provide capacity building efforts to governments to help them understand business models for micro grids and SHS
- Support governments develop and implement their rural electrification strategies

# Interagency Partnerships

- Interagency Partnerships are vital to Power Africa's off-grid success. Two examples used to accelerate BTG:
- U.S. Department of Energy – Global Lighting & Energy Access Partnership (Global LEAP)
  - **Quality Assurance Framework for Mini-grids:** Technical validation with two private sector companies.
  - Expanding **the Global LEAP Results Based Financing (RBF)** procurement incentive in Bangladesh to East Africa in 2017 with DFID and Power Africa support.
  - **2016-17 Global LEAP Awards Off-Grid Refrigerator Competition:** To identify the super-efficient, high-quality off-grid refrigerators. Partnership with USAID, DFID and Power Africa. Accepting nominations now -- up to \$600,000 of innovation cash prizes for products that demonstrate market-leading advancement in key performance criteria.
- U.S. Trade & Development Agency
  - Grant investments in project preparation activities designed to generate renewable and gas-fired power, modernize electric grids and increase energy efficiency. USTDA programs are available to help African project sponsors prepare bankable clean energy projects.

# Scaling Off-Grid Energy: Grand Challenge for Development



**Scaling Off-Grid Energy: A Grand Challenge for Development** will accelerate growth in the off-grid energy market to provide 20 million households in sub-Saharan Africa with access to modern, clean and affordable electricity. Our vision is to spur a vibrant marketplace of off-grid solutions that meet the needs of low-income people across the continent.

## Founding partners:

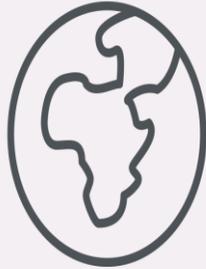
- U.S. Agency for International Development
- Power Africa
- U.K. Department for International Development
- Shell Foundation

Advancing the goals and commitments made under the U.S. and U.K. flagship energy access initiatives, Power Africa and Energy Africa

Flagship household solar activity & key component of BTG household solar activities.



# Scaling Off-Grid Energy: Grand Challenge for Development



## Expanding Supply

**Enterprise  
Investments  
Challenge Fund**



## Driving Demand

**Competitions:  
Off-Grid Refrigeration**



## Strengthening the Marketplace

**Convening  
Advocacy  
Training**

# Power Africa Toolbox

- Power Africa combines the **resources and global know-how** of our **partners** to provide resources and mechanisms that **drive deals** between the private sector and African governments.
- Five categories of Power Africa tools:
  - Transaction Assistance:
  - Finance
  - Enabling Environment
  - Capacity Building
  - Legal Assistance
- New Project Preparation Facilities Toolbox
  - 13 early-stage PPFs operating in SSA

## Tools include:

- Small grants;
- Technical assistance;
- Risk mitigation insurance;
- Medium and long-term direct loans for U.S. investments in Africa;
- Feasibility studies and project preparation assistance;
- Advocacy for legal, regulatory and institutional reforms;
- Working capital loans for U.S. exporters;
- Loans to African purchasers of U.S. goods and services;
- Reverse trade missions and trainings.

<https://www.usaid.gov/powerafrica/toolbox>

## Early-stage support

- Innovative energy solutions
- Feasibility and grid impact studies
- Project appraisal and costing
- Public private partnerships
- Additional project preparation support

2016 USTDA call for grant applications – over 300 received! Being reviewed now.

## Late-stage support

- Technical, regulatory and financial assistance to host country governments to advance transactions to financial close

## Tools include:

- USAID Development Innovation Ventures grant competition for innovative, transformative solutions
- US Trade & Development Agency (USTDA) grants for project preparation support (pre-feasibility studies, feasibility studies, pilot projects).
- Sustainable Energy Fund for Africa (SEFA) early-stage funding for small- and medium-size renewable energy projects
- Power Africa transaction advisors
- US-Africa Clean Energy Finance project preparation support

Equity, loans, guarantees, export credits, grants and insurance programs.

Tools include:

- USAID Development Credit Authority – partial-credit guarantees to mobilize commercial debt capital
- Export-Import Bank direct loans with long-term fixed rate financing to purchase US equipment and services
- Overseas Private Investment Corporation (OPIC) direct loans and investment guarantees
- African Development Bank direct equity investments
- OPIC partial-risk and credit guarantees; political risk insurance

2015 OPIC \$15 million loan commitment to Lumos' Nigerian subsidiary Txtlight Power Solutions Limited to finance the deployment of rooftop solar panel kits to approximately 70,000 residential and small commercial customers in Nigeria using a lease-to-own model.

Technical assistance to improve the enabling environment for private sector investment through policy, regulatory, legal, and utility reforms, improved procurement practices and power sector planning.

Tools include:

- Millennium Challenge Corporation (MCC) Compact
- U.K. Department for International Development (DFID) capacity building trainings / workshops, including the Energy Africa campaign
- US-East Africa Geothermal Partnership providing assistance to support geothermal development
- US Department of Energy natural gas trainings and workshops
- USTDA reverse trade missions and trainings

2015: \$46 million for off-grid electrification in Benin as part of the MCC \$375 million Compact focused on electric power. MCC will increase access to electricity by supporting public policies and regulation that enable off-grid electrification, as well as grants and other mechanisms.

Legal assistance to strengthen host country government legal expertise & negotiating capacity in structuring, financing and closing power sector transactions.

Tools include:

- African Legal Support Facility (ALSF)
- Commercial Law Development Program (CLDP)

CLDP in partnership with ALSF published the *Understanding Power Purchase Agreements* to provide a balanced understanding of the challenges involved in PPAs and an insight into the practical reality of overcoming these challenges when negotiating these complex agreements.

Available in French & English

Katrina Pielli, [kpielli@usaid.gov](mailto:kpielli@usaid.gov)

Maria Hilda Rivera, [mhrivera@usaid.gov](mailto:mhrivera@usaid.gov)

Lovemore Seveni, [lseveni@usaid.gov](mailto:lseveni@usaid.gov)

<https://www.usaid.gov/powerafrica>