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POWER AFRICA



“Access to electricity is ... the connection that’s needed to plug Africa into the grid of the global economy.

In partnership with African nations [and the private sector], we’re going to develop new sources of energy. We’ll reach more households ... We’ll expand access for those who live currently off the power grid. And we’ll support clean energy to protect our planet and combat climate change.

This is America’s vision: a partnership with Africa that unleashes growth, and the potential of every citizen”

– President Barack Obama

Cape Town South Africa, June 30, 2013



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The Opportunity



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



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The Goals



10,000 MW of more efficient, cost effective electricity generation capacity and renewable technology.

Increase electricity access by 20 million new households and commercial entities with **on-grid, mini-grid, and off-grid** solutions.

Enhance energy resource management capabilities of partner countries.

Increase the number of country partners participating in the **Regional cross-border energy trade** to at least ten countries.



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Partner Countries



Ethiopia, Ghana, Kenya, Liberia, Nigeria, Tanzania



EGCI (Energy Governance and Capacity Initiative) is a State Department led effort which aims to build the capacity of nations to effectively manage their energy resources.



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USG Commitments



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**US Army Corps
of Engineers®**

USAID and State Department

\$285 million in technical assistance, grants and risk mitigation, policy reforms

OPIC

\$1.5 billion in financing and insurance to energy projects

Ex-Im

\$5 billion in support of U.S. exports for the development of power projects

MCC

\$1 billion in African power systems through its country compacts.

OPIC & USTDA

Up to \$20 million in project preparation, feasibility and technical assistance grants.

USADF

\$2 million Off-Grid Energy Challenge to African-owned and operated enterprises.



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USG Approach



- Bring to bear a wide range of U.S. government tools to support investment in Africa's energy sector.
 - The US will commit more than \$7 billion in financial support over the next five years.
 - Provide coordinated support to help African partners expand their generation capacity and access – transaction advisors, interagency group.
- Partnership with multilateral and bilateral agencies.
 - **African Development Bank** – expects to allocate as much as \$3 billion over the next 5 years in the six power Africa countries which will leverage at least 4 times more investments in the energy sector. The Bank's interventions will include investment loans, reforms, advisory, and guarantees.
 - Consultations with **World Bank**, the **European Union**, bilateral donors to coordinate activities and approach.



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Private Sector Commitments



Over 35 Private Sector partners committing over \$14B





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Accomplishments



2,786 MW worth of transactions have financially closed since July 2013 representing almost 28% of the 10,000 MW goal.

An additional 5,279 MW worth of transactions are in the planning stages, representing almost 53% of the 10,000 MW goal.



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Sample Projects



Geothermal: The USG is supporting the first geothermal IPP in Ethiopia with technical assistance and legal assistance to support the Government of Ethiopia's negotiation of critical agreements (i.e. PPA)

- **Impact:** Enable Ethiopia to harness its potential 5,000 MW of geothermal power for domestic use or regional export and leverage private sector know-how and financing.



Smart Metering: Power Africa is supporting a U.S. renewable energy company, with operations in Ethiopia to produce 2 million smart meters. Support includes project development grant assistance and a loan guarantee to facilitate local commercial finance for the project.

- **Impact:** Enable Ethiopia's utility and on-grid consumers to better manage distribution and consumption, and reduce high technical and non-technical losses.



Wind: In Kenya, Power Africa is supporting a 300 MW wind project with training for Kenya's utilities on managing intermittent power and is finalizing a twinning exercise, which will pair the Kenyan institutions with U.S. organizations experienced in this field.

- **Impact:** With increased generation from renewables slated to come online over the next several years, capacity building support for management of intermittent power is critical for this 300MW as well as subsequent renewable energy projects.



Hydro: Power Africa is supporting a 10 MW small hydro project along the Kiwira River in Tanzania's southern agricultural corridor.

- **Impact:** The project will expand both the energy access for the local area as well as feed into a larger grid. In addition, the development project will stimulate local commercial finance for the country's energy sector.



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Private Sector Commitments



- **General Electric** - help bring online 5,000 MW of new, affordable energy through provision of its technologies, expertise and capital in Nigeria, Ghana, Kenya and Tanzania.
- **Heirs Holdings** - \$2.5 billion of investment and financing in energy, generating an additional 2,000 MW of electricity capacity over 5 years.
- **Husk Power Systems** - complete installation of 200 decentralized biomass-based mini power plants in Tanzania – providing affordable lighting for 60,000 households.
- **Standard Bank Group** - underwrite new transactions and provide US\$150m of debt for transactions in Power Africa countries.
- **Denham Capital** – seek to invest \$2 billion in power generation in Power Africa countries- including wind power generation, solar power generation and thermal power generation



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Beyond the Grid



PA's success depends upon working to develop a comprehensive solution to energy needs, especially in rural areas.

Rural electrification :

- Large scale power generation projects are certainly much needed on the continent. However, they do not represent the only type of generation project in Power Africa.
- There are now 27 private sector partners of “Beyond the Grid” – a new Power Africa initiative to unlock investment and growth specifically for off-grid and small-scale energy. And over one billion in private sector financing
- Mini-grid and off-grid solutions can effectively and affordably provide energy access to rural communities; allowing them to “leap frog” traditional grid extension and level the playing field between rural and urban communities.
- US African Development Fund partnered with GE to launch an off-grid challenge contest. Six first round winners were recently announced.



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Donor partnership approach



Field Level Coordination

- PA primary coordination will take place in the field, building on existing donor mechanisms
- PA Coordinator Andy Herscowitz is based in Nairobi and is supported by US Embassy teams and transaction advisors working with government partners

Global Quick Wins

- USG will be looking for opportunities to align efforts with other donors who are active in the power sector in Africa
- PA hopes to achieve early successes and build momentum for additional partners and investors to support electrification in Africa

Coordination of Individual Partnerships

- PA will coordinate individual partnerships with other donors to collectively support the goals of the Initiative and will use existing pooled funding arrangements when possible
- PA is currently seeking to understand other donors' initiatives in the African power sector, including:
 - *Pending/current transactions, to look for potential collaboration*
 - *Level of interest in mini-/off-grid solutions and delivery units*
 - *Technical assistance in resource management or policy reform*



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Partnering with other donors



PA's success depends on partnerships with other donors, host governments, and private sector partners to achieve the goal of doubling electricity in sub-Saharan Africa

Donor Partnership Objectives:

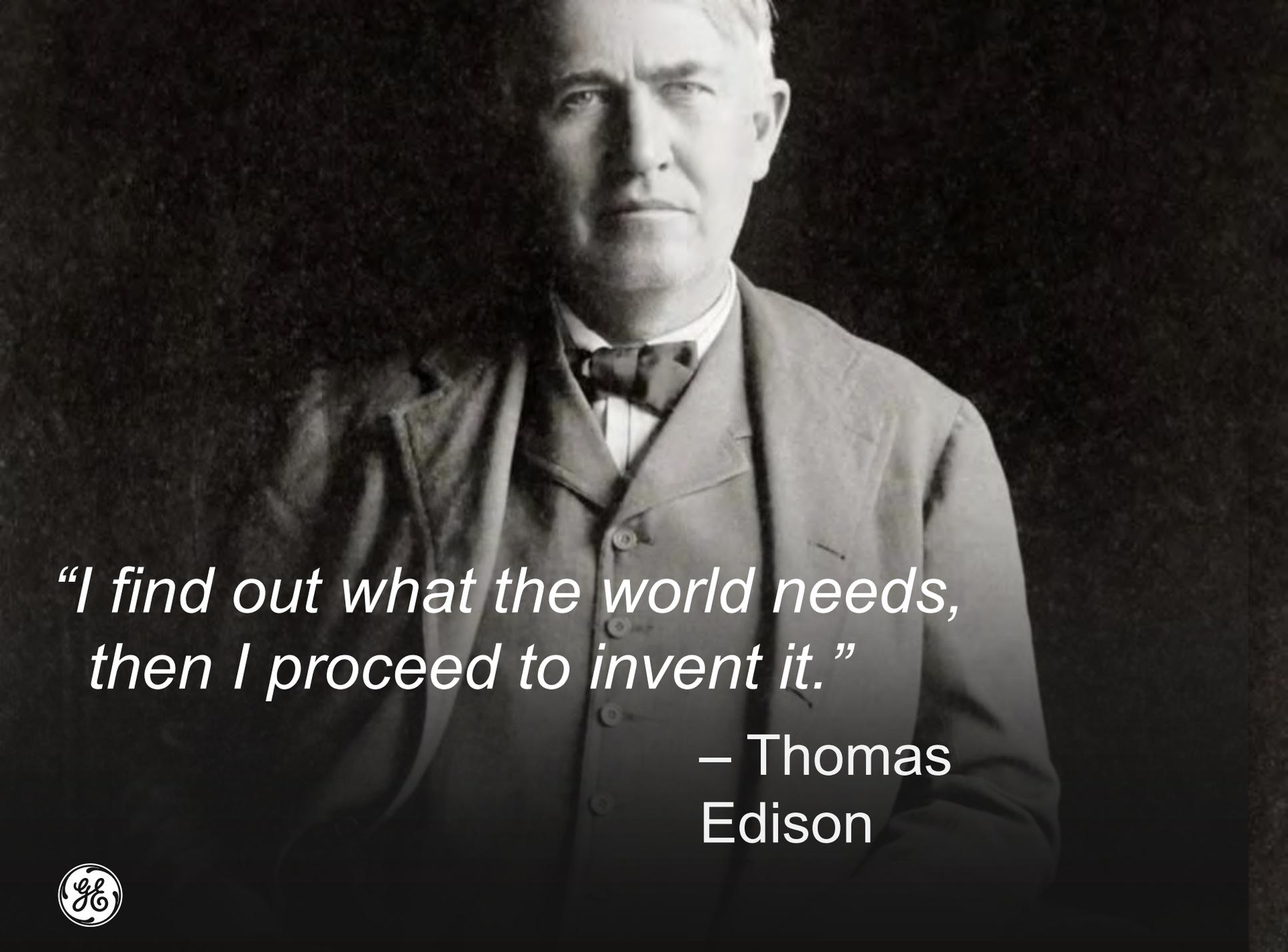
- **Expand resources dedicated to achieving Power Africa's goals**, particularly in areas where additional resources will be critical, such as support for delivery units and mini and off grid strategy implementation
- **Facilitate and expedite transactions**
- **Strengthen policy reform agenda** by developing consistent and shared principles across partners
- **Leverage expertise of others knowledgeable in the power sector**, and benefit from lessons learned

GE and Power Africa

June 2014



GE imagination at work

A black and white portrait of Thomas Edison, showing him from the chest up. He is wearing a dark suit jacket, a vest, a white shirt, and a dark bow tie. He has a serious expression and is looking slightly to the right of the camera. The background is dark and out of focus.

*“I find out what the world needs,
then I proceed to invent it.”*

– Thomas
Edison



Key statistics

- About 307,000 employees worldwide
- Operating in more than 170 global locations
- Rated AA+ with stable outlook by S&P
- Only current DJIA company in original index



Our business units

Energy Management
5% / \$7.6 B



Oil & Gas
12% / \$17.0 B



Power & Water
17% / \$24.7 B



Healthcare
12% / \$18.2 B



Aviation
15% / \$21.9 B



Transportation
4% / \$5.9 B



Capital
30% / \$44.1 B



Appliances & Lighting
5% / \$8.3 B

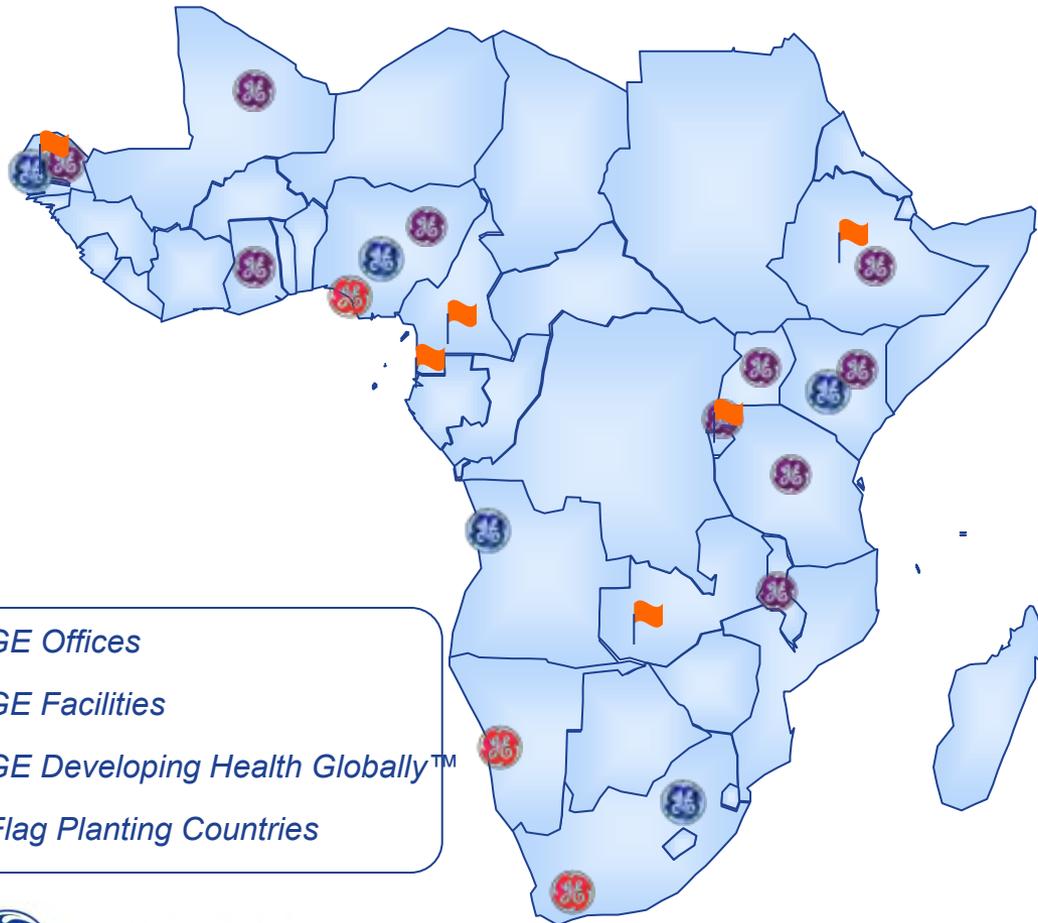


~\$146 Billion
Revenue in
2013
\$16.9 B Operating Earnings

SSA Footprint Growing...

Key facts

- In SSA since 1898
- ~1,800 employees in SSA
- Revenues 2013: ~ \$3B
- Active in 35 countries



GE & Power Africa: Framework

Power Africa:

- Nigeria, Ghana, Kenya, Tanzania, Ethiopia
- USG \$7B
- Add 10 GW to grid, reach 20 million consumers

GE potential:

- 5 GW+ of power
- First mover and leader of Gas to Power
- Expand scope for renewables and distributed power

Key Issues:

- Speed
- Gas to Power
- Renewables & DP solutions
- Grid management & stability

Rhythm:

- Quarterly updates
- Monthly meetings
- Ongoing transactions

- Driving project development & execution
- Advocating for cross-cutting policy solutions
- Creating opportunities for Power Gen, Wind, DP, EM, O&G





GE imagination at work