**Highlights of Deliverables and Commitments**

**U.S.-Africa Energy Ministerial**

**June 3-4, 2014**

## Power Africa

- **Beyond the Grid**. Power Africa announces Beyond the Grid (BTG), a new peri-urban and rural off-grid and mini-grid (200 watt [W] to 10 megawatt [MW]) strategy that is focused on fostering clean and hybrid energy solutions in partnership with investors and other organizations. BTG aims to (1) increase economic activity through the productive use of electricity by households and businesses; (2) expand access to at least 2 million households, businesses, and/or public sector facilities; (3) generate at least 250 MW from isolated systems and mini-grids; (4) facilitate (by gaining commitments) over $500 million of private sector investment into isolated systems and mini-grids; and, (5) improve enabling conditions for off-grid and mini-grid electricity generation and distribution. Beyond the Grid will initially focus on Liberia and Tanzania.

- **Off-Grid Challenge**. To support off-grid energy solutions, the U.S. African Development Foundation (USADF) and the U.S. Agency for International Development (USAID) announce that they have teamed up with GE Africa to launch the Power Africa Off-Grid Energy Challenge. The three-year initiative will award 25 or more grants of up to $100,000 each to African companies and organizations providing off-grid solutions that deploy renewable resources and power economic activities. The challenge aims to benefit rural and urban populations currently underserved by existing utility companies in the six Power Africa countries consisting of Ethiopia, Ghana, Kenya, Liberia, Nigeria and Tanzania. The first six grants, totaling $600,000, were awarded in the Challenge's first round in 2013; five companies and one university already are expanding their operations and testing the feasibility of new models for delivering power to underserved communities. The announcement of the second round of the challenge allows an additional 18 to be awarded across all six countries. African-owned and -operated businesses or organizations that are developing their own technologies, and/or acquiring and installing technology developed elsewhere, are eligible to apply. Initiatives from energy service providers, community associations and private companies that are developing energy enabling technology will be strongly considered.

- **DOE-led Clean Energy Solutions Center and Power Africa Partner to Enhance Expert Assistance on Clean Energy for African Policymakers.** As part of a shared commitment to Africa's clean energy future, the Clean Energy Ministerial's Clean

Energy Solution Center, led by the U.S. Department of Energy, will partner with the Power Africa initiative to connect policymakers in Africa with clean energy experts and best-practice resources. Through this partnership, the Clean Energy Solutions Center will leverage Power Africa's network of local contacts across the continent to raise awareness of available resources, and in turn, Power Africa will leverage the Solutions Center's database of best practice resources from around the world and use its platform to host webinars and gain visibility with a broader, global audience for its program approach and experience. In particular, Power Africa will work to expand the reach of the Solutions Center's Ask-an-Expert service, which provides expert consultation free of charge in response to requests received. A key initial goal of the partnership is to scale up this service, building on the ten requests from African policymakers fielded to date with U.S. Government support on topics ranging from concentrated solar power potential in Namibia to sustainable bioenergy in Cote D'Ivoire to feed-in tariff design in Ghana.

- **Power Pool Training and Technical Assistance.** The U.S. Department of Energy (DOE) announces a training program for Power Africa countries under the DOE Power Marketing Administration's "Professionals on Demand" program. This program will be administered under the four DOE Power Marketing Administrations (PMAs)--Bonneville Power Administration (BPA), Western Area Power Administration (Western), Southeastern Power Administration (SEPA), and Southwestern Power Administration (SWPA). Bonneville and Western are the largest PMAs and have worked with visiting foreign energy delegations on a number of power system operations matters, including developing capacity to manage power pools.

## Energy Efficiency

- **ECOWAS Regional Lighting Standards & Labeling Initiative**. The Ghana Energy Commission, the Economic Community of West African States (ECOWAS)' Center for Renewable Energy and Energy Efficiency (ECREEE), and the U.S. Department of Energy announce a new collaboration to advance lighting standards & labeling (S&L) in the ECOWAS region. ECREEE is advancing a lighting S&L effort, including the development of a toolbox, monitoring & valuation, and enforcement mechanisms for the ECOWAS region. The Ghana Energy Commission is a regional leader in appliance standards, labeling, and testing, and will take a leadership role in this lighting S&L effort, including providing lessons learned from Ghana's experiences, developing a practitioners' guide to implementation and sharing lessons learned on enforcement mechanisms and processes. The U.S. Department of Energy will support ECREEE and Ghana through technical support to develop the toolbox and the monitoring and valuation. Work will begin in summer 2014.

- **South Africa Cool Roofs Initiative.** The U.S. Department of Energy announces a project in South Africa to spur growth in the markets for energy efficient and renewable energy technologies. One of the goals of the project is to provide opportunities for U.S. manufacturers to demonstrate their products to South African municipalities and the general public. Global Cool Cities Alliance and PEER Africa, a prominent developer and project partner, will work with manufacturers to demonstrate reflective roof coatings and solar thermal systems on a series of new homes and municipal buildings in the Northern Cape region of South Africa. This pilot project, underway in 2014, anticipates outcomes to include 20 percent building energy savings from reduced cooling needs, reductions of inside air temperatures of 3-5 degrees C, and trained local workers.

## Renewable Energy

- **Angola Train-the-Trainer Program**. The U.S. Department of Energy, the Government of Angola, Sonagol and the National Renewable Energy Laboratory announce a new solar electric train-the-trainer program. This program is designed to support increasing electricity access in Angola (currently only 26 percent of Angolans have electricity access) by working with university professors and other technical training groups to establish training curriculum to build local workforce knowledge on solar electric technology, utilization, development of off-grid networks, financing of solar equipment and installation and maintenance. The training program for trainers will be launched in late 2014. Once established the training program should be able to be replicated across Angolan institutions and can serve as a model for similar programs in other African nations.
- **Geothermal Capacity Building in the East African Rift Valley.** The U.S. Department of Energy, the National Renewable Energy Laboratory and the U.S. Agency for International Development announce a new capacity building program to build policy and regulatory frameworks to assure the safe and efficient development of geothermal resource potential in East Africa. This program builds on a workshop held May 12-16, 2014 in Kenya that attracted officials from eight East African countries (Kenya, Ethiopia, Tanzania, Djibouti, Uganda, Eritrea and Rwanda). The effort is focused on introducing policymakers to necessary rules and regulations to support the safe and efficient development of geothermal resources. The Department of Infrastructure and Energy of the African Union Commission and the Federal Institute of Geosciences and Natural Resources of Germany are partnering in this effort. The World Bank, the UN Environment Program's African Rift Valley Geothermal Initiative (ARGeo), the East African Geothermal Partnership (EAGP), USAID and the U.S. Energy Association, who have all sought to advance geothermal development in the region, are also exploring participation in this effort.

- **New 5 Megawatt Solar Microgrid System on Equatorial Guinea's Annobon Island.** In partnership with MAECI Solar, Wise Power Systems International, General Electric, Princeton Power and the University of Delaware's Center for Energy and Environmental Policy**,** the government of Equatorial Guinea announces a 5 megawatt microgrid system that will produce enough electricity to serve the current electricity demand (for an estimated 2 years) of Annobon Island, including all Government, seaport, airport, public facilities, streets, roads and pathways, hotels, small businesses, residential areas and a water treatment facility. Other features of this project, in addition to the solar technology, are batteries and LED lighting that has been installed in homes and businesses. This project will employ over 100 citizens of Annobon Island to participate in various phases of the project.
- **Mauritania Advances Renewable Energy**. Mauritania has three major announcements and achievements related to sustainable energy growth. The first is Mauritania's Strategy of Renewable Energy, released on May 28. Its goals are to offer universal, sustainable access to electricity and to reduce the production cost of electricity. Second, Mauritania's national legislature recently passed a new electricity code, which obliges the government to increase its use of renewable energy. Finally, within the past year, the Mauritanian government began laying the groundwork for the establishment of two new, large hybrid power plants: a 100 MW wind energy plant near Boulenoir in Northern Mauritania and a 30 MW photovoltaic plant in Nouakchott. The government has commissioned a feasibility study of the first project and has already solicited proposals for construction of the second.
- **Dijbouti Achieves Milestone in Renewable Energy.** The Djiboutian Ministry of Energy announces that it currently achieves 65 percent of its energy from renewable energy. This places Dijbouti on track to achieving President Ismail Omar Guelleh's vision of making Djibouti the first African country to use 100 percent green energy by the year 2020.
- **Ethiopia on Track for First IPP.** The Government of Ethiopia announces that, as part of the Power Africa initiative, negotiations are underway to finalize a deal with a private geothermal developer on the country's first of a kind 1000 MW geothermal IPP, that will also be the largest single FDI in the country to date.

## Natural Gas

- **Mozambique's Natural Gas Project – Pande & Tamane**. The government of Mozambique announces the Pande & Temane gas project, which includes a central processing facility, distribution pipeline, and more. As a result of this project, Mozambique can now use some of the Pande & Temane natural gas to generate electricity. Industrial companies such as the Mozal aluminum smelter and others have been able to replace imported fuel oil with natural gas from the Pande & Temane fields.

Similarly, the use of natural gas vehicles has been increasing in the country, with benefits to significant number of citizens. The natural gas distribution project for households in Maputo, Mozambique's capital city, and surrounding areas was completed last May, is now in operation, and will contribute to a reduction in the use of imported LPG for cooking by households. This project responds to expectations by many people that come with the discovery of large reserves of natural resources, such as oil and gas in East African countries, and particularly in Mozambique. The project is the result of government management through a global approach that takes into account the interests of international oil companies, the national government, and local communities. This project focuses on the export market for natural gas, while also promoting local industry, and will enable the country to benefit from industrial development associated with the use of natural gas, job creation, and poverty alleviation.

## Capacity Building

- **University Partnership Matchmaking**. The U.S. Department of Energy's Office of Economic Impact and Diversity announces a new effort to foster technical relationships among U.S. universities, U.S. and African companies, and participating African countries. Specifically, the Office of Economic Impact and Diversity will coordinate meetings between universities, companies, and countries that have matching needs/capacities in areas such as petroleum engineering and other technical energy fields. The Office of Economic Diversity is working with its stakeholders (colleges, universities and energy industry companies) to develop a pilot initiative for technical exchanges with Angola, building on the request of Angolan Petroleum Minister José Maria Botelho de Vasconcelos. Angolan Secretary of State for Petroleum Aníbal Octávio Teixeira da Silva also outlined Angola's desire for this partnership at the U.S.-Africa Energy Ministerial.

## Private-Sector Announcements

- **New OPIC Document on Important Features of Bankable Power Purchase Agreements.** The Overseas Private Investment Corporation (OPIC) announces a unique new document identifying a set of best practice features for developing bankable power purchase agreements. This document, "Important Features of Bankable Power Purchase Agreements (PPA's)," builds on many years of OPIC's international energy work and feedback from investors, developers, and governments. These guidelines for how to increase private sector investment in the power sector in developing countries provide a roadmap for the successful alignment of policies to enable significant private sector investment in power projects. This list of key PPA elements was developed collaboratively and represents the consensus viewpoint of the U.S. Agency for

International Development, the U.S. Export-Import Bank, the U.S. Department of Commerce, the U.S. Trade and Development Agency and numerous international development finance institutions. Bankable power purchase agreements are essential steps for attracting capital to energy projects. This framework is a crucial final link that connects the end users – people who benefit from increased energy access – with the dedicated investors, financiers, and innovative project developers who have the resources to build power projects throughout the continent. For major initiatives like Power Africa, PPAs are necessary to ensure that private and public sector capital can be mobilized at the scale of the challenge at hand. The document aims to streamline this process so that African governments can integrate common requirements of a bankable PPA agreed upon by international and US Government institutions involved in project financing into future projects and policies for investment in the energy sector. Features of bankable PPAs include controls like fixed tariffs and foreign currency exchange protection to ensure viable pricing, as well as key administrative mechanisms like dispute resolution and risk assignment for power transmission between generation source and consumers.

- **New USTDA Infrastructure Grants with South Africa and Tanzania.** The U.S. Trade and Development Agency *(*USTDA) Director Lee Zak announces two new energy infrastructure grants with entities in South Africa and Tanzania. The first grant will fund a feasibility study for the University of Dodoma in Tanzania to evaluate the technical and financial feasibility of implementing a combination 55 MW solar photovoltaic installations on the university campus. The project, cost shared with U.S. company Hecate Energy, aims to replace diesel power generation with cost-effective solar energy solutions, which will provide dedicated power supply to the university Health Sciences Diagnostic Center and surrounding community. USTDA will also sign a grant agreement with Plessey, a South African telecommunications systems integrator with operations in 27 African countries. This grant, cost shared with U.S. technology provider Oorja Protonics, will fund a project to pilot fuel cell technology for cell tower operations in South Africa. Implementation of the fuel cell systems would help replace diesel generators with Oorja's energy efficient, environmentally friendly solutions.

*It is expected that additional deliverables will be added during and after the June 3-4, 2014, U.S.-Africa Energy Ministerial.*