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Thank you Chairman Smith, Ranking Member Bass, and subcommittee members. I appreciate the opportunity to discuss Africa's energy future and how we are using our foreign policy tools to support stability and economic development in Africa by increasing access to electricity and laying the groundwork for a stable, clean, and prosperous energy sector. It is a privilege to be joined by my colleagues from the Department of Energy and the United States Agency for International Development (USAID). I am here representing the Bureau of Energy Resources at the State Department, which focuses on our energy equities around the world.

The critical nature of the geopolitics of energy is evident when you look at global oil supply disruptions, which recently have been as high as over three million barrels per day. These disruptions have resulted from reduced output due to political instability in Libya, Syria, Sudan and South Sudan, and politically motivated actions that led to declines in Nigeria and Venezuela, and reductions in Iran's exports by over 50 percent due to effective U.S. sanctions. It is now more important than ever that the United States and the State Department's Bureau of Energy Resources work diligently to ensure that energy resources are used to drive economic growth, stability, and cooperation, rather than conflict. And, at the same time, that we accelerate transformation of energy systems to be more sustainable, reliable, and commercially viable.

Decisions we make today will have long-lasting impacts on the trajectory of a continent on the brink of transformation. I would like to acknowledge and thank the House of Representatives for its keen attention to the issue of electricity poverty in Africa as demonstrated through the passage of the Electrify Africa Act, which underscores that expanding electricity access in Africa is a priority for the U.S. government. Only about 30 percent of the population in Sub-Saharan Africa has access to electricity, with many countries at an even lower access rate.

While the continent faces staggering poverty and severe electricity shortages, it is also characterized by significant economic growth, some of which has been

generated by natural resource production. Recent finds of hydrocarbons, particularly in East Africa, stand to help some countries transition from economies focused on subsistence agriculture and dependent on international aid to economies driven by natural resources. Sub-Saharan Africa already has total aggregate daily production of about six million barrels of oil and about an annual 60 billion cubic meters of natural gas. Looking to the future, this area has estimated technically recoverable resources that could total an additional 200 billion barrels of oil and 30 trillion cubic meters of natural gas. For comparison, the United States currently consumes about 19 million barrels per day and produces about nine million barrels per day. In 2013, the United States produced 687 billion cubic meters of natural gas. Africa is similarly rich in renewable resources, with world-class geothermal, solar, wind, and hydropower resources that remain largely untapped.

Focus of the Bureau of Energy Resources:

The Bureau of Energy Resources is focused on three broad areas in Africa: increasing access to electricity, promoting good governance particularly as it relates to managing oil and natural gas resources, and increasing the use of renewable energy technology.

Roughly half the people on earth living without electricity are in Africa. Recent projections by the International Energy Agency suggest more people in Africa will live without electricity 15 years from now than do today. Through our work on the Power Africa and United Nations' Sustainable Energy for All (SE4ALL) initiatives, we are helping Sub-Saharan Africa attract the private investment needed to massively and sustainably expand electricity generation, transmission, and distribution.

Poor governance and corruption limit all forms of energy investment and diminish economic development across the continent, and are particularly acute in countries with oil and gas production. We are committed to making sure that the potential for wealth does not cause or exacerbate instability, corruption, and governance problems, and we are focused on ensuring emerging and future oil and natural gas producers have the technical and institutional capacity to manage their hydrocarbons sectors responsibly and transparently for the benefit of their national development.

African governments are showing increased commitment to develop renewable energy resources. The United States and other partner countries and organizations are working with them to assess and develop these resources. The International

Renewable Energy Agency (IRENA), to which the United States is a major contributor, is especially focused on Africa. At the September 2014 Climate Summit in New York, IRENA announced a new step in the Africa Clean Energy Corridors Initiative that will link Eastern and Southern Power Pools and facilitate the development of renewable energy resources.

Power Africa:

As an integral part of the U.S. Power Africa team, the State Department is giving special attention to the policy challenges facing energy investment and access. Through consistent diplomatic engagement by our embassies in Africa and with African Embassies in Washington, the State Department is working to ensure the transactions which make up the foundation of Power Africa lead to structural policy and governance changes that will encourage investment over and above the 30,000 MW goal.

We have already begun to see progress thanks to U.S. efforts under Power Africa. In Ethiopia, the Corbetti geothermal power plant could eventually bring an additional 1,000 megawatts (MW) online, which would increase Ethiopia's generating capacity by 50 percent. Traditionally, Ethiopia has been reticent to encourage private investment but Power Africa's assistance in facilitating a power purchase agreement (PPA) between the Government of Ethiopia and Reykjavik Geothermal, a private company with U.S. investors, has spurred a reassessment of national policy to make it easier for private companies to invest in Ethiopia.

In Nigeria, Power Africa transaction advisors are working closely with the government to ensure successful completion of the country's ongoing privatization of power sector assets. Regulatory and policy issues affecting power markets, payment collections, and technology must all be resolved for a more reliable and robust electricity sector to develop; issues our assistance is addressing.

Through guidance on policy interventions and technical assistance, ENR supports increased deployment of renewable energy in African electricity grids. For example, in support of Power Africa, the United States and other donors worked with the Tanzanian energy regulator to increase the length of standard PPA for small-scale renewable generation from 15 to 25 years. By guaranteeing revenue over longer timeframes, the new structure allows project developers to demonstrate better cost recovery and lower cost of service, resulting in the dual benefits of lower cost wholesale electricity fees and improved project bankability.

One year after the launch of Power Africa, we are looking at projects supported to date to identify lessons learned and the existing policy frameworks that hinder expansion of electricity access, and what reforms are needed to encourage private investment. The State Department will continue working with the partner governments to implement necessary reforms.

As we enter the second year of Power Africa, the Obama Administration will also increase its focus on populations unlikely to be connected to the grid in the near future. Sixty three percent of people in sub-Saharan Africa live in rural areas and rural electricity access is only 18.3 percent. These communities cannot afford to wait decades before the grid comes to their villages. We are looking at innovative technological solutions that can bring greater prosperity supported to date. From simple solar lanterns to complete solar home systems, through mobile payment solutions for home-based generation and minigrids, there are many new approaches to provide modest amounts of power necessary for rural communities to join a world of economic development and upward mobility.

We are coordinating closely with other Power Africa agencies, including the Millennium Challenge Corporation (MCC) and Treasury to support the institutional and policy changes necessary for expansion of electricity access. The MCC has paid particular attention to this in its Ghana compact which devotes considerable resources to the policy changes needed to support a robust electricity sector.

Through Power Africa's new Beyond the Grid sub-initiative , the U.S. government is placing a renewed emphasis on these types of solutions moving forward. Beyond the Grid focuses on private companies deploying smaller-scale generating technologies to match the scale of distributed resources and the smaller-scale demand of rural and peri-urban communities. ENR will work on identifying unique and promising business models and technologies which, when enabled by smart national policies that support localized provision of energy, can provide high quality access to modern energy services while potentially bypassing the slow pace of centralized reform too often found across the continent.

Sustainable Energy For All:

There are many other countries and organizations who share this mission. The United States, led by State/ENR, is playing an active role in the Sustainable Energy For All (SE4ALL) initiative, a multi-stakeholder partnership between

governments, the private sector, and civil society. Launched by the UN Secretary-General in 2011, it has three objectives to be achieved by 2030: ensure universal access to modern energy services, double the global rate of improvement in energy efficiency, and double the share of renewable energy in the global energy mix. In Africa, SE4All has identified more than a dozen countries (including five of the six initial Power Africa focus countries) where host governments, with assistance from donor countries, will prepare investment prospectuses and action agendas for increased renewable energy investment.

In Ghana—a Power Africa focus country—ENR leads an SE4ALL multiparty development partner team that works with the Government of Ghana on developing off-grid renewable energy projects by the private sector. As the lead, ENR works with renewable energy project developers and finance organizations to facilitate project implementation. Currently, ENR is structuring a framework for Ghanaian finance organizations to cooperate on project finance while also analyzing the bona fides of project proposals and compiling a project portfolio for consideration by finance organizations. In addition, we played a key role in developing a memorandum of understanding between Power Africa and SE4All, signed in New York in September, to ensure the activities undertaken by these various initiatives are complementary.

Power Sector Programs and Regional Power Pools:

Additionally, ENR manages a foreign assistance budget that is used in three global energy sector programs: The Power Sector Program, the Energy Governance and Capacity Initiative, and the Unconventional Gas Technical Engagement Program. The Power Sector Program (PSP) supports reform and development in countries in which policy, regulatory, and legal reforms are needed to create the frameworks necessary to attract investment, create long-term sustainability, and increase energy access.

ENR's PSP provides technical assistance aimed at bolstering existing electricity grids, connecting disparate grids within a country, and supporting regional power pools. Regional power pools, which we see as a key component of the future of Africa's energy access, will allow countries to better balance their supply and better address changing electricity demands. For example, in Africa, PSP works to strengthen the Southern Africa Power Pool (SAPP), which will reduce the need for countries to limit exports to their neighbors at times when domestic supplies are tight. Our work in strengthening the SAPP should also help provide more stable

electricity generation and provide countries' with the capability to meet growing demand.

ENR is also supporting both the SAPP and the association of national regulators that ultimately will become the power pool's regional regulator. Regionally oriented independent power projects are essential components of a robust regional power trade and full market electrical interconnection. The frameworks ENR is helping to develop will support efforts to harmonize the regional regulatory environment and, in turn, will allow local and international investors to access a larger regional electricity market with increased economic opportunities and reduced financial risks.

In addition to our regionally focused cooperation, ENR, through contractors, helps to design and implement rules and regulations that support private investment in SAPP member countries' power sectors, particularly in new commercially-based power generation projects. These efforts could help countries overcome funding limitations of member governments and state-owned utilities by creating an environment that reduces risk and incentivizes the flow of private capital into the region.

Energy Governance:

Increasing access to electricity and responsible management of natural resources are linked goals. Managed well, a wealth of oil or natural gas could help fund or be a component of increased generation capacity. Managed poorly, that wealth could stall or even reverse development.

In many oil producing countries, the sector is rife with corruption and revenue contributes to instability rather than development. Competition for access to and control of energy sources and supply routes can be a source of conflict, and revenues from energy sales can provide funds that prolong conflict. Poor governance of natural resources can also contribute to conflict by allowing pervasive corruption to undermine accountability, hinder economic growth, and encourage civil unrest. This is why ENR sees poor energy governance as a security concern.

One needs only to look to the two largest oil producers in sub-Saharan Africa—Angola and Nigeria—to see the negative impact of a poorly managed oil sector. In Nigeria, the poor oil sector management and oversight is a large contributing factor to the discontent and unrest in the Niger delta. Nigeria also faces oil theft at all

levels, from tapping of pipelines in the delta to theft of oil from tankers in the Gulf of Guinea, to theft of oil revenues. The international community has in large part successfully reduced hostage-based piracy off of the East Coast of Africa, but we are now seeing a rise of piracy in the Gulf of Guinea in the West, where oil theft has become an international problem that requires cooperation among the countries bordering the Gulf.

In Angola, the oil sector has made many in the government wealthy while large swaths of the rest of the population struggle with abject poverty. Angola's fuel subsidy program is an example of how poorly managed these funds are. The IMF noted in August that Angola's spending on fuels subsidies amounts to four percent of GDP, about half of the spending in health and education. For example, With only a portion of what Angola spends on depressing gasoline prices below market levels, Angola could finance a conditional cash transfer (CCT) program to reduce poverty among the poorest of the poor. In the absence of serious government commitment to improve the business environment and create the conditions for economic diversification, poverty and inequality remain endemic.

This is a pressing problem in countries throughout the continent. In Somalia, an emerging producer, the presence of oil has the potential to exacerbate tensions between the federal and provincial governments. Uganda and Kenya are expected to begin commercial oil production within the next ten years, while Tanzania and Mozambique have the potential to become two of the largest natural gas producers in the world in the coming decade. Oil and gas exploration is taking place in Liberia, Sierra Leone, Namibia, Madagascar, Ethiopia, Somalia, the Seychelles, and a host of other African countries.

Energy Governance Capacity Initiative:

Engagement with emerging producers presents an opportunity to establish effective legal and regulatory frameworks, robust financial management systems, and strong environmental and social protections to help these countries transition their economies, expand electricity access, and export their resources without falling victim to the resource curse. Engaging with countries before the resources and revenues start flowing sets a foundation for a well-governed economy that can avoid the serious mistakes that other producer countries have made. Building governance capacity and transparency gives citizens more confidence in their government which contributes to stability and development.

These goals were the basis for the formulation in of ENR's first foreign assistance program, the Energy Governance and Capacity Initiative (EGCI). Formed in 2009, EGCI taps into the U.S. Government's considerable expertise and capabilities to provide assistance that is tailored to the specific needs of individual countries on areas on four assistance tracks related to technical, legal, financial and environmental capacity building issues. ENR also has a contract mechanism to support this work and can deploy in-country advisors and specialized expertise. EGCI works with some of these nascent and rapidly expanding oil and gas producer countries to develop the capacity to more effectively oversee the sector. In Africa, EGCI currently is engaged with Liberia, Sierra Leone, Somalia, Tanzania and the Seychelles. It has previously worked in Uganda and South Sudan and has had diplomatic discussions with other countries, including Namibia and Madagascar.

The EGCI offers governments on-the ground technical assistance and training both in the region and in the United States to help address some of the thorniest issues faced by emerging producer countries. This technical assistance focuses on understanding resources through the most appropriate technologies, responsible management of revenues, embedding international best practices into laws and regulations, and protecting people and the environment from sector impacts.

In addition to conventional oil and gas resources, through its Unconventional Gas Technical Engagement Program (UGTEP), ENR further engages with countries seeking to develop their unconventional natural gas resources – shale gas, tight gas, and coal bed methane – sustainably, safely, and responsibly. In particular, ENR engages with the Government of South Africa as it pursues unconventional gas development as part of its effort to diversify its energy supplies.

Transparency and Governance:

Transparency in the sector can empower the public to demand a place in decision-making and a share of the benefits from the extractive sector. Transparency can help expose whether natural resource revenue is being used for the benefit of the people or whether it is being diverted for personal gain or to entrench the existing elite. With sound management, revenues generated by oil and gas can support responsible spending on infrastructure, health, education, and other high-impact sectors, as well as savings for future generations, leading to increased employment and more diverse economic growth.

ENR works with the Extractive Industries Transparency Initiative to support transparency and accountable management of revenues from natural resources. Through EITI, representatives of governments, civil society, and industry work together to produce reports that disclose information about a country's natural resource revenues, allowing the citizens to see how much their natural resources are worth. Currently, eighteen countries in Africa are EITI compliant, and four are EITI candidate countries. Under the auspices of the G7's U.S.-Guinea partnership aimed at strengthening transparency and good governance in Guinea's extractive industries sector, ENR engagement helped Guinea to achieve EITI compliance in July 2014.

More broadly, at the U.S.-Africa Leaders Summit in August, President Obama and African leaders discussed the need for transparency and good governance as essential to development and economic growth. They established a U.S.-Africa Partnership on Illicit Finance, which will create a high-level working group to develop a plan of action to curb corruption, particularly in the extractives sector, and promote transparency in the U.S. and African legal and financial systems.

These are only first steps. We work with foreign governments to identify other areas to improve transparency and management of the oil and gas sectors. We have a regional energy counselor based in Pretoria, who travels all throughout Africa, allowing ENR more physical presence on the continent. Through our embassies, regular interaction with foreign and energy ministries has led to progress on publishing oil and gas contracts. Encouraging governments to establish extractives contract templates and working with international donors to provide governments with negotiation assistance empowers countries to negotiate with oil and gas companies to produce contracts that benefit all stakeholders.

Good governance also includes grappling with questions about balancing potential revenue from exporting oil and gas with ensuring that the resources are used efficiently to help provide electricity to meet both current and future electricity demand. For example, through careful crafting of legislation and through negotiations with oil companies, the Government of Uganda is providing support for an export pipeline while also requiring that International Oil Companies (IOCs) build an oil refinery and power plant in-country, which will eventually process 60,000 barrels per day and provide 50 MW of power. The Governments of Tanzania and Mozambique, where large offshore gas finds have the potential to transform the countries' economies, governments will have to develop new models that take into account the need for revenue, rapidly shifting natural gas markets, current electricity demand, and projected future electricity demand. Natural gas

will be an essential element of these countries' electricity sectors in the decades to come, but only with careful planning, increased technical knowledge and capacity, and good governance that elevates the well-being of citizens over the financial and political gains of a select few.

Conclusion:

ENR's diplomacy spans the globe and extends from addressing oil and gas related-issues to advancing renewables, energy efficiency and access. This is an incredibly exciting time in Africa, where all of the issues that our bureau deals with are at play. Sub-Saharan Africa stands at a crossroads: expansive renewable resources and emerging oil and gas sectors will either be an integral part of literally bringing light to the continent and lifting it out of poverty, or will be a catalyst for descent into instability and corruption. ENR, the interagency, and Congress have a historic opportunity to engage across the energy spectrum to address the many challenges that lie ahead in ensuring a positive outcome.

The role of the State Department's Bureau of Energy Resources on these key energy security and transformation issues is an integral part of our overall diplomacy. We have learned that in an interconnected world, we advance our own energy security and prosperity when our friends and allies advance with us. With the wise stewardship of resources, and by fostering private innovation and investment to expand energy access, we can ensure that the world's energy resources become a sustained driver of growth and stability, and not conflict. I look forward to your questions.