



U.S. Policy and Tradeoffs in Promoting International Access to Energy

Testimony before the House Energy and Commerce Committee
Subcommittee on Energy and Power
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Thank you, Chairman Whitfield, Ranking Member Rush, and other members of the Subcommittee. I appreciate that the Subcommittee is holding a hearing on energy access, which is now a leading development issue and increasingly relevant to American business and foreign policy interests in the fast-growing emerging markets.

As a development policy scholar and former State Department official, I will focus my testimony on the international dimensions of energy access and what the United States can do to expand it. I am testifying in a personal capacity, but my organization, the Center for Global Development, is an independent, non-partisan, non-profit, research organization dedicated to reducing poverty and promoting economic opportunity around the world.¹

I have three points to make: (1) energy gaps are huge and harmful; (2) the United States can and should be a leader in expanding energy access abroad; and (3) to succeed, we have to make clear and consistent policy choices, and be honest about how those choices affect the world's poor.

First, the lack of access to electricity is immense, striking, and extremely harmful. Today, at least a billion people live without electricity. The ability to turn on a light, heat our homes, use a computer, or keep food and medicine cold is something that we in the United States do not view as a luxury but rather as a simple convenience of modern life. When the power goes out, the American public panics—and often complains to their congressional representatives. But for many people around the world, this lack of power is an everyday reality.

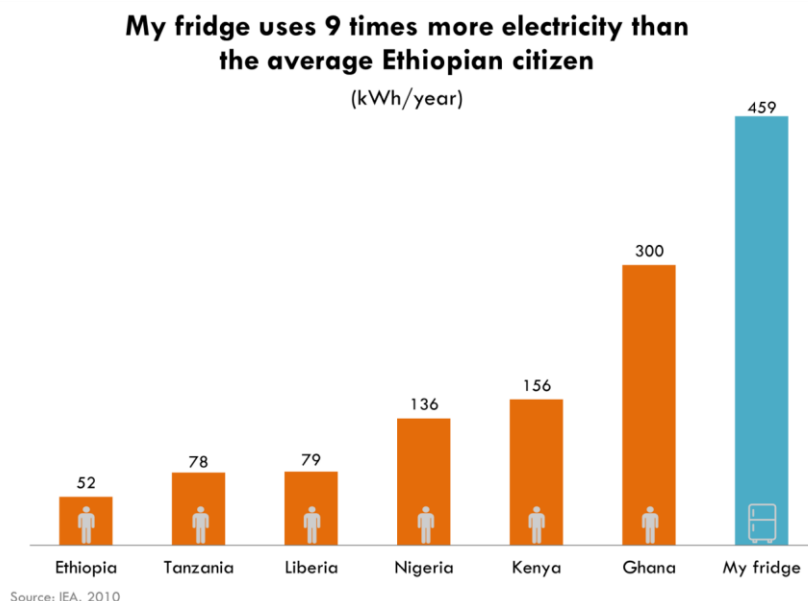
In Africa, where the power shortages are the most severe, the majority of people, some 600 million, live with no electricity at all.

According to the International Energy Agency, the average American uses more than 100 times as much energy as the average Nigerian. The average person in Tanzania and Liberia uses less than 80 kWh per year, versus more than 12,000 kWh for an American. I was recently reminded of what 80 kWh really means when I was shopping for appliances and saw the yellow Energy

¹ www.cgdev.org

Star tags. My new refrigerator uses 459 kWh per year – or more than five times as much as the average Tanzanian or Liberian (Figure 1).

FIGURE 1



The harm to people of living without electricity is very real. A major study on global disease burden in the *Lancet* estimates that indoor air pollution from biomass contributes to 3.5 million premature deaths per year.² In other words, cooking with wood or charcoal is killing more people worldwide than AIDS and malaria combined. Furthermore, some 60 percent of refrigerators used in health clinics in Africa have unreliable electricity, compromising the effectiveness of vaccines and pharmaceuticals used to fight these and other diseases.³

Living without power also affects education and jobs. Students cannot study at night without lights. And surveys conducted by the World Bank have consistently pointed to the lack of reliable electricity as a top constraint to business growth.⁴ In fact, in Nigeria, 97 percent of large firms surveyed have their own generators.⁵ This is grossly inefficient, costly, polluting, and undermines competitiveness. With a growing population of unemployed youth in Nigeria and all other African countries, helping to build job-creating industries is in both our economic and security interests.

² Lim S.S et al., 2012, A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010, *Lancet*, 380: 2224-60.

³ GAVI Alliance, 2012, *National Ownership of Innovative Supply Chain Technologies*. Partners Forum 2012.. <http://www.gavialliance.org/library/pf2012-sessions/11-%E2%80%93-national-ownership-of-innovative-supply-chain-technologies/>.

⁴ Ramachandran V., Gelb, A., and Shah, M. K. 2009, *Africa's Private Sector: What's Wrong with the Business Environment and What to Do About It*, Center for Global Development, Washington DC.

⁵ See enterprisesurveys.org.

Second, the U.S. Government has a clear role to play in closing the energy gap. For the reasons outlined above, nearly all African governments have prioritized investing in and expanding access to electricity. Many are putting ambitious action plans on the table. In response to this demand, the Europeans, the Chinese, and other nations have increased their commitment to expanded energy access. Indeed, the United Nations has set a goal to provide universal access to energy services by 2030.

Now is the time for the United States to play its part too. In our own history, our government has been critical in supporting the expansion of electricity to underserved areas and to ensuring that American industry has sufficient and affordable energy supplies to be competitive. We can make a modest but important contribution to this effort globally in a way that benefits Africans and American businesses.

In June 2013, President Obama launched the Power Africa initiative, which mobilizes a range of U.S. government agencies to help support a doubling of energy access on the continent.⁶ Initially focusing on six countries (Kenya, Tanzania, Ethiopia, Nigeria, Ghana, and Liberia), Power Africa is a timely idea and already off to a promising start. If followed through in a practical and realistic manner, the United States can play a constructive role in bringing electricity to millions of people living without it.

However, Power Africa's ultimate success, as both a development and diplomatic effort, will depend on overcoming several obstacles. As long as it exists as a White House initiative and spread across at least a dozen agencies, its long-term success is in doubt. Without a clear champion and home agency, Power Africa could become yet another high-profile presidential effort announced with great fanfare, then allowed to die a quiet death.

Even more troubling, the agency best positioned to lead this effort, the Overseas Private Investment Corporation (OPIC), is hamstrung by outdated policies and legislation. This little-known but high-performing government agency supports the private sector through insurance and project financing. What OPIC needs is not more money, but additional authorities and flexibility to fulfill its mission.⁷

Fortunately, the Electrify Africa Act, introduced last year by House Committee on Foreign Affairs Chairman Ed Royce and Ranking Member Eliot Engel, is being marked-up this week. This bill would promote energy access on the continent in a strategic, transparent way that marshals the U.S. government agencies that operate abroad. Congressional action is important because it will further empower OPIC and other government agencies, while providing a long-term policy foundation that can ensure these efforts outlive the current Administration.

⁶ White House, June 30, 2013, "Fact Sheet: Power Africa." Office of the Press Secretary.
<http://www.whitehouse.gov/the-press-office/2013/06/30/fact-sheet-power-africa>.

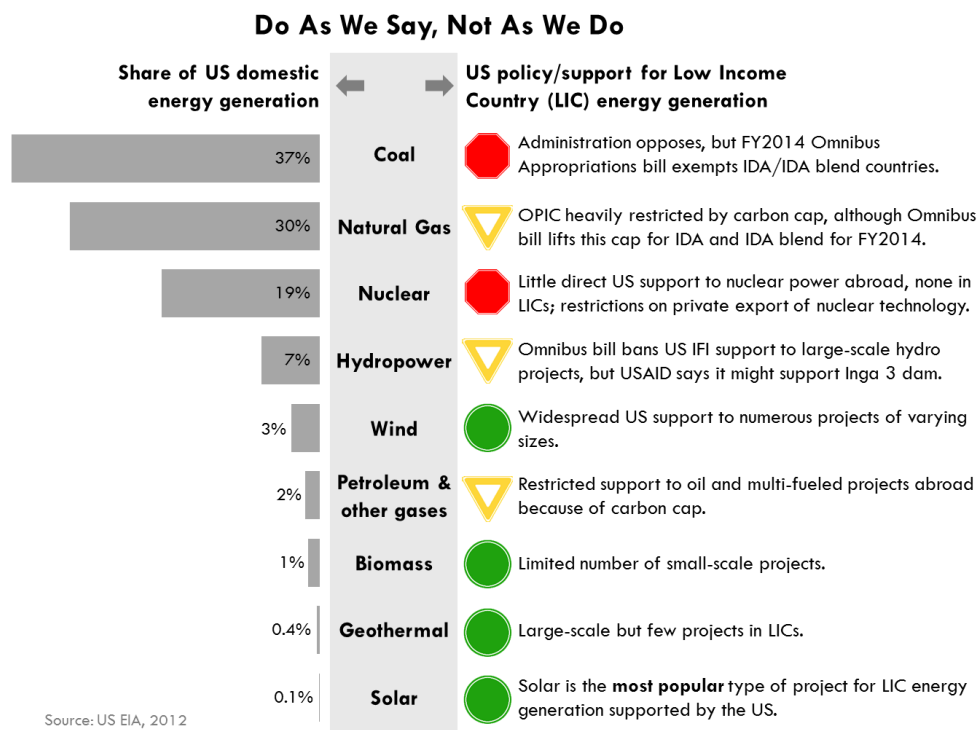
⁷ Benjamin Leo, Beth Schwanke, and Todd Moss, "OPIC Unleashed: Strengthening US Tools to Promote Private-Sector Development Overseas," Center for Global Development, August 2013.
<http://www.cgdev.org/publication/opic-unleashed-strengthening-us-tools-promote-private-sector-development-overseas>

While momentum in Congress is encouraging, it is concerning that other U.S. policies are moving in the opposite direction. Just as the U.S. is seeking to expand energy access, other policies are increasing restrictions on financing for natural gas and hydropower. This comes at the exact moment when many African countries are discovering natural gas and want to use part of their reserves to produce electricity at home. Indeed, all six of the Power Africa focus countries are either producing, developing, or exploring for oil and gas.

Ghana is a good example. The country is a close U.S. ally which recently discovered natural gas and would like to use this resource to expand access and grow its industry. Yet current U.S. policy restricts our ability to assist them in building any new gas plants and many advocacy groups want to prevent Ghana from generating additional power via natural gas out of concern over potential greenhouse gas emissions. As we consider the U.S. position on this, it is worth keeping in mind that we currently have more than 3,400 power plants running on fossil fuels in the United States.⁸ Ghana has two.

The United States is thus sending conflicting signals by taking active steps to prevent other countries from using the very sources that provide 93 percent of our own domestic electric power generation (Figure 2).

FIGURE 2

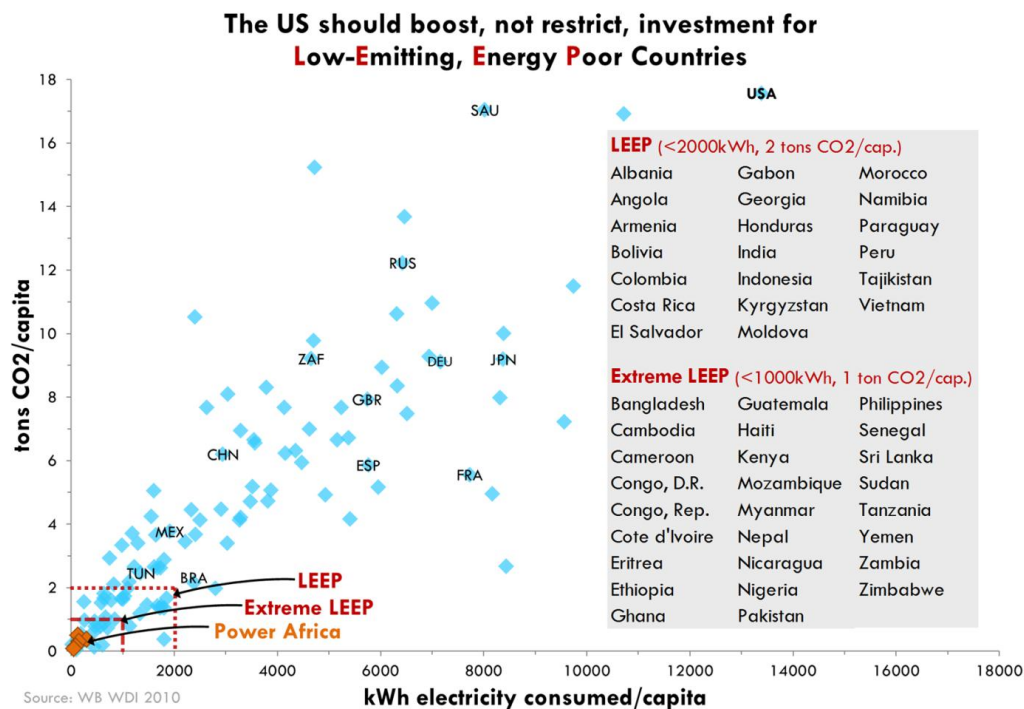


If an all-of-the-above approach is good enough for the United States, how can we in good conscience stand in the way of the world's poorest countries using their own resources to provide

⁸ *Electric Power Annual*, U.S. Energy Information Administration, Table 4.1. Count of Electric Power Industry Power Plants, by Sector, by Predominant Energy Sources within Plant, 2002 through 2012, http://www.eia.gov/electricity/annual/html/epa_04_01.html

electricity for their own people? At the very least, we should make an exception to restrictions for the countries most in need. One option is to exemption countries designated as low-emissions, energy poor (LEEP) from any restrictions on public finance (Figure 3).

FIGURE 3



My third and final point is that we cannot avoid the direct tradeoffs of our energy policy choices. An emphasis on clean or low-carbon energy is a good idea where it is feasible and appropriate. We must encourage the next wave of technology and business models to create new ways of producing and delivering energy. Off-grid renewable power is viable and cost-competitive in some places and deserves our support. But the scale of the energy gaps in the world and the realities of energy poverty also mean that such approaches are far from enough.

Many argue that it makes no sense to build power plants at scale on the mistaken premise that those living without power in other countries primarily reside in isolated villages, far from any grids. This is false. Today, some 200 million Africans without electricity live in cities and towns. More than half of the poor residents of major cities like Nairobi and Dakar do not have power. Connecting these fast-growing urban areas will require more power generation and expansion of the grid. This may not be trendy, but it is still the most efficient way to provide modern energy for concentrated populations.

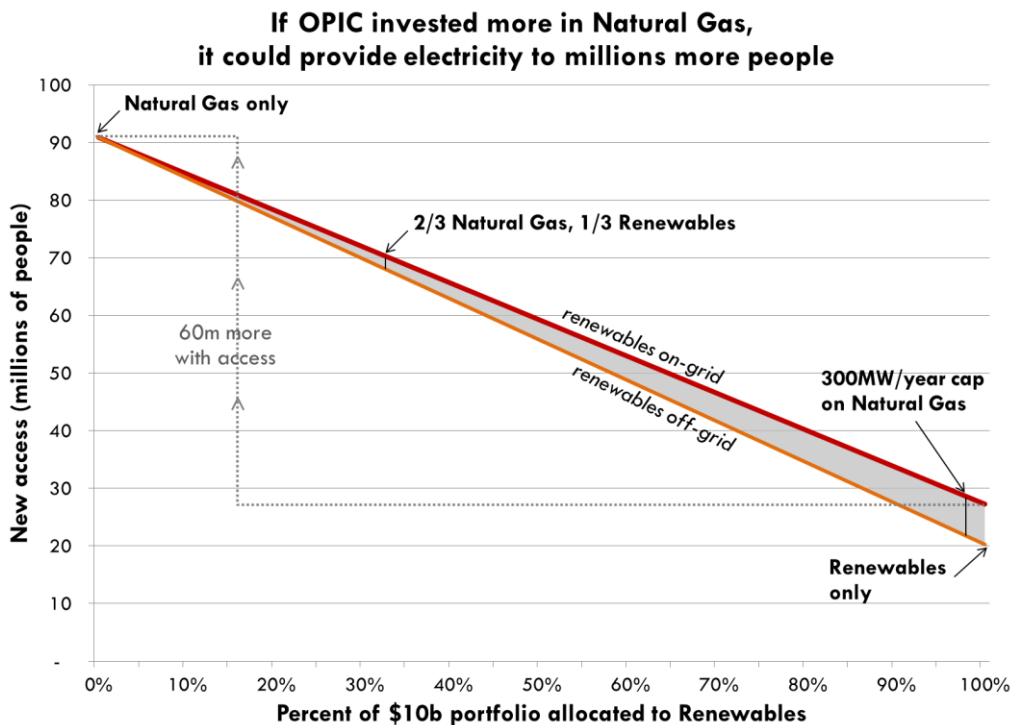
Another widely held misperception is that, like cell phones, new technology will make power plants and grids irrelevant. It is true that solar lamps are one way to provide light and perhaps charge a cell phone. But few consumers would be satisfied with this minimal amount of power.⁹

⁹ Morgan Bazilian and Roger Pielke, Jr., "Making Energy Access Meaningful," *Issues in Science and Technology*, Summer 2013. http://sciencepolicy.colorado.edu/admin/publication_files/2013.22.pdf

And no country would accept solar lamps in lieu of a modern, large-scale energy system required to generate growth and jobs.

A final common mistake is assuming that universal energy access can be achieved entirely through renewable sources. Based on prices and capital markets today, this is incorrect. In the real world of limited resources, there is a direct tradeoff between strictly focusing on renewables and expanding access. For example, my colleague Benjamin Leo and I estimate that allowing OPIC to invest in natural gas power projects could provide access to 60 million more people than the number reached by a renewables-only portfolio (Figure 4 and Appendix 1). This difference is driven by the higher cost of renewables per megawatt of generation and the ability to leverage greater private capital for natural gas projects.¹⁰

FIGURE 4



To conclude, no one would openly argue that we should fight climate change on the back of the world’s poor. But we must be careful not to burden the poorest nations with romantic notions of an energy future that does not yet exist. If the United States is serious about closing the huge gap in energy access, we need to work in partnership with American businesses to extend our experience, capital, and innovation in generating abundant and affordable electricity for all.

Thank you.

¹⁰ Todd Moss and Benjamin Leo, “Maximizing Access to Energy: Estimates of Access and Generation for the Overseas Private Investment Corporation’s Portfolio,” Center for Global Development, January 2014. <http://www.cgdev.org/publication/maximizing-access-energy-estimates-access-and-generation-overseas-private-investment>