



JANUARY 2019

RWANDA

LIFTING THE BURDEN OF ELECTRICITY SUBSIDIES, WHILE EXPANDING ACCESS

THE CHALLENGE: GROWING AFFORDABLE GRID AND OFF GRID ACCESS WHILE SLIMMING SUBSIDIES

Rwanda has achieved impressive development in recent years. GDP has grown at an annual average of 7.5% over the previous decade, and the poverty rate declined from 57% in 2006 to 39% in 2014. In 2018, the World Bank ranked Rwanda as the 29th easiest nation in the world in which to do business, making it the only low-income country in the top 100.

Expansion of access has been very successful in Rwanda, quadrupling from just 9% in 2009 to 42% in March 2018. The government is targeting universal access by 2024 – with 52% of the population to be connected to the grid and 48% to use off-grid solutions.

- Limited domestic energy resources, high cost of supply, and already-high, non-cost reflective tariffs posed a complex reform challenge.
- ESMAP grants have supported World Bank engagement and analysis, which has helped to set out options for decisive government action.
- The government has been able to significantly reduce fiscal transfers to the electricity sector, while doubling new connections per year, halving tariffs for low-income households and making connection charges significantly more affordable.

While the government is committed to continue this progress, the significant fiscal challenges associated with the electricity sector have been an impediment. Even with tariffs that are among the highest in the region, the revenues of the Rwanda Energy Group (the utility) have consistently fallen below costs, requiring government subsidy payments from the budget to fill the gap. These subsidy payments averaged 1.8% of GDP annually from 2015-2018. Without action, this drain on public finances was set to balloon to about 4.5% of GDP by 2020/21, which would put pressure on the government's capacity

to maintain critical investments in health, education and social protection.

Reforming electricity subsidies is a complex challenge in Rwanda, a landlocked country with limited energy resources and a small industrial base. Expensive and historically unreliable electricity services have been detrimental to the growth of businesses and unaffordable for a large section of the population. Any adjustment to tariffs in such a context must be preceded by improving the efficiency of the power sector. It must also go in parallel with safeguarding the competitiveness of the domestic private sector and ensuring affordability of electricity for low income households.

THE RESPONSE: IMPROVED TARIFF STRUCTURE, PLANNING AND COST-EFFICIENCY

The challenge of sustainably financing the expansion of the electricity sector without curtailing other development commitments of the government led to urgent sector reforms. From 2017 onwards, with support from the Energy Sector Management Assistance Program (ESMAP), the World Bank has helped the Government of Rwanda design a comprehensive reform program built around two major objectives. First, the program aims to contain and eventually eliminate budget transfers to the power sector. The second objective, closely linked to the first, is to improve the operational efficiency, affordability and accountability of the electricity service in Rwanda. The World Bank is providing financial support to the government's reform program.

Robust analysis, conducted and supported by the World Bank, has helped the government develop different options to contain, reduce and ultimately eliminate budget transfers to the electricity sector, and understand the potential impacts of each option.

A key area of focus is maximizing cost-efficiency, while expanding both electricity supply and access. Critical measures have included adopting least-cost planning,



enforcing competitive procurement and promoting regional power trade. In achieving its access expansion targets, the government's approach is unprecedented in its high off-grid target as well as in the adoption of cutting edge planning tools to ensure cost-efficiency of electrification. World Bank technical assistance has supported new public-private partnership guidelines to inform competitive procurement, a new mini-grid licensing policy to support off-grid renewables, and the National Electrification Plan to expand access.

Rwanda has also implemented a series of immediate changes in electricity tariffs to enhance cost-recovery. In 2017, the tariff scheme changed from a flat rate of RWF 182 per kWh to a block structure. A "lifeline" tariff for electricity consumption below 15 kWh per month was introduced that halved tariffs for low-income households to RWF 89 per kWh. Vulnerable households have

also benefited from reforms to connection pricing that eliminated the up-front payment of the connection fee and allowed for it to be paid over time. Further tariff reform in August 2018 helped move average tariffs closer to levels that reflect costs, while still protecting the poor. Industrial and commercial tariffs were increased. Almost all household consumption was exempt from tariff increases, helping keep electricity affordable for low-income households.

THE IMPACT: FISCAL BURDEN REDUCED AND ACCESS INCREASED

The reform program is ongoing, so its full impact remains to be seen. However, analysis has already been translated into policy, and institutional reforms and actions are already showing tangible results.

The government has significantly reduced fiscal transfers to the electricity sector—from 2.28% of GDP in FY2014/15 to 1.35% in FY2017/18. This has been achieved through a combination of tariff changes, implementation of the recommendations of the least cost planning exercise, and modernization of utility operations with the objective of improving the quality of electricity services. Tariff changes in 2017 and 2018 were informed by an efficient revenue requirement study and other assessments. They helped make electricity dramatically more affordable for low-income consumers, while keeping the utility's revenue base virtually unchanged.

Furthermore, the new policy on connection charges has helped rapidly increase access of low income households. New connections completed per year doubled to 154,000 in FY2017/18. To put this in perspective, Rwanda now connects a similar number of new households per year as Ethiopia and Tanzania, which have 10 and 5 times Rwanda's population, respectively.

In reforming sectoral policies and institutions, the government has acted upon the recommendations of ongoing studies and analyses supported by the World

Bank's assistance program. Based on Rwanda's revised Least-cost Power Development Plan, the government is aiming to reschedule the opening of new power plants to avoid oversupply. The National Electrification Plan has set out a complete forward-looking access investment framework. To improve its accountability and the ability to raise private sector financing, the utility has modernized its accounting and reporting to comply with International Financial Reporting Standards. Utility management has also taken steps to improve the quality of service and reduce system losses, including institutionalizing procedures related to management of outages and complaints from customers on electricity supply, from occurrence/reception to full service restoration.

The first steps of the reform program have laid a solid foundation for the next phases of electricity sector transformation, as the country proceeds on its journey towards universal access by 2024. The government has



committed to contain budget transfers to the electricity sector below 1.4% of GDP in the medium-term as it continues to improve sector planning as well as efficiency and affordability of electricity services.

CONCLUSION: ANALYSIS + ACTION = RESULTS

Reform was urgently needed in Rwanda to avoid the unsustainable and growing burden of budget transfers bridging the gap between cost and revenues of the electricity sector. The joint response of the World Bank and the Government of Rwanda showed that urgency to address a fiscal imperative did not preclude strong analytical underpinning of the reforms. Multi-sectoral technical assistance from ESMAP provided the necessary tools and analyses to develop possible options for the sector to take a more sustainable path while limiting

the fiscal cost of sector expansion and improving the affordability of electricity services for the most vulnerable groups.

Continued close cooperation between the World Bank and the Government of Rwanda, as well as between the government's ministries and the utility, will be critical in the years to come. A growing and more efficient electricity sector has the potential to make a huge difference to businesses and households in this dynamic, forward-looking country.

ESMAP's \$20 million Energy Subsidy Reform Facility (ESRF) was set up in 2013 to help countries remove fossil fuel subsidies while protecting the poor. ESRF provides technical assistance to governments, develops tools for assessment and decision-making, and facilitates knowledge-exchange for a global community of reformers.

ABOUT ESMAP

The Energy Sector Management Assistance Program (ESMAP) is a global knowledge and technical assistance program administered by the World Bank. It provides analytical and advisory services to low- and middle-income countries to increase their know-how and institutional capacity to achieve environmentally sustainable energy solutions for poverty reduction and economic growth. ESMAP is funded by Australia, Austria, Canada, Denmark, the European Commission, Finland, France, Germany, Iceland, Italy, Japan, Lithuania, Luxembourg, the Netherlands, Norway, the Rockefeller Foundation, Sweden, Switzerland, and the United Kingdom, as well as the World Bank.

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