The Conundrums of Electricity in Developing Countries

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Retail electricity tariffs in parts of the developing world can be abnormally high.

Average Electricity Retail Tariffs Globally (US$ per kilowatt-hour in 2015)

- West Africa
- South Asia
- Latin American & Caribbean
- East Africa
- East Asia & Pacific
- Southern Africa
- Middle East & North Africa

Average Electricity Retail Tariffs by Country (US$ per kilowatt-hour in 2014)

- Solomon Islands
- Germany
- Nepal
- Australia
- Chile
- Haiti
- Japan
- Madagascar
- Burkina Faso
- Senegal
- Senegal
- Mali
- Uganda
- Rwanda
- Benin

Source: Foster and Witte, *Electricity Tariffs in the Developing World*. 

0.78
Such high retail tariffs make electricity unaffordable to many households and depress service uptake.

As a result of affordability issues, it is estimated that only 50-60% of African households connect to the electricity grid even when it is available in their geographical area.
Despite high tariffs many developing country utilities struggle to attain cost recovery.
Power regulators are not able to set cost recovery tariffs in practice unless operators are private.

**FIGURE O.11** Significant divergence exists between regulation on paper and regulation in practice

- **By country**
- **By aspect of regulation**

*Source: World Bank elaboration based on Rethinking Power Sector Reform utility database 2015.*
One reason why utilities struggle to recover costs is due to high levels of inefficiency.

Power transmission and distribution loss rates by income group, 2005-2015; and by top 10 power producers, 2015.

- People's Republic of China: 17.0%
- United States: 15.4%
- India: 9.8%
- Russian Federation: 9.2%
- Japan: 8.9%
- Germany: 8.6%
- Canada: 8.0%
- France: 6.3%
- Brazil: 6.1%
- Korea: 5.5%

Power transmission and distribution loss rate (%) in 2015:
- Low Income: 10-20%
- High Income: 2-10%
- Upper-middle Income: 0-2%
- Lower-middle Income: 8-16%
- World Average: 8.6%

Source: International Energy Agency (IEA)
For instance, informal electricity connections in India overload system and bankrupt utilities.
Underlying inefficiency are weak governance practices in State-Owned Enterprises

Corporate governance practices are linked to improved efficiency and performance in power distribution utilities

- Financial accounts meet international standards
- Financial accounts are publicly disclosed
- Employees can be fired for poor performance
- Board members cannot be removed at will
- Recruitment involves interviewing candidates
- Staff training policy exists

Source: Foster & Rana, *Rethinking Power Sector Reform*, 2019
As a result, power utilities present substantial quasi-fiscal burdens to the state

- Quasi-fiscal deficit covers the economic burden associated with under-performance of utilities
- Quasi-fiscal deficits of 1% of GDP are typical in Africa ranging to 3-6% of GDP in the worst cases
- Under-pricing is the largest problem, with only half of utilities covering operating costs, and only two utilities covering capital costs

Source: Kojima and Trimble, 2019
Power is political: patronage politics lie at the heart of numerous governance challenges

Winning elections by:
- Keeping prices low
- Keeping lights on
- Cutting ribbons

Granting favors to political constituencies in the form of:
- Construction contracts
- Employment
- Access to services
- Diverting maintenance funds