

# ELECTRICITY TARIFF REFORM AND THE IMPACT ON POOR HOUSEHOLDS AND SMES



In the **2017 National Budget**, the government of Zambia announced a plan to introduce 'cost-reflective tariffs' for electricity by the end of 2017. This means removing the subsidies which currently allow ZESCO to charge consumers less than the cost of producing and distributing the electricity. Removal of subsidies has the potential to crowd in investment in the energy sector, creating additional generation capacity and boosting growth.

Despite these benefits, policy questions do remain to ensure any withdrawal of subsidies is done effectively. For example, the Government needs to consider how cost reflective tariffs can be introduced while adequately protecting the poorest Zambians and Small and Medium Sized enterprises (SMEs), as well as how to ensure price increases are sustainable and don't end up being reversed in the future.

The PMRC project has assessed international experiences, predominantly from other African countries and brought this together with analysis of the impact of electricity tariff changes on households, the energy needs of SME's and analysis of the key stakeholder interests to form policy recommendations on how to implement cost reflective energy tariffs sustainably.

## SETTING A FRAMEWORK FOR SUCCESS

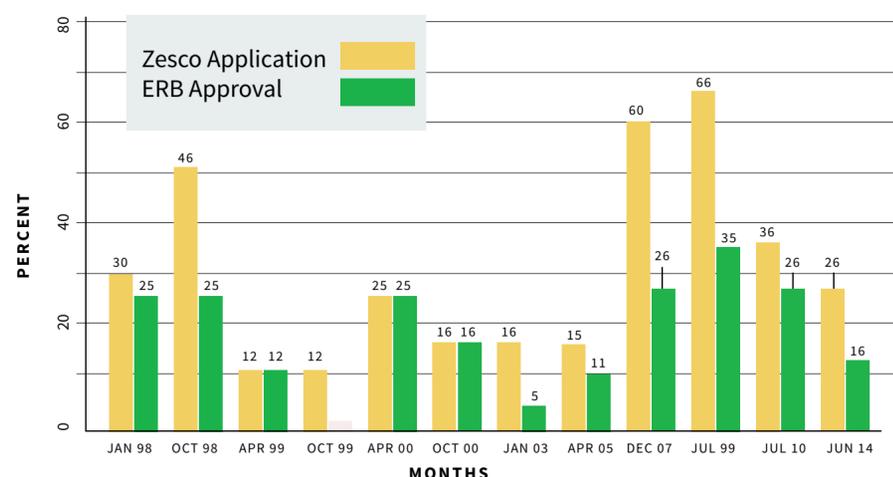
In March PRMC published their interim report for this project that considered international experience of energy price reforms. The report highlights the relatively successful case studies of Kenya and Uganda. While reform has not been complete, there has been some success. But it also looks at examples of where reforms have not been successful. Mexico, where there was a clear policy failure, is explored in detail.

The policy recommendations that flowed from this analysis can be seen as a framework for successful withdrawal of electricity tariff subsidies. In short, successful programmes will:

-  **Make tariff reform part of a comprehensive reform plan, that includes a clear commitment to improve generation.**
-  **Ensure a clear communications strategy, with transparent access to information.**
-  **Phase in energy price increases.**
-  **Combine tariff reform with improvements in the efficiency of State Owned Enterprises (SOEs).**
-  **Target mitigating measures to protect the poor from price increases.**
-  **Depoliticise energy pricing, by granting price setting powers to an independent board.**

Learning lessons from other countries will be key to delivering successful reforms. Out of all applications for tariff adjustments made by ZESCO to the ERB between 1998 and 2014, only 25% of the applications were granted full price increments. A comprehensive strategy addressing each of the points in ZESCO's proposed increases is important if increases are to be accepted this time round.

Average Tariff Adjustment 1998 -2014



## THE CASE FOR REFORM – SUPPORTING IMPROVED PRODUCTIVITY

Building on the household impact analysis PMRC considered the energy usage habits of SMEs, the challenges uncertain supply posed and the likely reaction of SMEs to any electricity tariff increases. SME's in **sub-Saharan Africa face the largest cost** (as a percentage of income per capita) to gain access to mains electricity - **a staggering 4,737% compared to 80% in High Income countries** according to the World Bank (2014).

36% of SME's across sub-Saharan Africa have access to electricity while 49.3% of firms in sub-Saharan Africa identified electricity as a major constraint to business compared to 26% in High Income countries.

PMRC's SME survey confirmed that access to reliable power remains an issue for SME's in Zambia. 70% of SME's experienced fluctuations in power daily while 20% experienced fluctuations once a week -SME's overwhelmingly reported that this led to losses either due to low productivity or damage to stock or sales. 40% of SME's survey had access to a generator and all SME's indicated the cost of using alternative supplies of power was expensive. 80% of SME's surveyed indicated they would be likely to pass on the cost of any increases to consumers.



## THE CASE FOR REFORM - WHY SUBSIDIES ARE INEFFECTIVE

This report completes PMRC project by examining the case for moving to cost reflective tariffs.

The results of this analysis clearly show that electricity subsidies are highly regressive and are not an efficient use of scarce Government resources. In Zambia, PMRC's modelling shows that the **richest 20% of households receive about 70%** of the electricity subsidies while the **poorest 20% of households receive less than 1%** of the electricity subsidies.

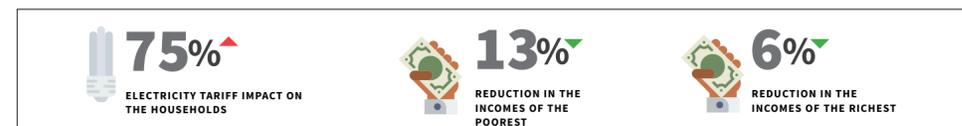


The reason for this skewed distribution of benefits is down to the design of ZESCO tariff bands – all households receive the first 300kWh of usage at subsidised rates, and whilst the poorest households do benefit from this they typically consume far less than 300kWh, whilst wealthier households consume far more – benefiting disproportionately from the subsidies. This is clearly an inefficient use of Government resource – more support is going to those households who need the least support.

ZESCO's proposed tariff increase marginally improves the targeting of lower pricing, but the structure of tariff bands remains regressive. Under ZESCO's proposals the **wealthiest 20% would receive about 64% of the subsidies while the poorest 20% would still receive less than 1% of the subsidies**. This is largely attributable to the low levels of access to electricity by the poor.

The impact of electricity tariff increases will be felt most keenly by the poorest households. To estimate the impact on household spending PMRC modelled the estimated indirect impacts of energy price increases (for example the increased cost of buying food) as well as the direct impact of price increases.

PMRC analysis showed that a **75% electricity tariff increase has the largest impact on the poorest** whose real, or disposable, income is likely to be eroded by **13%**, compared to a **6% reduction in the incomes of the richest**. The direct effect on real incomes for the poorest households is 9%, compared to only about 3% for the richest.



The difference in the patterns of the direct effects is driven by differences in budget shares across the income distribution. Poorer households are likely to spend a larger budget share on electricity compared to richer households who typically have larger incomes and expenditures.

This analysis suggests two things, firstly that there is a strong case for withdrawing energy subsidies since they overwhelmingly benefit the wealthiest households, and that in withdrawing subsidies some effort must be taken to protect the poorest households who don't have sufficient levels of disposable income to manage tariff increases.

The SME survey makes it clear there is a strong case to improve the supply of electricity in Zambia, and this could result in large productivity gains.

### Stakeholders Analysis Delivering Reform

There are multiple stakeholders active in the energy sector in Zambia. It is clear that reforms can only happen if the Zambian Government, ZESCO and the ERB have their interests aligned. It is also clear from international examples that all of these players have a role in ensuring change is sustainable – the Government and ZESCO must set out clear plans for whole system reform, including generation capacity increases, whilst the ERB must represent consumers and ensure any price increases are implemented fairly. Our analysis concludes all three of these key players need to act together to set out phased plans for reform, including using Independent Power Producers to increase supply in the short term.

## TARIFF STRUCTURE

CUSTOMER CATEGORY		OLD TARIFFS	NEW TARIFF 15 <sup>th</sup> May 2017	NEW TARIFF 1 <sup>st</sup> Sept 2017
<b>1. METERED RESIDENTIAL TARIFFS (Prepaid) (Capacity 15kVA)</b>				
R1-Consumption up-to 200kWh in a month	Energy Charge/kWh	0.15	0.15	0.15
R2-Consumption above 200kWh in a month	Energy Charge/kWh	0.51	0.77	0.89
	Fixed Monthly Charge	18.23	18.23	18.23
<b>2. COMMERCIAL TARIFFS (Capacity 15kVA)</b>				
Commercial	Energy Charge/kWh	0.31	0.47	0.54
	Fixed Monthly Charge	55.09	82.64	96.41
<b>3. SOCIAL SERVICES TARIFFS</b>				
Schools, Hospitals, Orphanages, Churches, water pumping & street lighting	Energy Charge/kWh	0.28	0.42	0.49
	Fixed Monthly Charge	47.91	71.87	83.84

## CONCLUSION AND POLICY RECOMMENDATIONS

There is a clear case for moving to cost reflective tariffs. Current subsidies are inefficient and poorly targeted. They direct Government resources to protecting the wealthiest households.

However, price increases need to be matched by improved energy supply. Neither businesses nor consumers should not, and will not, accept paying a higher price for an unreliable product.

- Do more to target reduced rates on those who need them most. Specifically;**
  - Re-designing the proposed electricity tariff increases (both ZESCO's proposals and the ERB's recommended increase), to replace the universal lifeline tariff policy with a targeted usage and hardship based lifeline tariff policy and re-evaluating the level the lifeline band is set at (setting it lower than 300kWhs)
  - Considering cross-subsidisation of household electricity consumption, i.e. asking the wealthiest households to pay more than cost of production to support lower rates for the poorest households.
  - Encouraging ZESCO to partner with other parts of Government to target lifeline rates and support effectively.
  - Removing the "fixed monthly charge" tariff, considering the fact that the fixed charge disproportionately raises the effective tariff rates for the marginal electricity users.
- Provide some certainty to business to enable them to plan for, and manage price increases. Including:**
  - Providing a clear 3-year plan for phasing in any price increases for SMEs.
  - Guaranteeing price increases will result in increased security of supply.
  - Considering subsidies for alternative supply as a temporary mitigation measure.
- Create the conditions for successful reforms, by:**
  - Setting clear remit for the ERB to consider the importance of energy supply in their deliberations on electricity pricing.
  - Providing a road map for Government investment in new energy generation capacity.
  - Providing an open and transparent case for change, with a clear offer to consumers.