

69TH AMEU CONVENTION

1 – 4 October 2023

CSIR International Convention Centre

Confronting South Africa's Electricity Crisis in the context of a 'Balanced Just Energy Transition' (BJET) and the need for a reliable and resilient national electricity grid

The double-edged sword of CPU'S energy transition: impacts on municipal revenue and cross-subsidization

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Objectives

With the commercial power users sourcing more of their electricity from alternative renewable sources of electricity, the study investigates:

- ✓ The potential challenge to the municipal financial sustainability.
- ✓ The effectiveness of existing intra-municipal cross subsidies and government subsidies.
- ✓ Finally, recommends who will be responsible to carry the cost of electricity provision.

Introduction

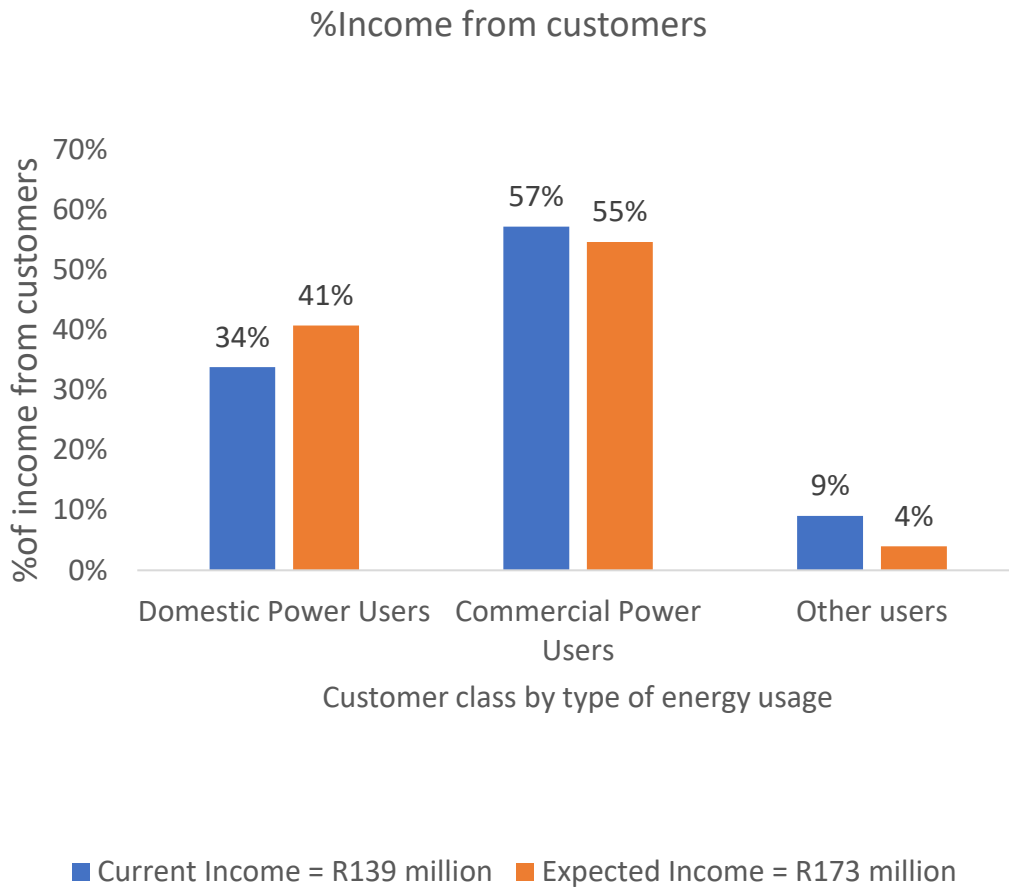
Domestic Power Users (DPUs)	Commercial Power Users (CPUs)	Other Users
<ul style="list-style-type: none">• Consume power for domestic purposes.	<ul style="list-style-type: none">• Consume power for commercial purposes.	<ul style="list-style-type: none">• Municipalities do not consistently recover revenue from them.
<ul style="list-style-type: none">• i.e., Domestic (prepaid and conventional)	<ul style="list-style-type: none">• i.e., Agriculture, mining, industrial, commercial (prepaid and conventional)	<ul style="list-style-type: none">• i.e., Transport, other users, redistributors, electricity department, street lighting and sold other municipal departments.



Methodology

Investigation:	Cost of supply (COS) studies:	COS tool used:
<ul style="list-style-type: none">Impact of CPUs' energy transition on municipal revenue and cross-subsidization.	<ul style="list-style-type: none">2 Metropolitan (A), 9 Secondary cities (B1), 4 Large towns (B2), 17 Small towns (B3) & 2 Rural municipalities (B4). <p>→ 34 COS studies in total conducted for 2020/21 financial year.</p>	<ul style="list-style-type: none">NERSA endorsed simplified COS tool that follows the cost-plus methodology as per NERSA framework.

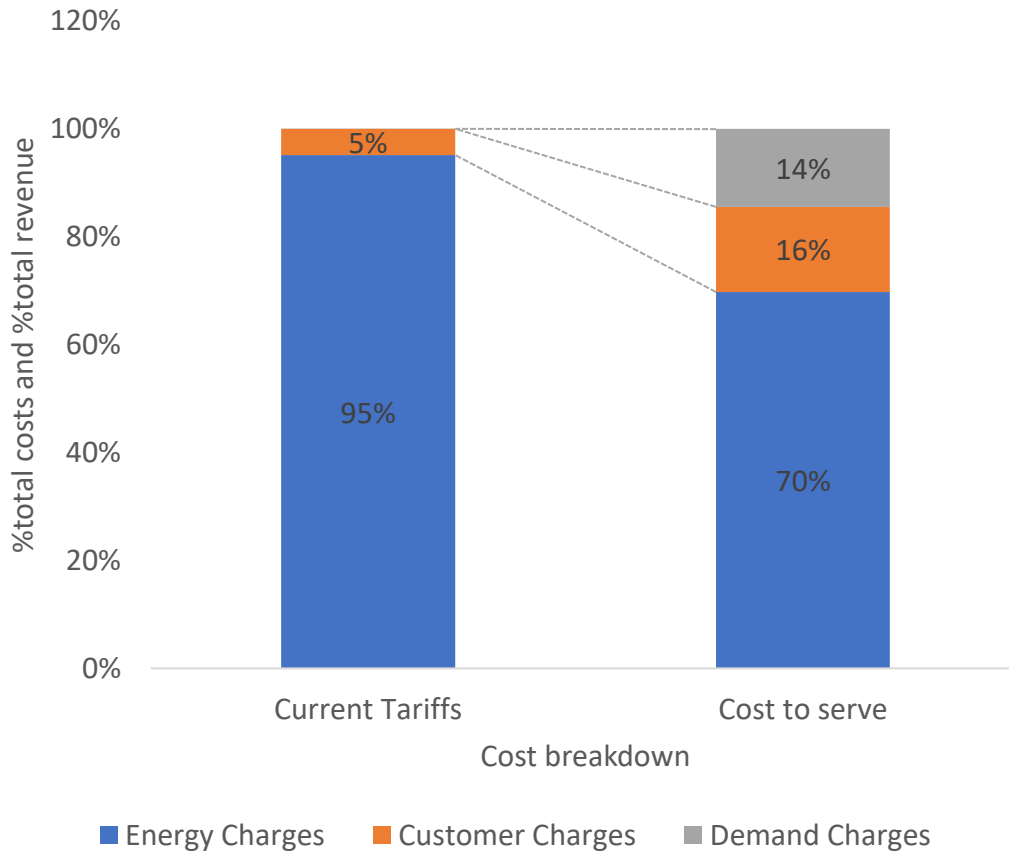
Revenue breakdown from customers



- CPUs contribute the most to municipal revenue from current tariffs and cost-reflective tariffs.
- Shifting to cost-reflective tariffs means that CPUs will pay a bit less and DPUs will pay a bit more.
- This shows that there is already a cross-subsidization that is taking place.
- However this shift is not feasible because the low-income domestic customers cannot afford this.

Impact on Municipal Revenue

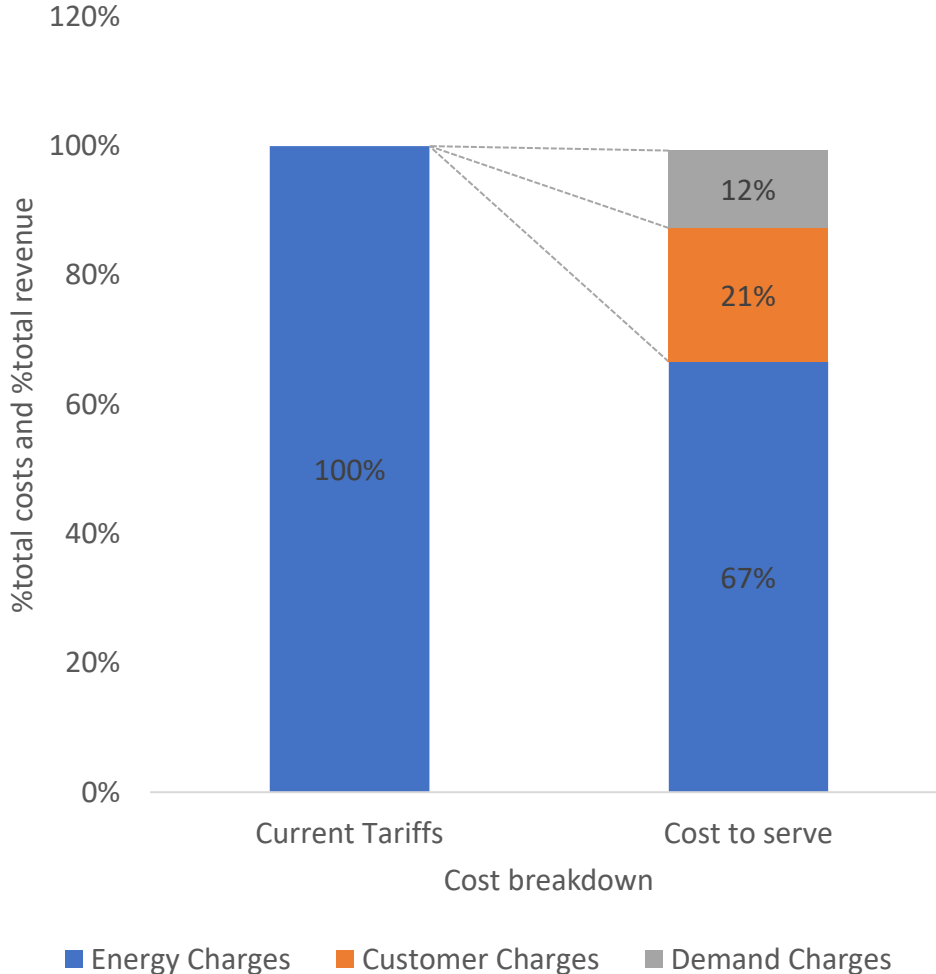
Current tariffs vs Cost to serve for CPUs



- The current tariff structure for CPUs allows the municipality to recover 95% of their costs from energy charges and only 5% from their customer charges.
- Their cost to serve on the other hand is composed of energy, demand and customer charges.
- This is an indication that the current tariffs are not cost reflective and introduces a volumetric risk.
- This risk manifests as CPUs purchasing less electricity from the municipality and the municipality's inability to recover fixed costs that are normally recovered through variable charges.

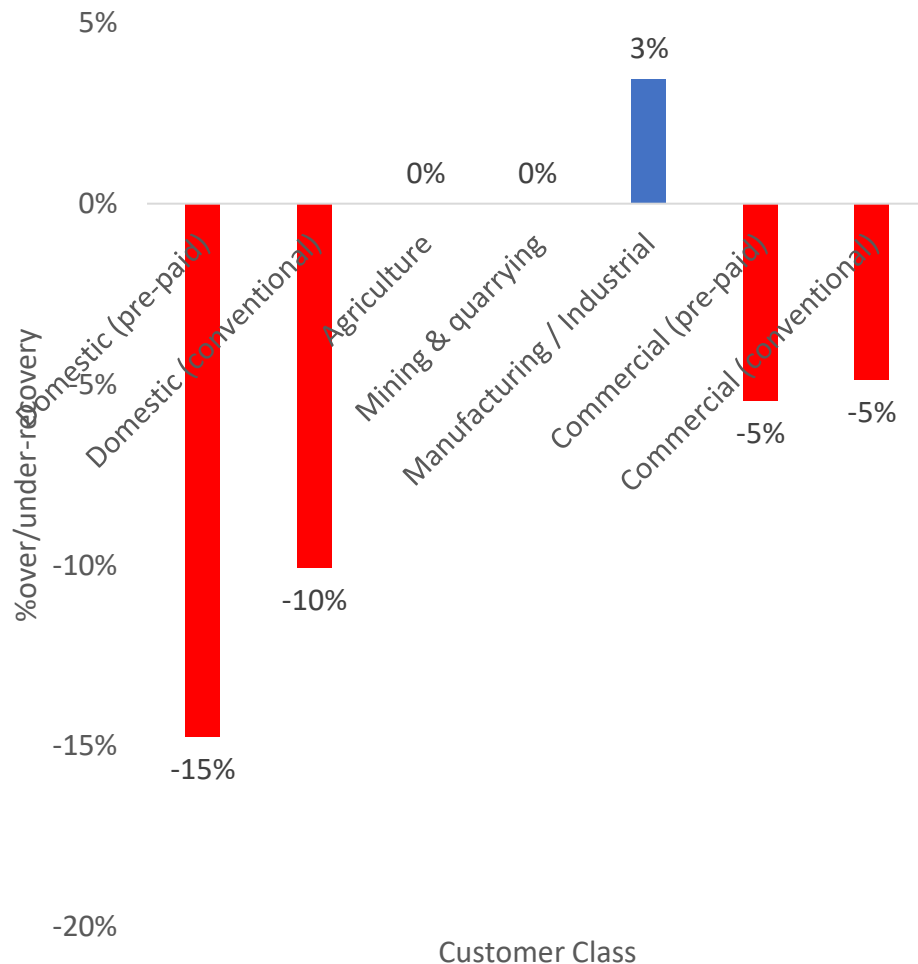
Impact on Cross-Subsidization

Current rates vs cost to serve for DPUs



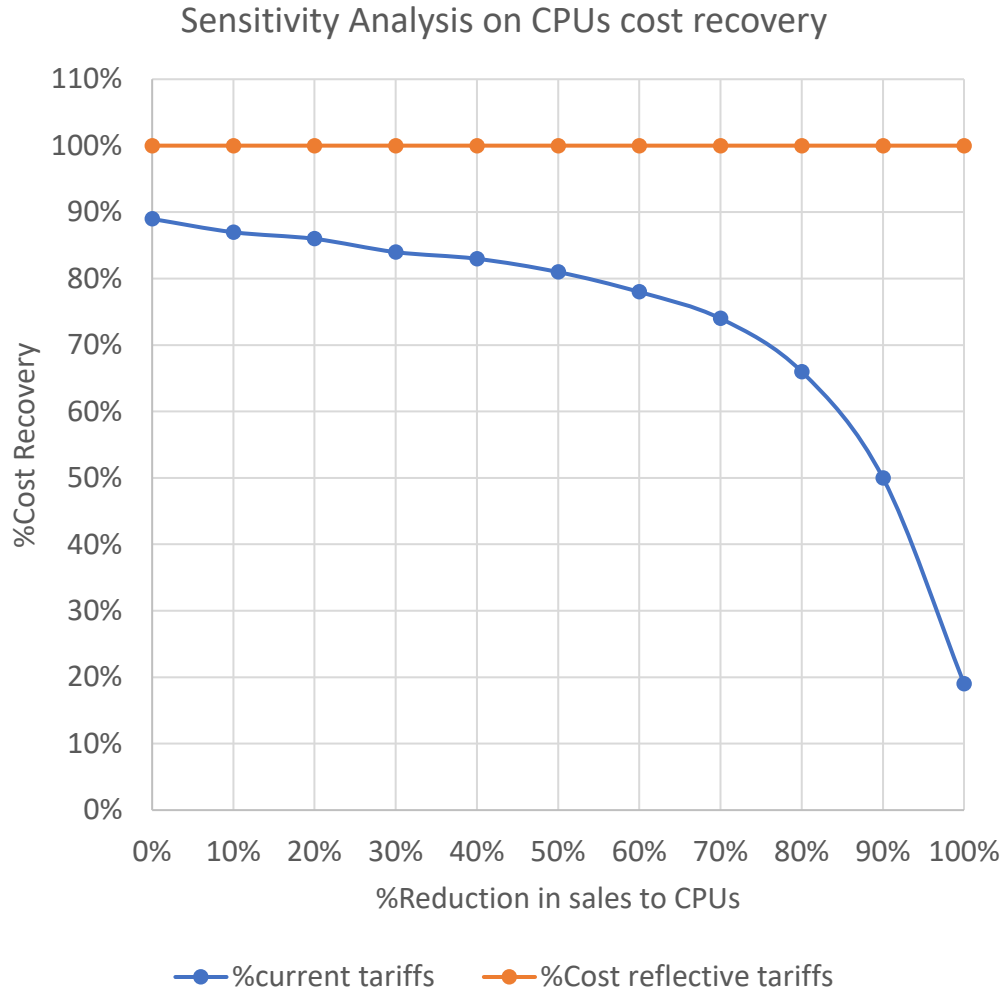
- The municipalities are recovering 100% of their costs from DPUs using energy charges but the cost to serve consists of energy, demand and customer charges.
- This places a burden on CPUs to cross-subsidize DPUs so that the municipalities can recover all their costs.
- If the fixed charges of DPUs is subsidized through CPUs' variable charges, there will be a decrease in cross-subsidy as these CPUs source their electricity from alternative means.

Over and under-recovery of all customer categories



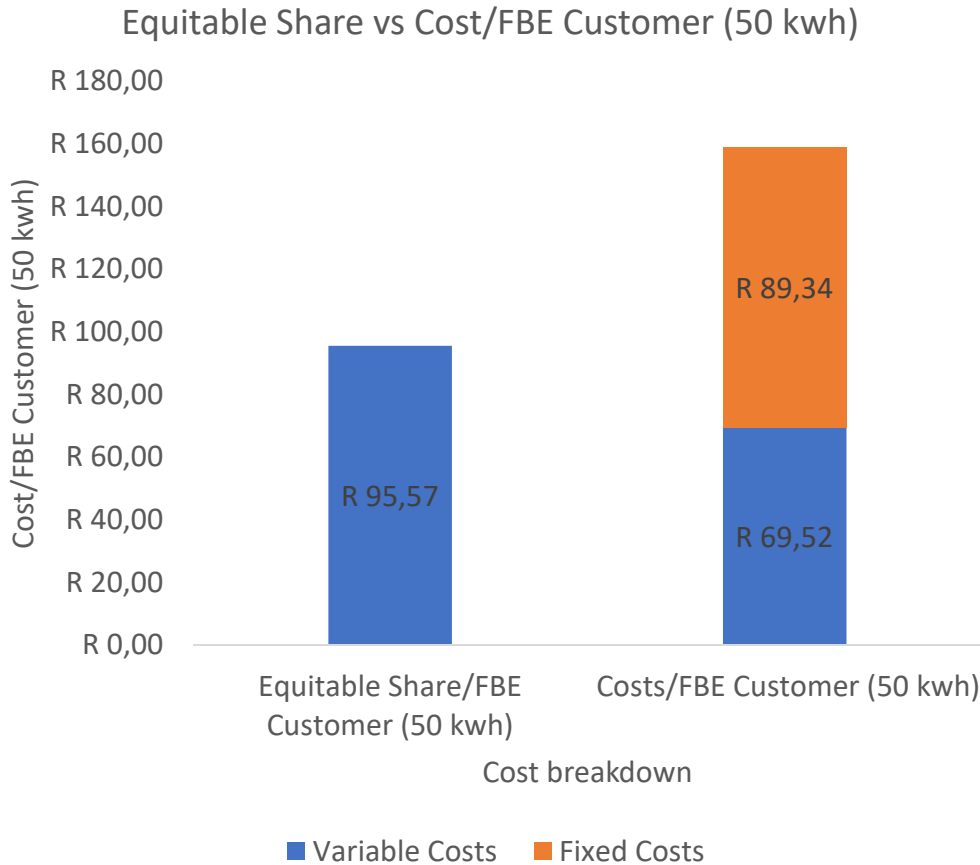
- The over-recovery of aggregated costs of combined municipalities using current tariffs is not enough to cross-subsidize DPUs.
- This is evident when looking at the manufacturing/industrial customer category solely over-recovering at 3% (R4 million) and other customers under-recovering.
- If CPUs purchase electricity from alternative energy sources, it will reduce this over-recovering of costs that is used to offset the under-recovery of costs from DPUs.

Sensitivity Analysis



- When using current tariffs cost recovery of CPUs will massively reduce as CPUs are reducing their consumption from the municipal grid.
- This poses a great threat to the municipal financial sustainability.
- However, with the cost reflective tariffs, the municipalities are able to recover 100% of their costs from CPUs, regardless of how much CPUs are consuming from the grid.

True Cost of Supplying an FBE Customer with free 50 kwh



- The equitable share subsidizes an FBE customer with R95,57 per month which is intended to cover 50 kwh and a portion of maintenance costs.
- The monthly costs to serve an FBE customer are R89,34 fixed costs and R69,52 variable charges for 50 kwh as informed by our COS studies.
- The equitable share covers about 60% of the total costs.
- However, the remaining 40% plus the remaining month's consumption has to be cross-subsidized by CPUs.

Conclusion

- The lack of cost reflective tariffs in municipalities to mitigate the volumetric risk associated with CPUs reducing their consumption from the municipal grid puts the municipality at a great risk of losing their revenue.
- In addition, the reduction in sales to CPUs will reduce the available over-recovery of costs that was previously used to cross-subsidize DPUs.
- It is proposed that the municipalities structure their tariffs for CPUs to recover both fixed and variable charges so that even if CPUs reduce their consumption, the municipalities won't be at any volumetric risk.
- However, the challenge with achieving this is that with cost reflective tariffs, the DPUs will have to contribute a little more while CPUs will contribute a little less, and this is not feasible for low-income DPUs due to affordability issues.
- Given the empirical overview, further discussion with National Treasury on a 'cost reflective' FBE subsidy is required. Municipalities also need to ensure that they are currently utilising the equitable share effectively.

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Thank you!

