

UNLOCKING ZAMBIA'S ENERGY SECTOR:

Net Metering - What Self Generation Electricity Consumers Need to Know





INTRODUCTION

The Minister of Energy published the Electricity (Net Metering) Regulations, 2024 (the “Net Metering Regulations”) on 5 July 2024. The Net Metering Regulations are one of Government’s strategic initiatives to address Zambia’s energy challenges and ensure sustainable development of the sector.

Net metering is a mechanism that allows customers or consumers (residential, commercial and industrial) of electricity from the grid, who also generate renewable electricity for their own consumption, to export any excess electricity into the grid and be credited for the exports. This will enhance the bankability of electricity self-generation projects by Commercial and Industrial consumers. A consumer who participates in net metering is called a prosumer. For purposes of the Net Metering Regulations, a pre-determined tariff approved by the Energy Regulation Board (“ERB”) will be applied to the exports and will be used to offset against the electricity that the prosumer will use from the grid.

ELIGIBILITY TO PARTICIPATE

Dispatchable Renewable Energy Sources

Only consumers who generate electricity using non-dispatchable renewable energy technology can participate in net metering. Solar and wind energy are non-dispatchable renewable technologies, whereas biogas, coal plants, and hydropower dams are dispatchable sources.

Non-dispatchable energy generation sources differ from dispatchable sources in that they are inflexible and cannot be modified to meet rising demand. They are sometimes sporadic due to factors like weather. For example, a solar plant cannot generate electricity after sundown. Dispatchable sources, on the other hand, can increase or decrease output as required.

Self-Consumption

The underlying purpose for which a prosumer should generate electricity is self-consumption, not primarily exporting electricity into the grid. If, however, a prosumer does not use any electricity from the grid for a consecutive period of 90 days, they will be excluded from net metering and will not be compensated for any electricity exports they make. The purpose of net metering is therefore not to eliminate the need for grid power but to merely reduce dependency on it. As such, a consumer’s intended generation capacity should not exceed the amount of electricity that such a consumer needs from the grid.

GENERATION CAPACITY

Participation in net metering is limited by the prosumer’s generation capacity. In order to participate, the overall generation capacity must be less than 5 megawatts. The four generation capacity categories are as follows:



Category	Capacity
micro-embedded	less than 2 kilo-watts.
mini-embedded	between 2 and 10 kilo-watts (in a single-phase system) or up to 30 kilo-watts (in a three-phase system).
Small-scale	more than 10 kilo-watts (in a single-phase system) or up to 1 mega-watt (in a three-phase system).
medium-scale embedded	between 1 mega-watt and 5 mega-watts.

APPLICATION FOR NET METERING

Net metering will be carried out between prosumers and service providers that hold distribution licences issued by ERB, such as ZESCO Limited, ("ZESCO"). The licensed service providers will provide ERB approved application forms. The application forms will contain details on technical and administrative requirements and the application process.

To participate in net metering, a consumer must apply for and enter into a net metering supply agreement and a net metering connection agreement with a service provider that holds a distribution license. Considering that most of the distribution infrastructure country-wide is owned by ZESCO, we presume that ZESCO will take a leading role in the implementation of net metering. Since the form of these agreements has not been included in the Net Metering Regulations, it is not clear whether they will be negotiable or the extent to which they can be negotiated.

The net metering supply agreements will address matters relating to ZESCO's right to inspect the generation facilities and read meters, the estimated quantity of electricity exported to the grid, payment terms and tariffs for electricity exported to the grid, terms for renewal and extension, and damages for breach of contract.

NET METERING PROGRAMMES

For each geographical location, ZESCO will implement a net metering programme with a capacity size of 10 per cent of its historical highest peak demand. It is not clear from the Net Metering Regulations how the geographic locations will be classified and determined. However, for purposes of each net metering programme, if the historical highest peak demand is 10 mega-watts for that location, the maximum amount of electricity that prosumers will be able to export into the grid is 1 mega-watt. Consequently, if a net metering programme is full, ZESCO will not be able to accept any additional applications. Despite this restriction, the Net Metering Regulations require ZESCO to still consider applications from prospective prosumers whose generation capacity does not exceed 15 kilo-watts (for single phase connections) or 26 kilo-watts (for three-phase connections).

BILLING AND TARIFFS

Billing process

To facilitate the implementation of net metering, ZESCO will provide net metering meters. These meters will be capable of

recording imports and exports of electricity from and to the grid. The cost of these meters will be borne by the prosumers. ZESCO will retain the right to access the meters on any working day during working hours for purposes of repair, replacement, reading, and verification.

The billing cycle under net metering will be the same as the regular billing cycle between ZESCO and its customers, except that for net metering, the billing process will factor in the monetary value of electricity imports and exports to the grid.

When a prosumer exports to the grid, the metre is credited with units at the prosumer's predetermined tariff.

Emphasis should be made that ZESCO will not be making cash payments for electricity exports into the grid but will instead credit the prosumer's meter with the value of the exported electricity based on the applicable tariff. Prosumers will have the option to offset any imbalances against current or future invoices for imports from the grid. The opportunity for prosumers, therefore, is that, in addition to their reduced dependency on grid power, they will reduce their electricity costs by "selling" their excess to ZESCO and receive credits which will be used to offset against the cost of electricity supplied to them by ZESCO from the grid.

Tariffs

The Net Metering Regulations prescribe three (3) tariffs (the "Reference Tariff") that prosumers will charge ZESCO for exports to the grid, namely tariff 1, tariff 2 and tariff 3. The Reference Tariff will be reviewed annually by ERB.

i. Tariff 1

If a prosumer exports up to 50 per cent of the generated capacity in a particular year, the applicable tariff for exports will be 100 per cent of the Reference Tariff in the following year. This means that a prosumer earns more if they do not export more than half of their generated capacity.

ii. Tariff 2

If a prosumer exports more than 50 per cent but less than 75 per cent of what they generate, the applicable tariff for the following year will be 75 per cent of the Reference Tariff.

iii. Tariff 3

Where a prosumer's annual exports of electricity to the grid are more than 75 per cent of what they generated, the applicable tariff in the following year will only be 50 per cent of the Reference Tariff. This means that prosumers who use less of what they generate receive less compensation for exports to the grid.

In the first year of participation in net metering, Tariff 1 (ie 100 per cent of the Reference Tariff) will apply.

The Net Metering Guidelines also set out dispute resolution mechanisms for any disputes that may arise between the parties. They also prescribe various obligations for prosumers participating in net metering and the consequences for violating the Net Metering Regulations.

Read more about self-generation as an alternative to reliable power supply [here](#).

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ABOUT US

Moira Mukuka Legal Practitioners provides support to clients in the development and financing of energy projects and the analysis and allocation of risk. We operate at the leading edge of legal trends which shape the energy industry. For example we were legal advisors on the establishment of the first green bond programme in Zambia to finance the development of renewable energy projects.

Our clients include private sector developers, financiers, contractors, users and service providers. While acting for one participant, we can therefore understand the perspective of the others.

This publication does not necessarily deal with every important issue or cover every aspect of the topics with which it deals. It is for general information and is not designed or intended to provide legal or other advice.

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