



# ENERGY REGULATION BOARD ZAMBIA

Presentation on the Mini-grid  
Environment in Zambia

To be presented on 29<sup>th</sup> July, 2021

**Zambia's Presentation to the Project Steering  
Committee of the AFUR Mainstreaming Mini-grid  
Tariffs Project**



## Presentation Outline

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Overview of the Mini-Grid sector in Zambia

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Challenges faced by the mini-grids in Zambia

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The image shows a mini-grid facility in Zambia. In the foreground, there is a concrete structure with a metal railing, possibly a water treatment or distribution point. Behind it is a large, long, grey corrugated metal building. To the right, there is a substation with several transformers and power lines. The background is a lush, green forested hillside. The sky is overcast.

# Overview of the Mini-Grid sector in Zambia

# Overview of the Mini-grids in Zambia

This light handed regulations are premised on the primary legislation that is, the Electricity Act.

## Governing regulation

There is a separate **Light Handed regulatory framework** that governs the regulation of the mini-grids. *(to be discussed further in the next slide)*



## Number of key players

Currently, the ERB has licensed five (5) Mini-grids mainly in the Rural areas.

The mini-grid sector is still in its infancy, but has huge prospects for growth owing to the rising numbers of license applications being received by the ERB.



## Country Statistics

- **8%** access rates in the Rural areas and **69%** in the Urban.
- New National Energy Policy (2019) seeks to increase electricity access rates especially in rural areas through the mini-grids initiatives

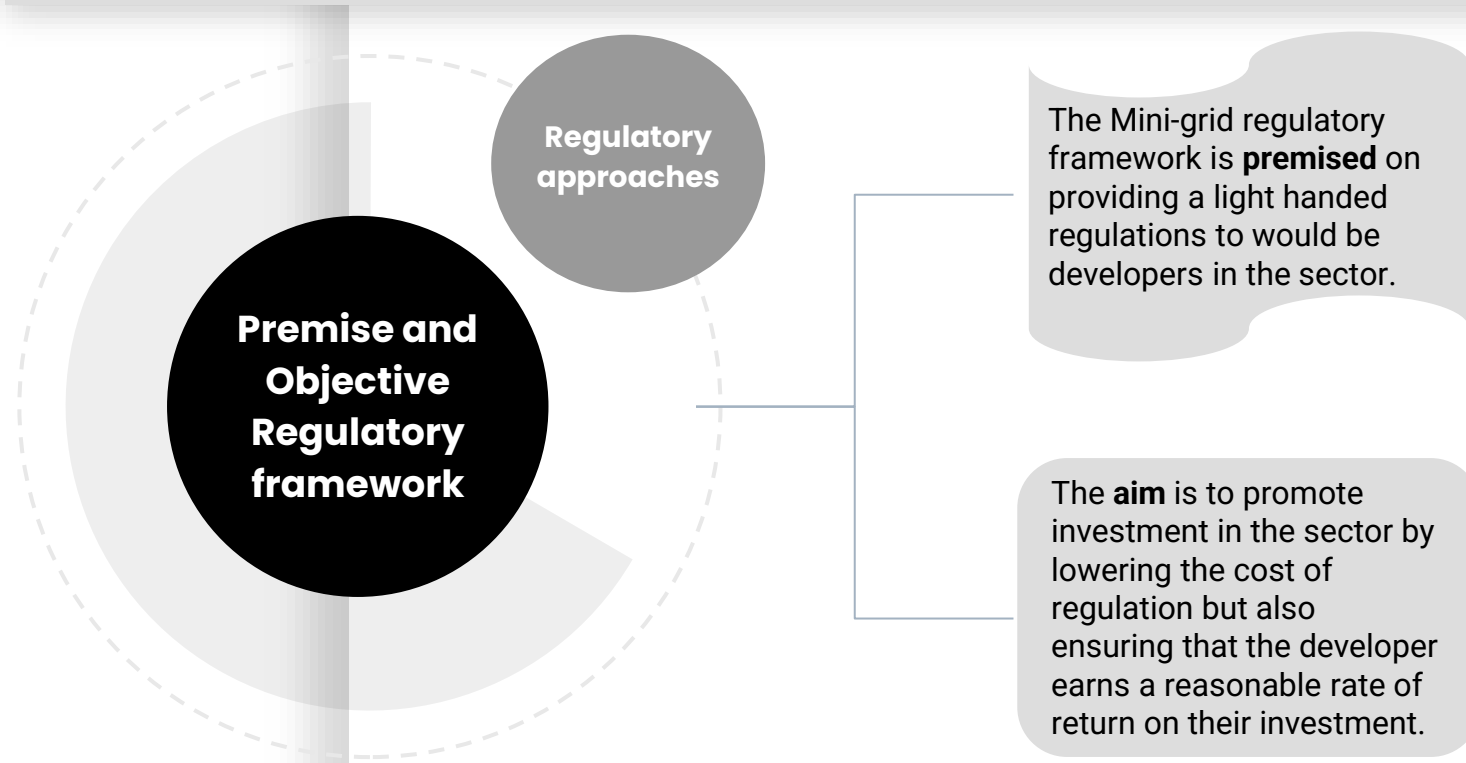






# Mini-Grid regulatory Framework

## The Mini-grid regulatory Framework (slide 1/2)



**Note:** ERB is undergoing a process of aligning the mini-grid framework to the new Energy Regulation and Electricity Acts that were enacted in February 2020

## The Mini-grid regulatory Framework (slide 2/2 )



**Regulatory  
approaches**

**Premise and  
Objective  
Regulatory  
framework**

**The regulatory  
approach differs  
according to the  
size of the Mini-  
Grid.**

**Category I Mini-Grids:** with capacity from 1 - 100 kW - the ERB adopts Very Light Handed Regulations

**Category II Mini-Grids:** with capacity from 101 - 1,000 kW - the ERB adopts Light Handed Regulations

**Category III Mini-Grids:** with capacity above 1,000 kW - the ERB adopts full regulatory approaches as per Electricity Act.





# Tariff rules and tools



## Tariff Rules and Tools (slide 1/4)



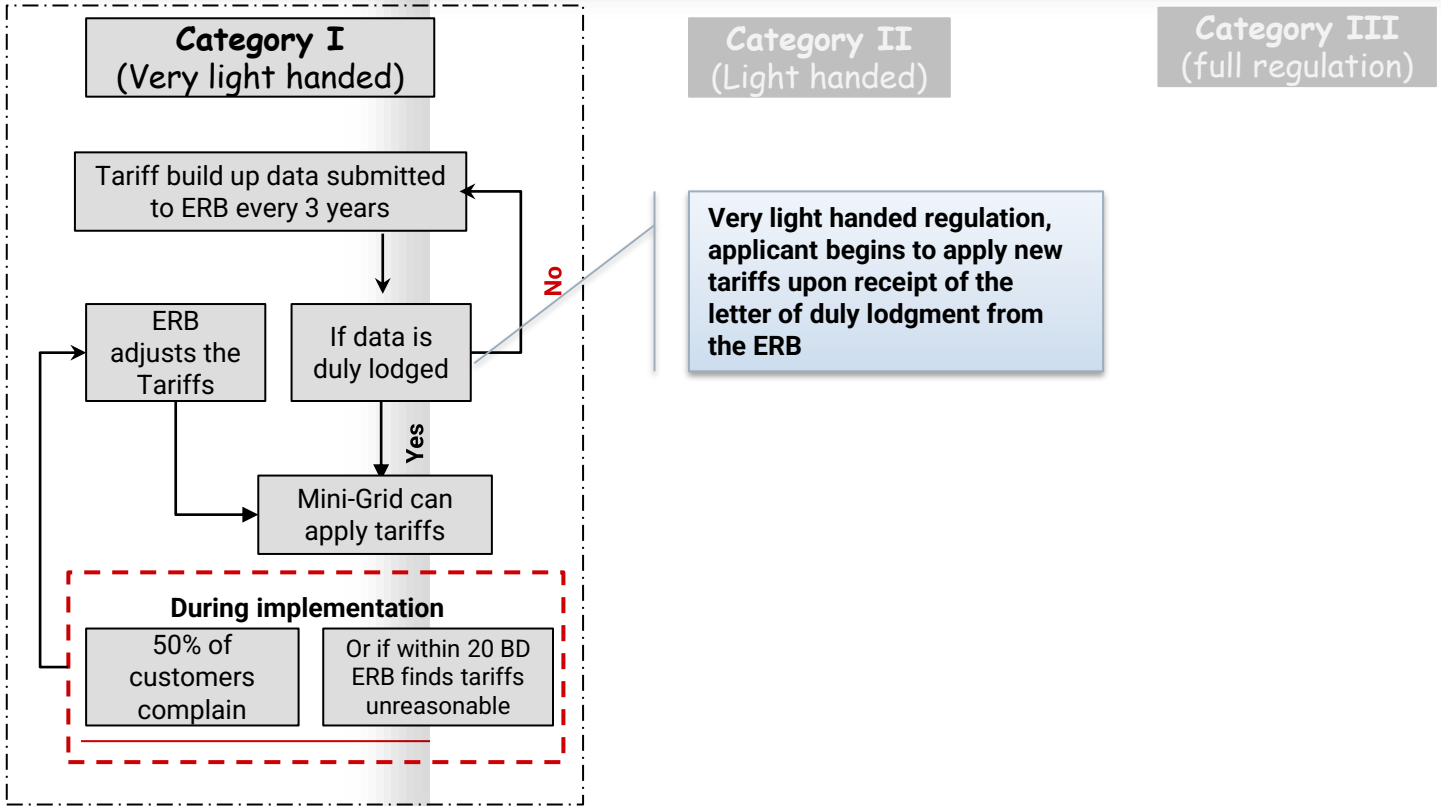
### Overarching principles:

- Mini-Grids tariff build-up are founded on the Revenue requirement principles.
- The tariffs and charges must allow the mini-grids to recover the costs of plant depreciation, prudently incurred operational and maintenance costs and earn a reasonable return equivalent to the Weighted Average Cost of Capital
- The regulatory approach towards tariff determination, differs according to the size of the Mini-Grid

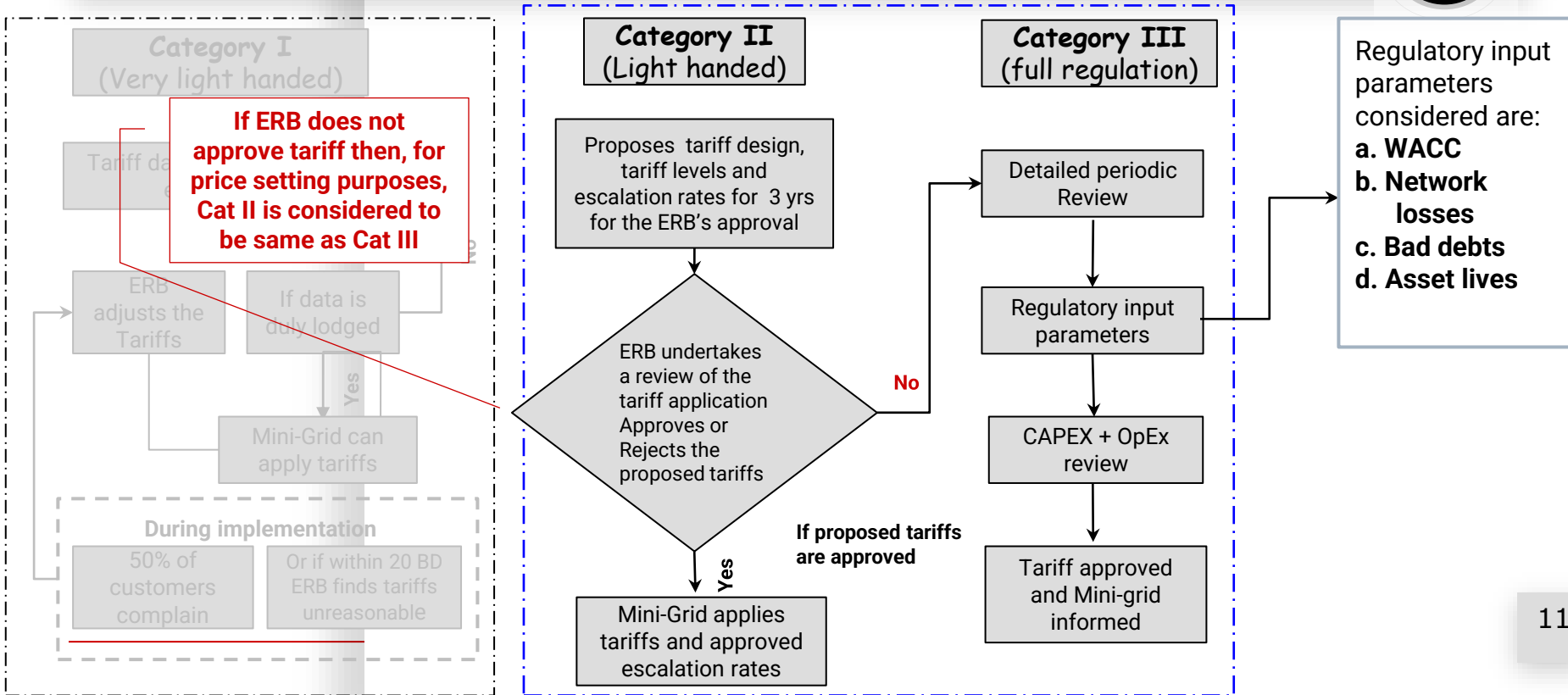




## Tariff Rules and Tools (slide 2/4)



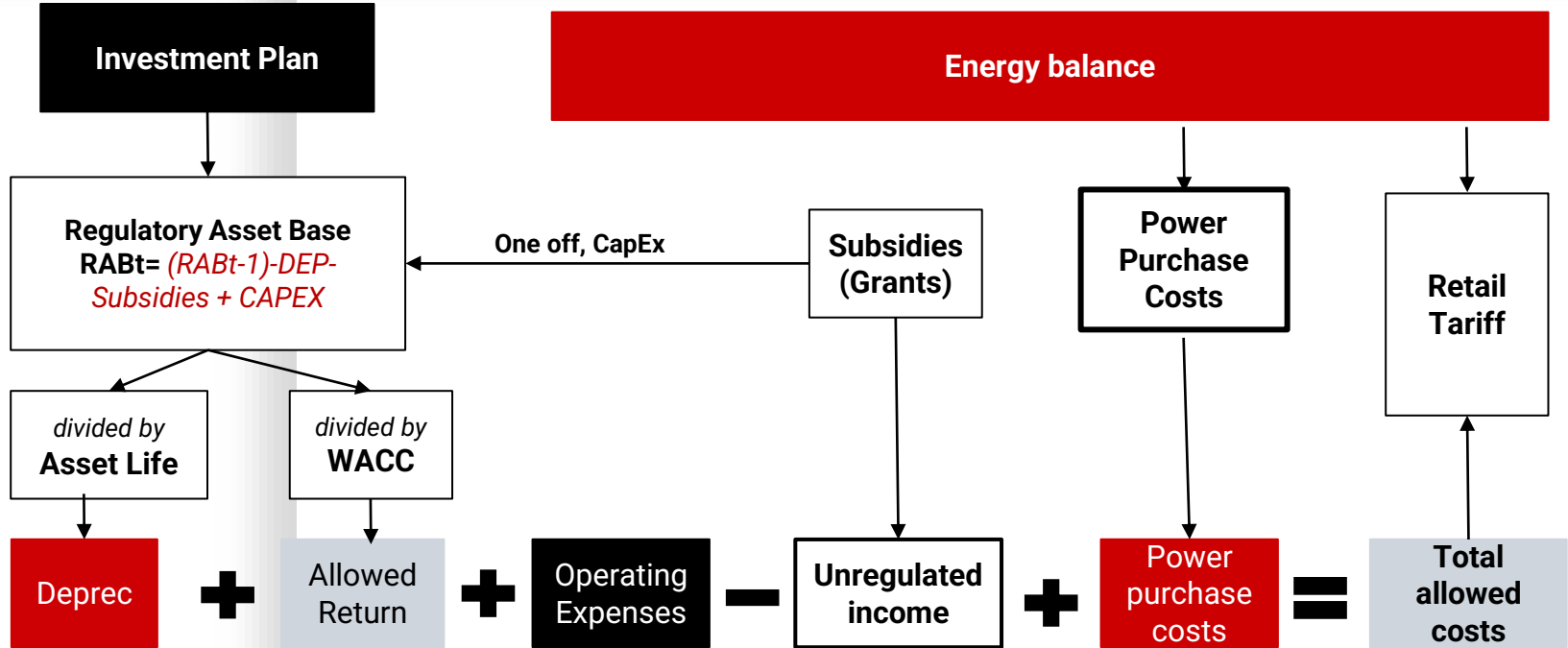
# Tariff Rules and Tools (slide 2/4)



# Tariff Rules and Tools (slide 3/4)



**TARIFF BUILDING BLOCKS**





## Tariff Rules and Tools (slide 4/4)



### Tariff tools:

- The ERB uses an excel based tariff model to assist in the tariff determination for mini-grids.
- For Category I and II Mini-grids the tariff model is used to assess the reasonability of the key tariff build up components
- However, the Category III model calculates the expected tariffs using the data feed.
- Since the development of the tool we have never received a tariff application therefore we have not had the experience of using this tool as yet.





# Challenges faced by the Mini-Grids in Zambia

# Challenges faced by Mini-Grids in Zambia



## General:

- Generally, the industry has complained about the non-cost reflective tariffs in the Electricity sector.
- To address this the ERB is currently undertaking a Cost of Service Study (CoSS) to determine the economic cost of electricity generation, transmission and distribution.

## Specific to Mini-grids:

### Tariff affordability:

- Most of the consumers in rural areas have seasonal income mostly during the post harvest periods.

### Unfavorable financing options:

- Lack of financing mechanisms for small players in the market (Most financial institutions are biased towards big entities and there is less favorable platform for SMEs to invest)





Thank for your  
attention!

**Any questions?**