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Regulatory Experience With Mini Grids

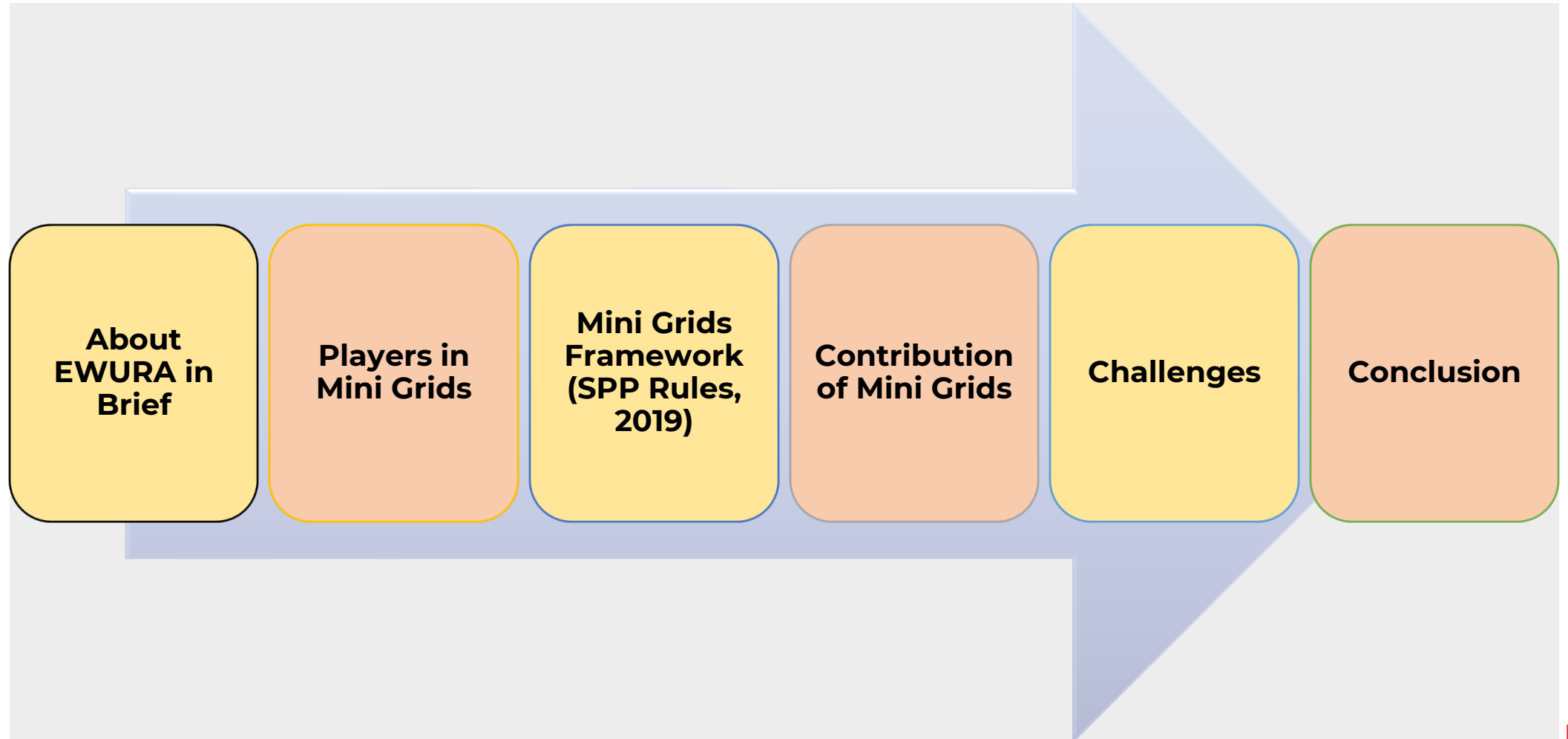
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EWURA

TANZANIA



Outline



1. About EWURA in Brief



- EWURA was established under the Energy and Water Utilities Regulatory Authority Act, Cap 414. Became operational in 2006
- Regulate two sectors, i.e. energy (electricity, petroleum, natural gas), and water sanitation and sewerage) - see s. 7(1) of EWURA Act.
- Undertake both economic, as well as, technical regulation of the regulated sectors.
- Under section 7(1)(b)(v) of the EWURA Act, the Authority is given mandate to make Rules for giving effect of the provisions of the EWURA Act and other sector legislations

2. Players in Mini Grids

• **MINISTRY OF ENERGY – Policies, Strategies, Master Plans, Regulations**

EWURA

Technical and Economic Regulation

- ❖ Licensing & Registration
- ❖ Tariff Setting
- ❖ Quality of Service and Supply

Rural Energy Agency

- ◆ Promotion of Modern Rural Energy Access
- ◆ Financial Resources - Rural Energy Fund
- ◆ Technical Support developers

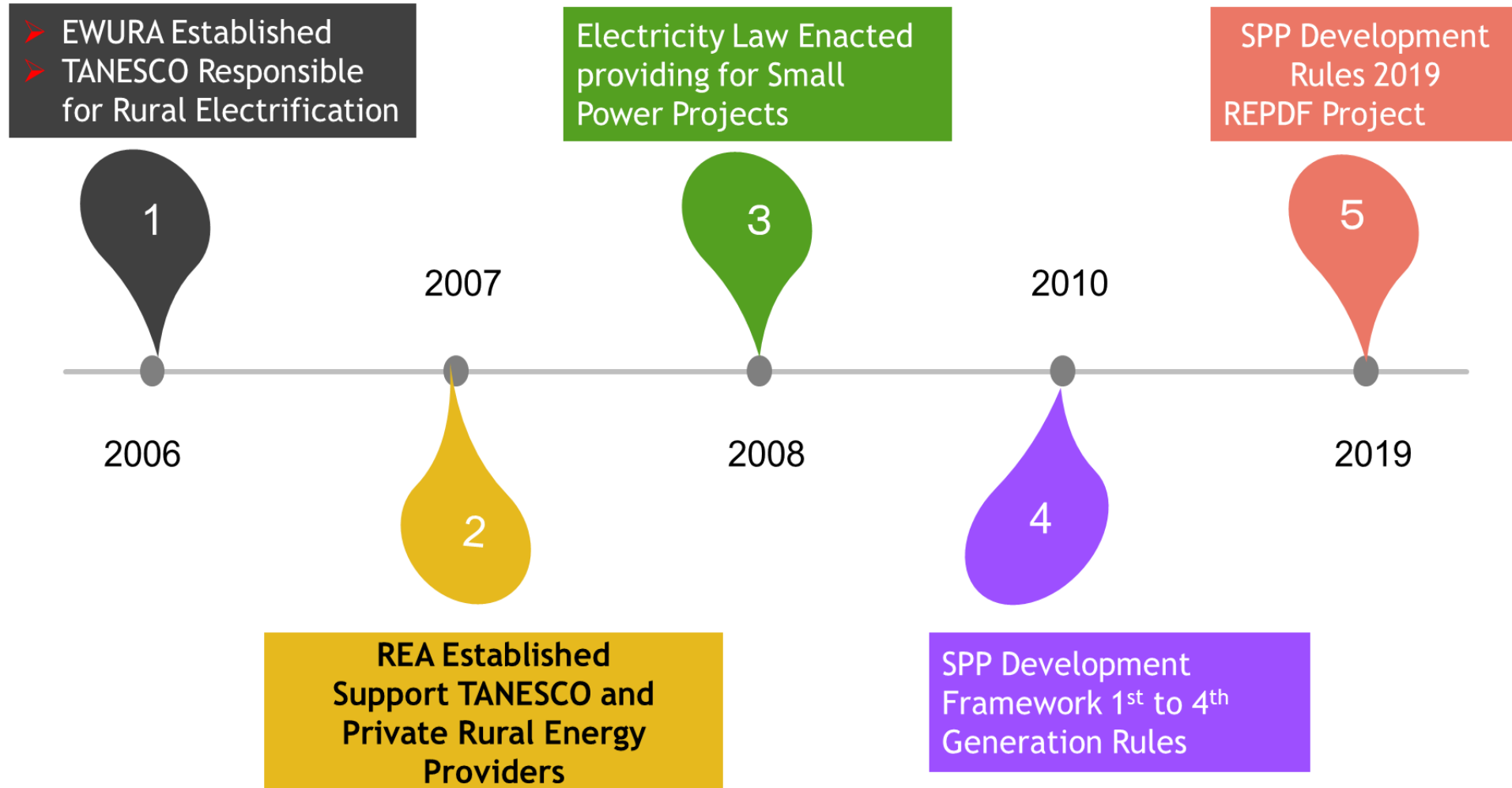
TANESCO

- Main + Isolated Grid Expansion (REA)
- Wholesale buyer
- Integrating Mini-grids (Privately Owned)

Mini Grids & SPPs

- ❖ Develop Mini grids/Power plants

3. Regulatory Framework of Mini-Grids: Evolution



3. Regulatory Framework of Mini-Grids:

SPPs Rules, 2019



SPPs Rules published on 03rd July 2020 with GN. 491 and Standardized Small Power Projects Tariff Order with GN. 464 of 21st June 2019

- ❖ Regulation of **SPP and Mini Grids** is governed by SPP Rules 2020;
- ❖ Promotion of renewable energy sources available to the Communities
- ❖ Use light-handed regulation principles
 - ✓ Simplified reporting
 - ✓ Simplified licensing and permitting procedures
 - ✓ Standardized Documentation (SPPA/SPPT Methodology)
 - ✓ Cost-reflective Tariffs (For Both SPP & Mini Grids)
 - ✓ Must take for eligible RE/hybrid
 - ✓ Long term (20-25 years)
- ❖ SPP tariff - Technology-specific tariffs, Avoided cost of DNO (TANESCO)

3. Regulatory Framework of Mini-Grids:

SPPs Rules, 2019



- ❖ Mini Grids - scope for regulation is from a project of 15kW or less than that, but supplying power commercially to 30 customers and above;
- ❖ Before development, a developer is required to obtain a letter of Support from the Ministry of Energy
- ❖ Construction of generation and distribution infrastructure has to be in accordance with the TBS standards for mini-grids;
- ❖ After construction, a developer is required to apply for registration at EWURA, via LOIS.
- ❖ Before commercial operations, a developer is required to apply for the tariff at EWURA, through LOIS;

3. Regulatory Framework of Mini-Grids: Arrival of Main Grid



Upon arrival of the main grid

- ❖ Mini-grid operator can apply to operate as SPP selling electricity to Main Grid and *Mini grid distribution assets can be taken over by DNO, and compensated provided meet criteria.*
- ❖ Amend Licence or Registration accordingly
 - Sign an SPPA with DNO and apply appropriate Tariff
 - Meet Interconnection requirements
- OR operate as SPD buying electricity in bulk from Main Grid and selling to retail customers (*Currently, no SPD*)

3. Regulatory Framework of Mini-Grids: Compensation to Mini Grids



Criteria for Compensation listed in the framework (SPPs Rules):

- ❖ If Mini grid was built to TBS Standards
- ❖ Licensed or registered by EWURA (Done thru LoIS)
- ❖ Interconnection takes place within 2 to 15 years;
- ❖ Provided Letter of Support from the Government.

Note: *Grant portion for distribution assets, deducted during compensation*

3. Regulatory Framework of Mini-Grids Tariff for Mini Grids



EWURA has developed the tariff model for each Mini Grid:

Assumptions considered:

Installed capacity, cost of debt, return on equity, capacity factor,
OPEX, taxes, depreciation

Customer Categories	Time of Use	Jumeme		PowerGen		Watu & Umeme	
		TZS	U.S cents	TZS	U.S cents	TZS	U.S cents
Residential	Day	1710	68	1500	60	1306	52
	Night	1710	68				
Business	Day	1560	62	1500	60	941	38
	Night	1670	67				
Productive Use	Day	1310	52	1300	52	801	32
	Night	1570	63				
Public Institution	Day			1200	48	941	38
	Night						
Exchange Rate (14.09.2025)				2506			

3. Regulatory Framework of Mini-Grid Tariff for SPPs



EWURA has developed for SPP selling to Main Grid use the tariff below;

Assumptions considered:

Installed capacity, cost of debt, return on equity, capacity factor, OPEX, taxes, depreciation

FIRST SCHEDULE

Approved Tariffs for SPPs Selling Electricity to the Grid

Capacity	Minihydro	Wind	Solar	Biomass	Bagasse
	USc/kWh	USc/kWh	USc/kWh	USc/kWh	USc/kWh
0.1 - 0.5MW	10.65	10.82	10.54	10.15	9.71
0.51 - 1 MW	9.90	9.95	9.84	9.34	9.09
1.01 - 5MW	8.95	9.42	9.24	8.64	8.56
5.01 - 10MW	7.83	8.88	8.34	7.60	7.55

SECOND SCHEDULE

Tariffs for Main Grid Connection under the First Generation SPP Framework

Description		2018 Tariff (TZS/kWh)	Approved Tariff effective 1 st May 2019 (TZS/kWh)	Percentage Change
Standardized Small Power Purchase Tariff		203.11	203.11	0%
Seasonally adjusted Standardized SPPT Payable in	Dry season	243.73	243.73	0%
	Wet season	182.80	182.80	0%

BoT Exchange Rate: 1USD : TZS2859.81 (27.08.2025)

4. Contribution of Mini Grids & SPPs



- ❖ There are six (6) registered companies with multiple Mini Grids in the rural areas, including in the islands (at Lake Victoria), with **18,000** consumers reported FY 2023/24.
- ❖ Mini Grids produce **7,570,000MWh**, total installed capacity **3.76MW** in 2024/25, and are delivered to rural consumers.
- ❖ There are **15 SPPs** with total installed capacity of SPPs connected to the Main Grid in 2024/25 was **48.56MW**, and total energy sold to the DNO was **111,485,000MWh**.

5. Challenges of Regulating of Mini-grids

- ❖ **Delay of implementation of new projects** – developers of SPPs signed SPPAs, not yet secured funds(loans).
- ❖ **44 SPPAs with 216.61MW** - under development at various stages.
- ❖ **Low-income consumers** - consume little energy – Other Govt programs exist for improving the rural economy
- ❖ **Scattered population** - Fail to connect the mini grids as they are located far from the network – Grants from REA
- ❖ **High maintenance cost of distribution** – Mini grids are taken to the DNO and remain with plants as SPPs.

6. Conclusion

- ❖ Reviewing/Improving Mini grids regulatory framework (*e.g SPP 2025...*)
 - i. promotes private sector investments
 - ii. ensuring a balance of the interests of both investors and consumers
- ❖ Mini grids/SPPs help;
 - i. to increase connectivity for the consumers who are farthest from the main grid and off-grid, and;
 - ii. to increase access to electricity
 - iii. Other socio-economic benefits

THANK YOU FOR YOUR ATTENTION!



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