

UN CTCN CIFAL JEJU 2026 Energy storage system

Workshop and learning Visit

1-4 September 2026

Gerald kafuku- COSTECH

**/Sisty Basil –ELICO
Foundation**

GENERATION

AS OF 31st DECEMBER 2023

- Maximum Demand **1,482 MW**
- Total Installed Capacity (On Grid) **1,889.84 MW**

Energy Sources/Mix

- Natural Gas 1,193.82MW
- Hydro 601.60 MW
- Diesel 83.93MW
- Biomass 10.5 MW
- Off- grid stations total capacity 33.05MW

❖ ***Construction of JNHPP – 2,115MW –
Completed –august 2026***

TRANSMISSION

AS OF 31st DECEMBER 2023

- **High Voltage Transmission Lines:**
 - 6,837km of 400/220/132/66kV
- **Grid Substations:**
 - 64 Substations of 400/220kV; 220/132kV; 220/33kV; 132/33kV and 66/33kV
- **Grid Control Centre**
 - 1 at Ubungo DSM
 - Building another in Dodoma –for the new hydro project

DISTRIBUTION

AS OF 31st DECEMBER 2023

- **Household:** 4,656,821
- **National Connectivity:** 55%
- **Access Rate:** 78.4 %

- **Total MV LINES:** 173,425 km
 - **33kV lines :** 56,485 km
 - **11kV lines :** 12,221 km
 - **LV lines :** 104,719 km

GENERATION HIGHLIGHTS > 2023

- **Increase Installed Capacity**
 - 5GW by 2025
 - >10GW By 2035
- **Regional Integration**
 - Fully integrated to EAPP & SAPP by 2025
 - Net Exporter by 2033
- **Private Partnership**
 - PPPs & IPPs in Renewables and Gas Fired

TRANSMISSION HIGHLIGHTS > 2023

- **Improve Reliability & Security of Power Supply** by Strengthening the Country's Backbone by completing all 4 ring-circuits at 400kV
- **Evacuate power from new & existing generation facilities** to grid network through 132kV; 220kV and 400kV transmission lines
- **Engage Private Partnerships (IPTs)** to evacuate power to high - profit customers like Industries, Mines etc.

DISTRIBUTION HIGHLIGHTS > 2023

- **Restore & Maintain Distribution Network to world class level by 2030.**
 - Implement 5-phased Distribution Network & Reinforcement Plan (US\$ 2.8 million)
- **Expand National Access**
 - 92% by 2025,
 - 100% by 2035
- **Improve National Connectivity**
 - 50% by 2025
 - > 70% by 2035

SHORT TERM PLAN

2023/2024 - 2025/2026

GENERATION PROJECTS SHORT TERM:2023/24 – 2025/2026

Potential Sources of Energy to Increase Installed Capacity Up To 5 GW by 2026

ENCLAVE A - 44MW

Rusumo Hydro – 27MW
Kigoma Diesel - 12MW
Solawazi Solar – 5MW



 Existing Plants

GENERATION PROJECTS SHORT TERM:2023/24 – 2025/2026

Potential Sources of Energy to Increase Installed Capacity Up To 5 GW by 2026

ENCLAVE B - 439MW



Kishapu Solar – 150MW

Zuzu Diesel – 5MW

Kidatu Hydro 204MW

Mtera Hydro – 80MW

 Existing Plant

 Under Construction

GENERATION PROJECTS SHORT TERM:2023/24 – 2025/2026

Potential Sources of Energy to Increase Installed Capacity Up To 5 GW by 2026

ENCLAVE C - 147MW



Nyumba ya Mungu Hydro – 8MW

Same Solar - 50MW

Hale Hydro - 21MW

New Pangani Hydro – 68MW

 Existing Plant

 Under Construction

GENERATION PROJECTS SHORT TERM: 2023/24 – 2025/2026

Potential Sources of Energy to Increase Installed Capacity Up To 5 GW by 2026

ENCLAVE D - 3,268 MW



JHNPP Hydro – 2,115MW

Ubungo 1 Gas – 102MW

Tegeta Gas – 45MW

Ubungo 2 Gas – 129MW

Songas Gas – 189MW

Ubungo 3 Gas – 113MW

Kinyerezi 1 Gas – 335MW

Kinyerezi 2 Gas – 240MW

 Existing Plant

 Under Construction

GENERATION PROJECTS SHORT TERM:2023/24 – 2025/2026

Potential Sources of Energy to Increase Installed Capacity Up To 5 GW by 2026

ENCLAVE E - 440MW

Sinotan Wind - 100MW

T-Resources Wind - 60MW

Kihansi Hydro - 180MW

Total Enre Isimani Solar - 100MW

 Existing Plant

 Under Construction



TRANSMISSION PROJECTS SHORT TERM: 2023 - 2026

400kV RING 1

**Dodoma (Zuzu) –
Chalinze – Kinyerezi -
Segera – Same -
Lemugur (Arusha) –
Singida – Zuzu**



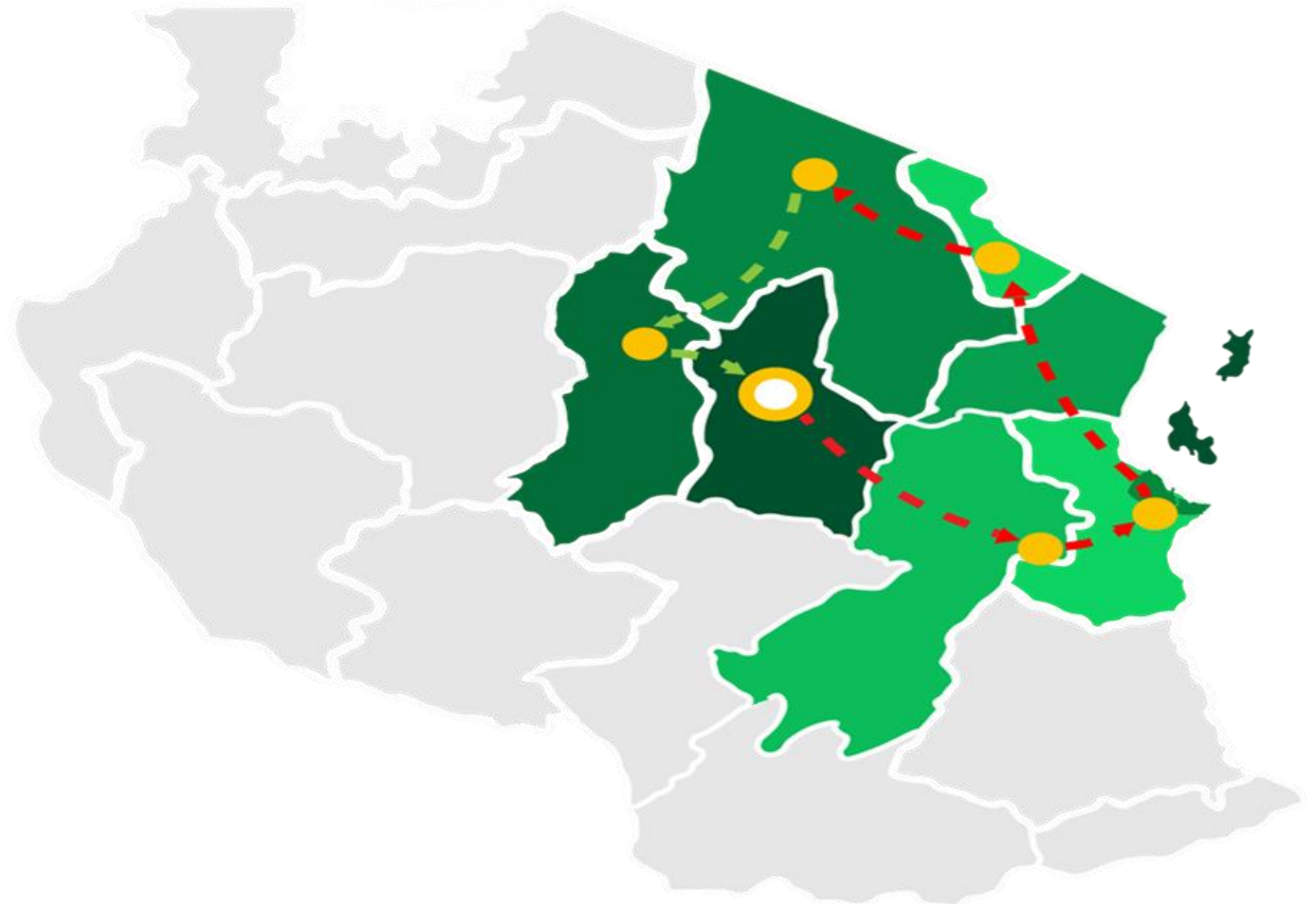
Existing TL



Under Construction TL



Under FS/No Funds



TRANSMISSION PROJECTS SHORT TERM: 2023 - 2026

400kV RING 2:

Dodoma (Zuzu) – Chalinze

- Kinyerezi – Mkuranga –

Somanga - Mtwara –

Tunduru –Songea –

Makambako –

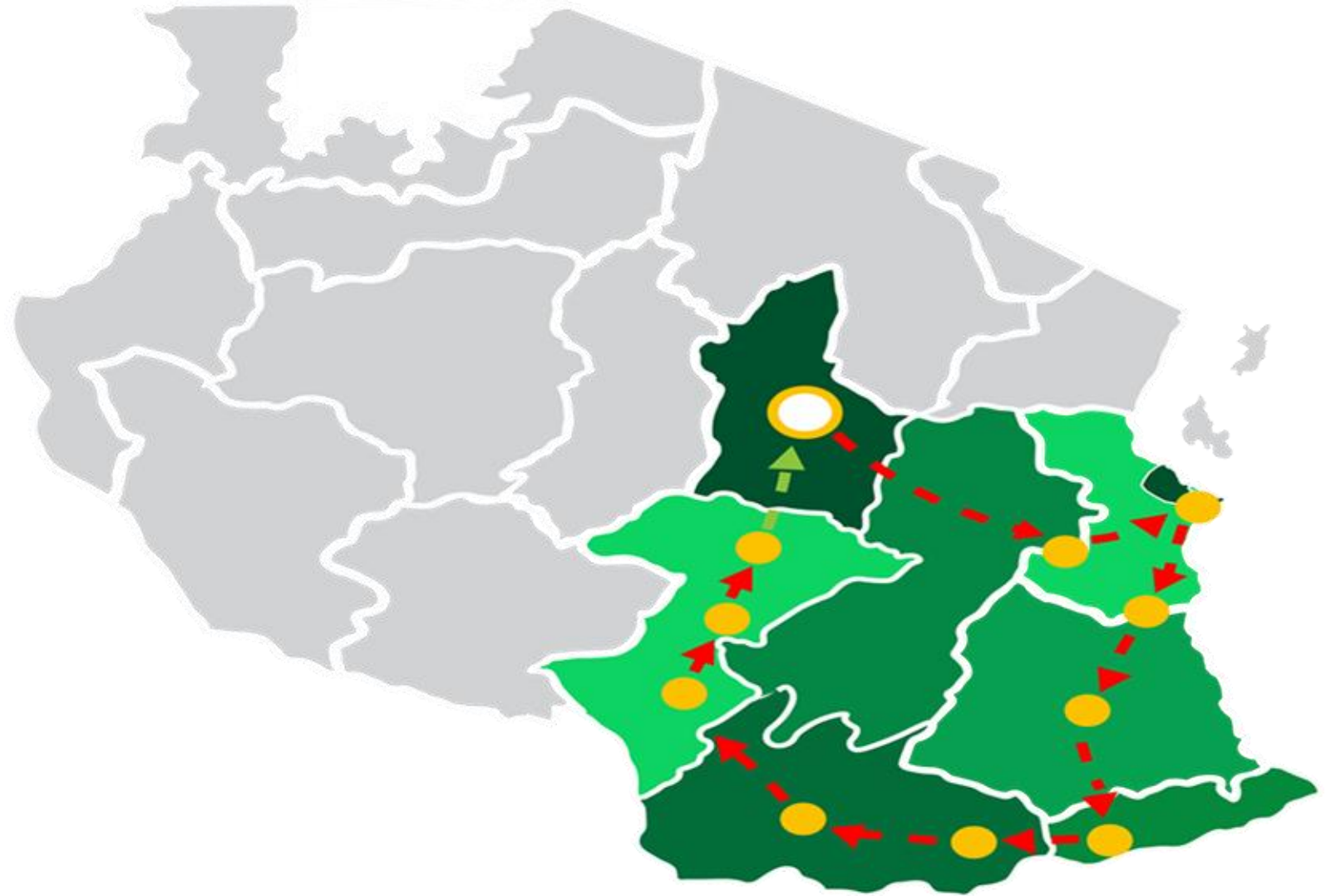
Iringa (Kisada) - Iringa

(Tegamenda) - Zuzu

 Existing TL

 Under Construction

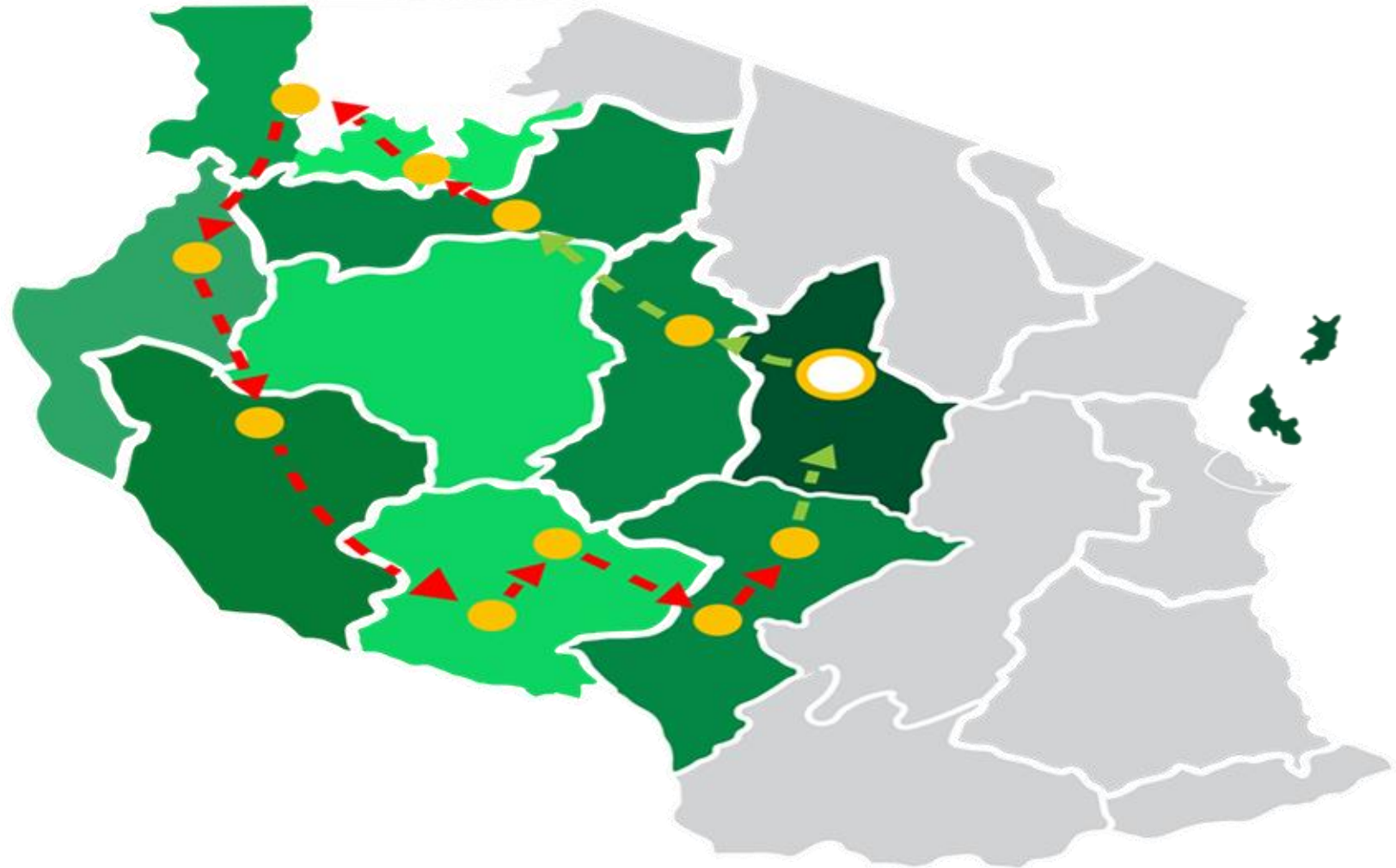
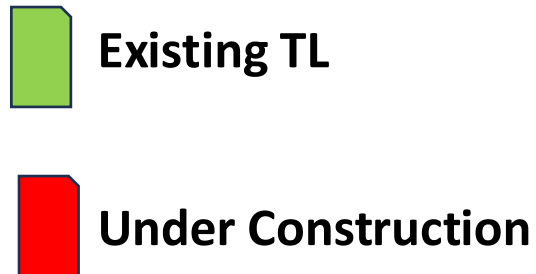
 Under FS/No Funds



TRANSMISSION PROJECTS SHORT TERM: 2023 - 2026

400kV RING 3

Dodoma (Zuzu) – Singida -
- Shinyanga - Nyakanazi –
Kigoma – Rukwa – Tunduma
- Mbeya (Iganjo) – Iringa
(Kisada) - Iringa
(Tagamenda) - Zuzu

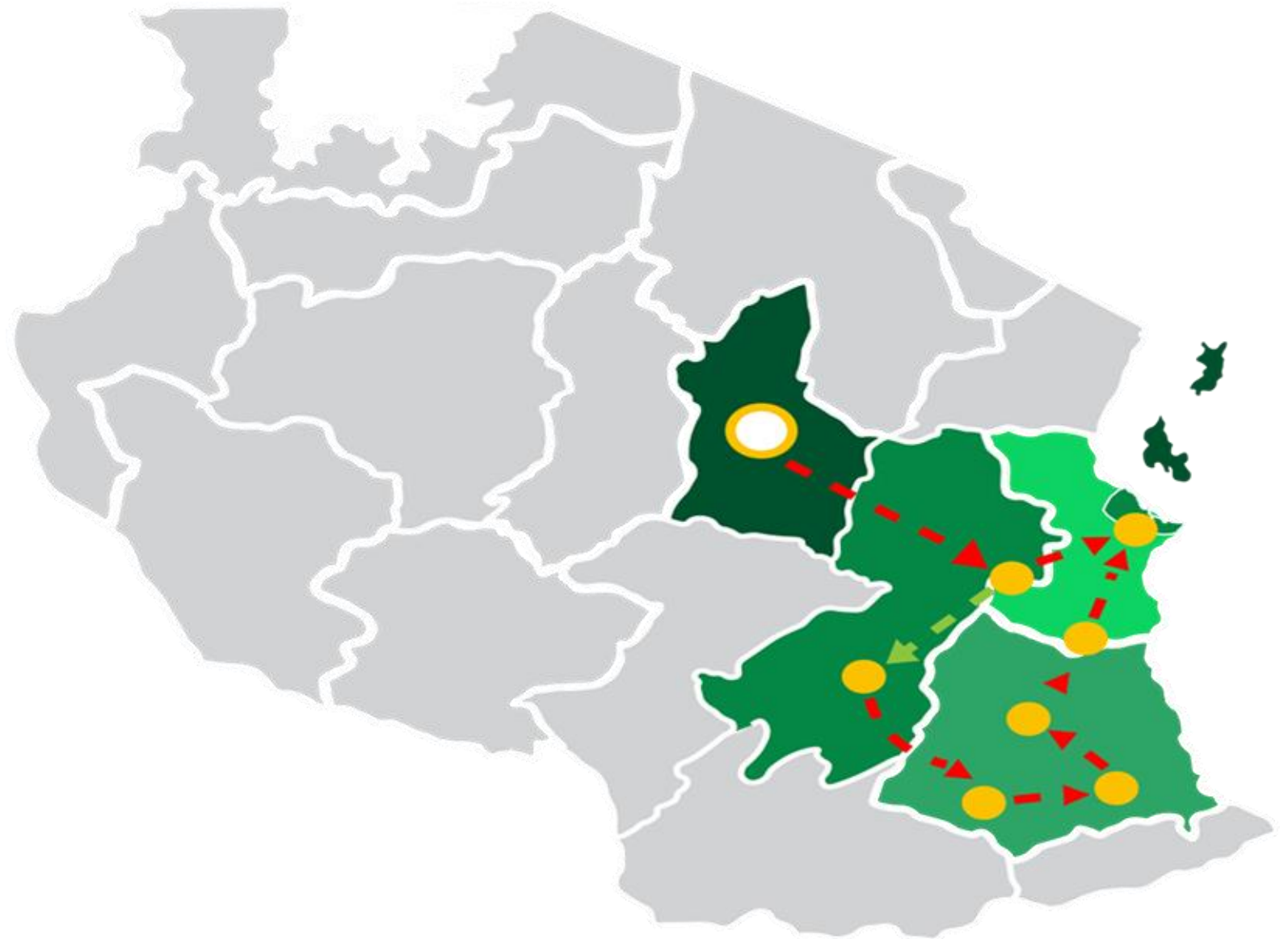


TRANSMISSION PROJECTS SHORT TERM: 2023 - 2026

400kV RING 4

Dodoma (Zuzu) – Chalinze
– Kinyerezi – Mkuranga -
Kibiti – Likongo – Somanga
– JNHPP - Chalinze

-  Under Development/
Existing
-  With Feas.Study
/completed in august
2026
-  Under FS/No Funds



MID TERM PLAN

2026 - 2035

GENERATION PROJECTS MID TERM:2026/27 – 2034/2035

Potential Sources of Energy to Increase Installed Capacity To >10 GW by 2035

ENCLAVE A – 171.5MW

Nsongezi Hydro - 35MW

Malagarasi Hydro – 49.5MW

Kakono Hydro 87MW



-  With Feas. Study and Funding
-  Without Feas. Study/No Funding

GENERATION PROJECTS MID TERM:2026/27 – 2034/2035

Potential Sources of Energy to Increase Installed Capacity To >10 GW by 2035

ENCLAVE B – 1,843MW



 With Feas.Study /No Funding

 Without Feas. Study/No Funding

Ikungi Solar - 100MW

Total Energy Wind - 100MW

Manyoni II Solar - 100MW

Ikungi II Solar - 100MW

Manyoni Wind - 200MW

Iringa Solar – 100MW

Makambako Wind 2 - 100MW

Kidunda Hydro - 20MW

Kisaki Geothermal – 30MW

Kisima Solar – 78MW

Ibadakuli Geothermal - 5MW

Zuzu Solar 2 - 50MW

Singida 1 Wind -200MW

Solar Zuzu – 60MW

Singida Wind 2 - 100MW

Manyoni Wind2 - 200MW

Kishapu and Kanawa – 300MW

GENERATION PROJECTS MID TERM:2026/27 – 2034/2035

Potential Sources of Energy to Increase Installed Capacity To >10 GW by 2035

ENCLAVE C - 420MW

Meru Geothermal – 10MW
Natron Geothermal - 60MW
Monduli Wind - 350MW



 Without Feas. Study/No Funding

GENERATION PROJECTS MID TERM:2026/27 – 2034/2035

Potential Sources of Energy to Increase Installed Capacity To >10 GW by 2035

ENCLAVE D- 3,578 MW



Somanga Fungu PPP Gas -320MW

Kinyerezi 4 - 450MW

Somanga Sumitomo Gas - 600MW

Somanga Fungu Astra Gas - 350MW

Mtwara JICA Gas - 300MW

Kinyerezi 3 - 600MW

Kisaki Geothermal - 30MW

Mkuranga NSSF Gas - 300MW

Louthol Geothermal - 10MW

Mtwara II Gas - 300 MW

Somanga Kilwa Energy Gas – 318MW

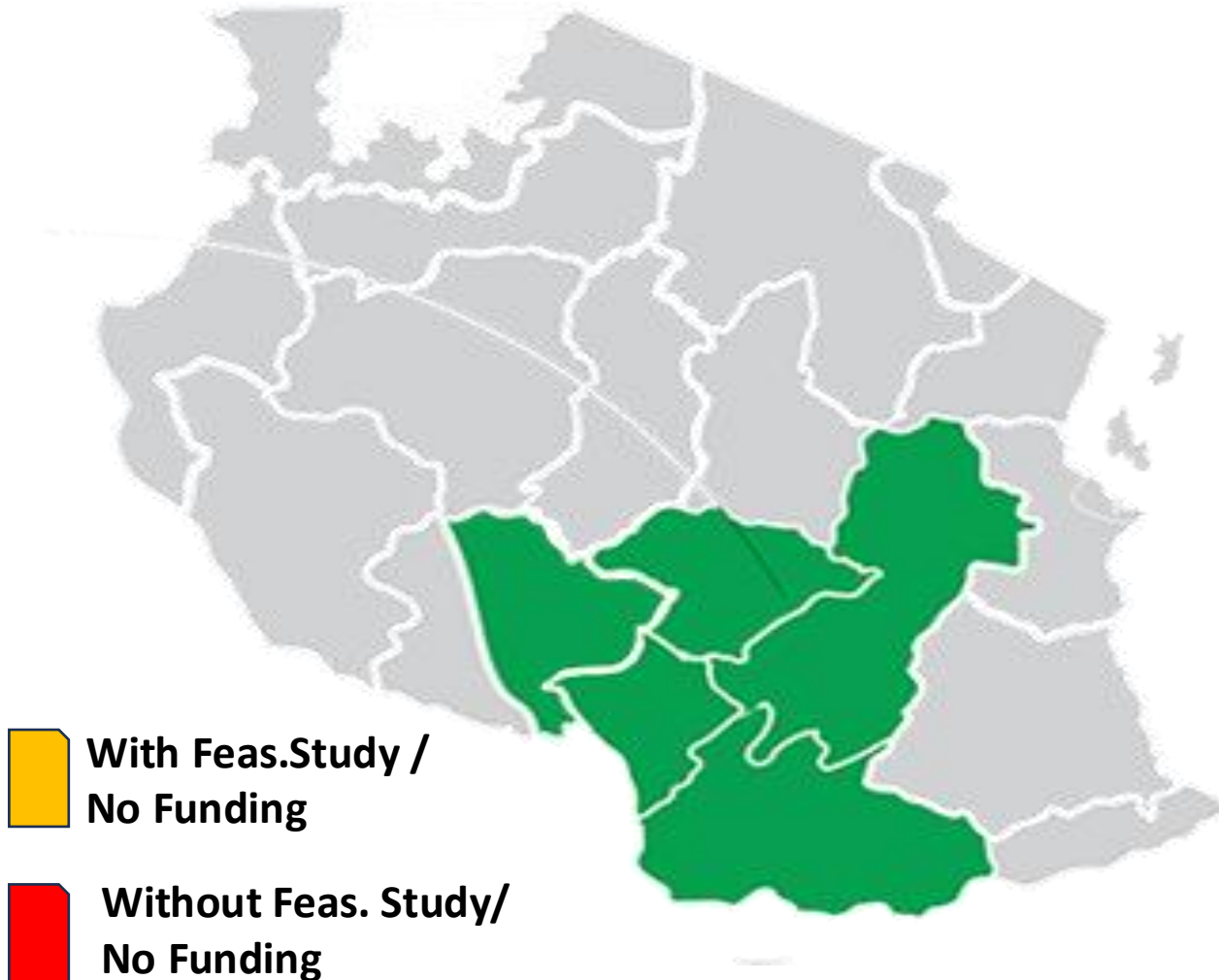
 **With Feas.Study /No
Funding**

 **Without Feas. Study/No
Funding**

GENERATION PROJECTS MID TERM:2026/27 – 2034/2035

Potential Sources of Energy to Increase Installed Capacity To >10 GW by 2035

ENCLAVE E – 3,997MW



Ruhudji Hydro - 358MW; Rumakali Hydro – 222MW
Kikonge Hydro 300MW; Songwe Manoro Hydro -
88MW; Mbeya Geothermal - 200MW; Upper Kihansi
Hydro - 120MW; Mnyera Pumbwe Hydro - 122MW
Rukwa Thermal – 300MW; Songwe River Basin -
180MW; Mbeya Kibo Thermal - 300MW
Songwe III Geothermal - 10MW; Kiejo Mbaka III
Geothermal - 30MW; Mpanga Hydro - 160MW
Songwe Sofre Hydro - 29MW; Mnyera Kisingo Hydro -
119MW; Ngaka I Thermal- 200MW; Mnyera Kwanini
Hydro - 144MW; Masigira Hydro - 118MW;
Mchuchuma I Thermal - 600MW;
Ngozi II Geothermal - 30MW;
Kiwira I Thermal - 200MW; Kiejo Mbaka II Geothermal
- 20MW; Songwe II Geothermal - 10MW
Mnyera Myera Hydro - 137MW

TRANSMISSION HORIZON: REGIONAL INTERCONNECTION 2023-2035

Regional Interconnection to EAPP + SAPP

Line 1 – Shinyanga >> Bunda >> Kenya (Kilgoris)

Line 2 – Lemugur >> Namanga >> Kenya (Isinya)

Line 3 – Nyakanazi >> Kyaka >> Uganda (Masaka)

Line 4 – Nyakanazi >> Rusumo >> Rwanda >> Burundi

Line 5 – Sumbawanga >> DRC

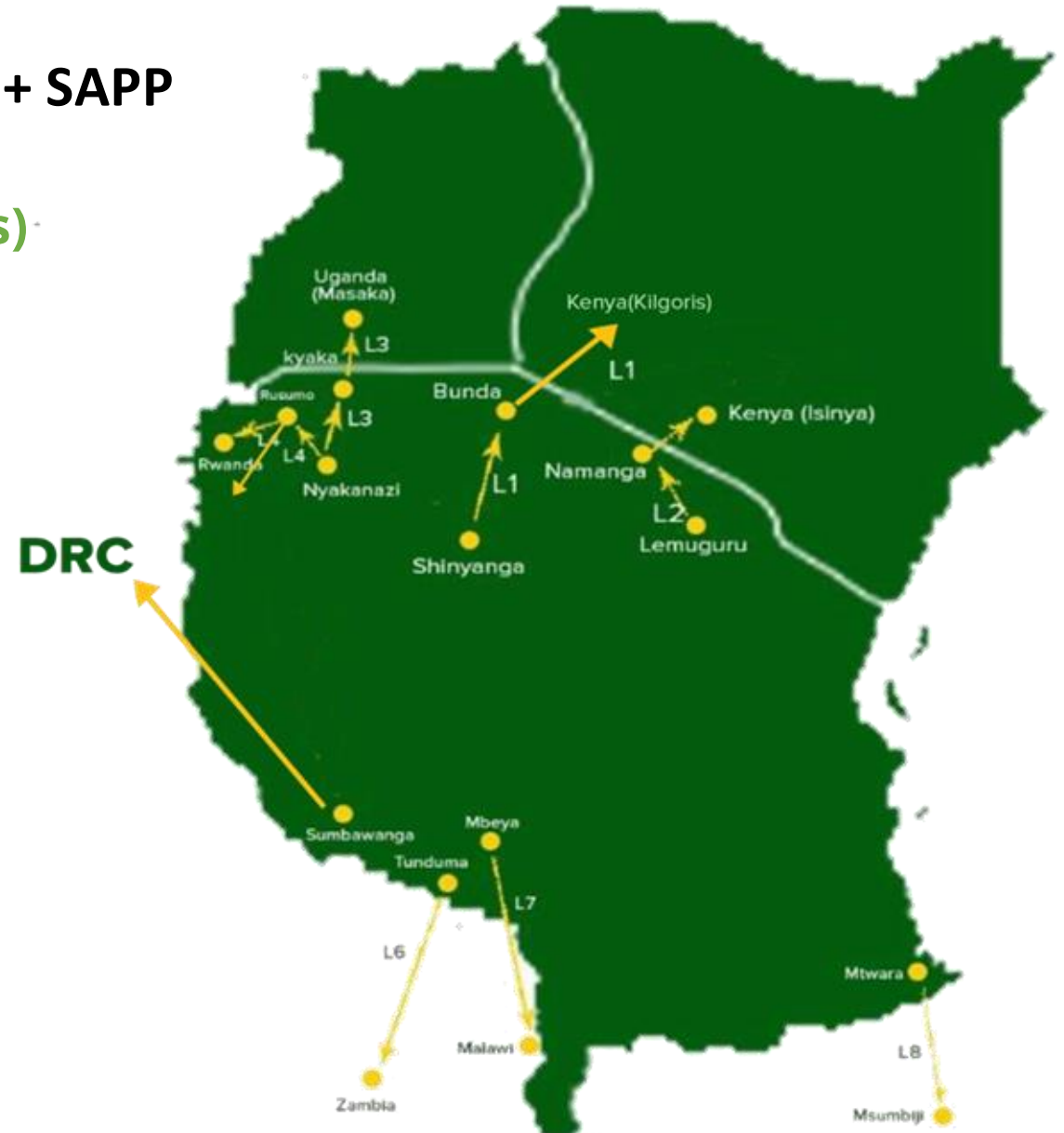
Line 6 – Tunduma >> Zambia (Kasama)

Line 7 – Mbeya (Igonja) >> Malawi

Line 8 – Tanzania >> Mozambique

 No Feas. Study / No Funding

 Under Construction



PRIVATE SECTOR PARTICIPATION

- ❑ PPP power generation opportunities in Tanzania include a wide range of projects areas including:
 - Solar; Manyoni, Same and Zuzu
 - Wind; Makambako, Ikungi, Singida
 - Hydropower; Songwe River, Mnyera River, Mpanga River
 - Gas; Mkuranga NSSF, Somanga fungu PPP
 - Geothermal; Ngozi phase I, Kienjo Mbaka phase I, Songwe



PRIVATE SECTOR PARTICIPATION



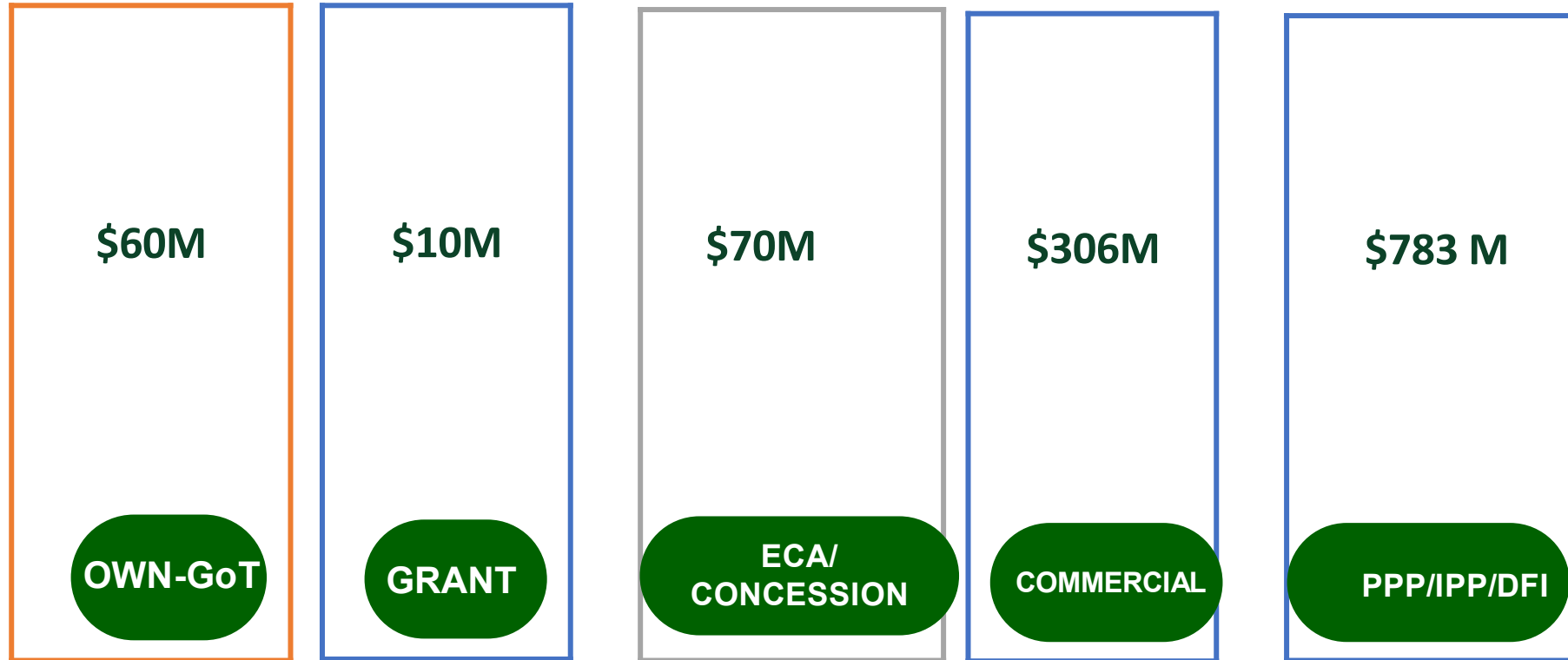
- ❑ IPP power generation opportunities in Tanzania include a wide range of projects areas including:
 - Solar along Dodoma, Singida, Tabora, Shinyanga, Kilimanjaro Regions
 - Wind along Iringa, Njombe, Singida, Manyara, Arusha Regions
 - Hydropower along Morogoro, Njombe, Iringa, Rukwa, Ruvuma Regions



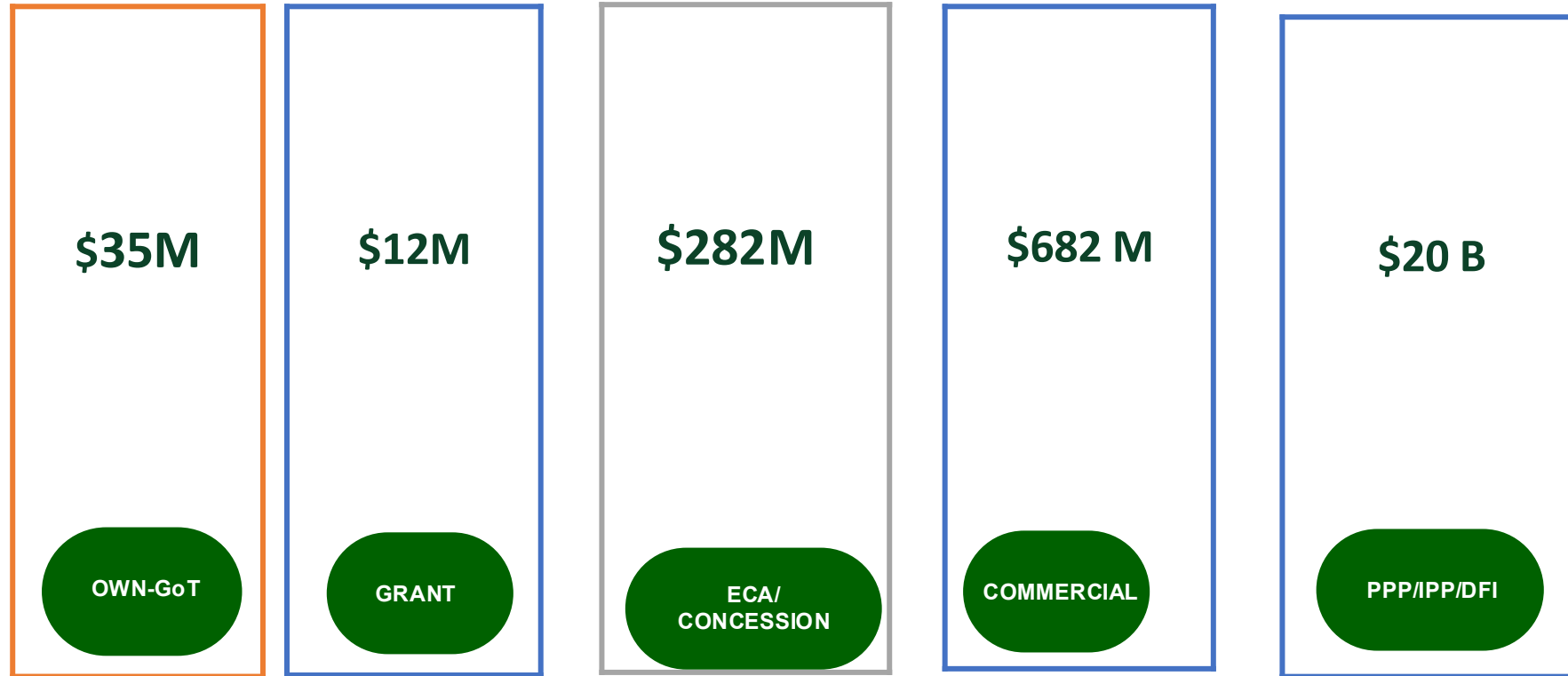
PRIVATE SECTOR PARTICIPATION

- ❑ IPP power generation opportunities in Tanzania include a wide range of projects areas including:
 - Gas Fired along DSM, Coast, Lindi, Mtwara Regions
 - Geothermal - Various Sites
 - Nuclear
 - Small Power Producers (SPPs) projects in:
 - Solar -
 - *Wind* -
 - Min-Hydropower

FUNDING MODALITY TANESCO INVESTMENT PLAN 2024-2025



FUNDING MODALITY TANESCO INVESTMENT PLAN 2026-2035





RECOMMENDATIONS



□ *How we should move forward...*

Encourage Private Sector participation in power generation through:

- IPP
- PPP



THANK YOU

Asante Sana .