PV rural micro grids in villages of Chad

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SCOPE

Project objectives: To demonstrate and develop enabling conditions for deployment of rural renewable energy based microgrids in Chad

1. Needs Assessment & Load Profile

2. Tariff Scheme & Quality

EDA Concept: Energy Daily Allowance
Service: 24/7 230V AC
Monthly flat rate service fee by tiers
Tariffs and Quality regulation by agreement with the community

3. Engineering

DC coupled micro power plant with storage
High PV penetration with diesel genset back up
3 phase LV standard 230V – 50Hz electricity supply
Underground distribution grid

4. Electricity Dispenser & EDA

Real time price signal

5. Business Model

CAPEX is a public investment
OPEX from tariff revenue real costs based
TTA as concessionaire of the microgrid’s operation and maintenance
Light handed regulatory framework based on “agreement with the community”

6. Procurement

7. Construction & Commissioning

8. On-Site Capacity Building

9. Operation of the Service

10. Conclusions

Technical Solution has surpassed initial expectations, is well adapted to the requirements and has added value features
Management Model first attempt of RE concessionaire model tested but further efforts needed to overcome multiple institutional challenges
Impact to users very positive but limited in 2 villages by available budget