

Keeping the Power On

Unlocking the Value of Storage: Lessons from the Field

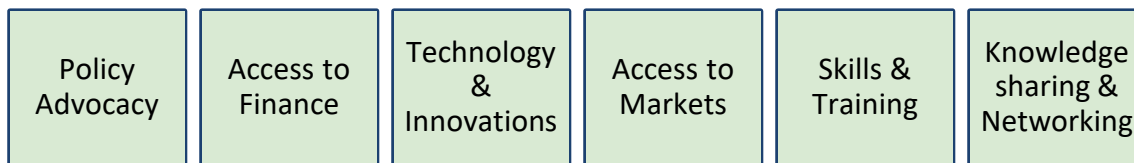
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Piyush Mathur

Introducing CLEAN

CLEAN

Industry Network of 200 enterprises in India applying Cleantech for grassroot development



Resource Partners



Face Masks in Manipur



Information and Photo Courtesy: SEWA

Situation:

- Surge in demand for face masks
- Not enough hours on solar sewing machines

Storage-based Solution:

- 75Ah capacity storage unit
- Additional 3 hours of runtime after sunset

Impact:

- Each seamstress make 30-40 extra masks/day
- Additional production helped local community
- Payback on the storage unit 4 months

Primary Healthcare Centres in Meghalaya



Situation:

- Irregular electricity in health centres
- Cannot stock vaccines, injections
- Cannot operate after dark

Storage-based Solution:

- Solar powered health centres with storage;
- Power for lighting and running medical devices

Impact:

- Fully functional centres
- Care and basic treatment offered locally

Information and Photo Courtesy: Envo Renewables, PHC, West Garo Hills, Meghalaya

Community Mini-Grids in Jharkhand



Information and Photo Courtesy: Minda

Situation:

- Remote end-of-line tribal agrarian villages
- trapped in a spiral of energy- economic poverty

Storage-based Solution:

- 25KWp modular mini-grids with storage
- Optimised round-the-clock use
- Agri Use: irrigation, rice hulling, oil expelling
- Non-Agri Use: metal fabrication, shops, lighting

Impact:

- Unblocked stunted socio-economic development
- Village GDP up 14% CAGR over the last 5 years

Mobile Power Trailer



Information and Photo Courtesy: h2e power

Situation:

- Portable diesel generators still popular
- Running costs and fuel supply chain problem

Storage-based Solution:

- A power trailer system
- Built with solid oxide fuel cell hybrid battery
- Equipped with remote monitoring and control

Impact:

- Versatile trailer makes diesel gensets redundant
- Can be towed by a motorcycle
- Any type of use anywhere

AC-DC Solar Home Systems



Information and Photo Courtesy: Simpa

Situation:

- Grid-served homes want to run AC appliances
- Traditional DC SHS less appealing
- Still a large enough deficit for a UPS

Storage-based Solution:

- An AC-DC interoperable solar home system
- Micro-inverter and Li-Ion battery
- Accepts solar (DC) and grid (AC) input
- Offers output for both AC and DC appliances

Impact:

- All positives of SHS + saving in grid cost

So, Lessons from the Field...

1. Storage means Livelihoods, Health, Education...
2. Insatiable appetite for Storage
3. Mature technology at low price preferable to New Technology
4. Investment required in customer education, market development, demand aggregation and affordability