

Request for Proposal

Design, Supply, Installation, and O&M of Solar Home Systems (Off-grid)

1. Background:

TIDE is implementing a five-year Net Zero Village Programme in villages of Gudibande Taluk, Chikkaballapura District, Karnataka. The Year-1 phase focuses on demonstrating clean energy, improving energy efficiency, and strengthening community institutions through solarization and energy-efficient technologies.

TIDE invites qualified vendors to design, supply, install, and maintain:

- Solar home systems for selected households
- Rooftop solar systems for community institutions
- Energy-efficient appliances (LEDs, BLDC fans, etc.)

2. Scope of Work:

a) Solar Home Systems:

Design, Supply, Install and Commission:

Approximately 42 Solar Home Systems in 2 villages. Each household shall receive a minimum 1.5 kWp solar PV system with battery backup, capable of supporting:

- Lighting
- Fans
- Mobile Charging
- TV and basic household appliances

The System shall include:

- Solar PV modules
- Hybrid Inverter / Charge controller
- Battery bank

- DC / AC distribution
- Wiring, Mounting structure, Protection devices.

b) Monkey-Proofing & Safety

All rooftop solar installations must include:

- GI wire mesh or equivalent monkey-proofing around panel
- All wiring in UV-resistant conduits
- Proper earthing, surge protection, and electrical safety devices

c) Operation & Maintenance (O&M)

- Minimum **2 years comprehensive O&M**
- Preventive maintenance visits (Once in a quarter)
- Breakdown response within defined time
- Replacement of faulty components under warranty

3. Technical Standards

- Solar Modules: MNRE certified
- Inverters & Batteries: BIS certified
- Appliances: BEE star-rated
- Installation as per MNRE and Indian electrical safety norms

4. Deliverables

- Fully installed and commissioned systems
- System documentation and warranties
- User manuals (local language + English)
- O&M plan and contact details
- As-built drawings and asset list.

5. Implementation timeline

All installations must be completed within 30 days from the date of award of contract.

6. Proposal Submission

Technical Proposal

- Company profile
- Experience in at least 3 similar solar projects
- Team details (Ability to work in multiple locations simultaneously)
- System specifications
- O&M approach

Financial Proposal

- Cost per 1.5 kW_p solar home system
- Installation, O&M, and taxes

7. Eligibility

- Ability to complete the project within 30 days.
- Ability to work in multiple locations simultaneously.
- Minimum 5 years of experience in solar installations
- Experience in rural projects preferred.

8. Evaluation Criteria

Criteria	Weightage
Technical quality & design	40%
Relevant experience	20%
O&M capability	10%
Commitment and justification for timely completion	10%
Financial Proposal	20%

Bill of Quantities (BoQ)

(To be printed in the companies letter head with seal and signature)

Solar Home Systems – Off-Grid (42 Households – 1.5 kWp)

9. Per Household System BoQ (to be quoted unit-wise)

No	Item Description	Minimum Specification	Unit	Qty / HH	Vendor Unit Rate in Rs	Amount in Rs
1	Solar PV Modules	MNRE/BIS, Mono PERC, total ≥ 1.5 kWp	kWp			
2	Module Mounting Structure	HDGI, roof mounted, wind resistant	Set			
3	Monkey-Proof GI Mesh Protection	GI wire mesh cage around panels with supports	Set			
4	Off-grid/Hybrid Inverter	2–3 kVA, MPPT, pure sine wave	Nos			
5	Lithium Battery Bank	LiFePO ₄ , usable $\geq 4-5$ kWh, with BMS	Set			
6	Battery Rack/Enclosure	Wall/floor mounted, ventilated	Set			
7	DC Distribution Board	DC MCBs, isolator, SPD	Set			

Technology Informatics Design Endeavour (TIDE)



8	AC Distribution Board	MCBs, RCCB/ELCB, SPD	Set			
9	Cabling & Wiring	Solar DC + AC FRLS wiring	Lot			
10	UV Conduits & Cable Protection	HDPE/PVC weatherproof	Lot			
11	Earthing System	2 earth pits with accessories	Set			
12	Lightning Protection (if required)	Arrestor + earthing	Set			
13	Internal Solar Circuit Wiring	From inverter to dedicated DB	Lot			
14	Installation & Commissioning	Labour, tools, testing	Lot			
15	User Training & Demonstration	Household awareness session	Lot			
16	Documentation	Manuals, warranty cards, asset tag	Lot			
17	Comprehensive O&M	2 years service & maintenance	Lot			
18	Any other (TBF)					

Total Cost per Household – Grand total per HH _____

10. Project Level Summary (for 42 Households)

No	Description	Unit	Qty	Unit Rate	Amount
1	Solar Home System (Complete as above)	HH	42		
2	Transportation and Logistics	Lot	1		
3	Other Cost (To be filled)	Lot	1		
4	Other Cost (To be filled)				
5	Other Cost (To be filled)				

Total Quoted Amount – Rs _____