Sustainable Energy Access

Concept to Commissioning Solutions for Decentralised Power

TECHNOLOGY CUSTOMISATION
- Appropriate Technology Design
- Smart, Grid-Ready & Reliable Systems

TRAINING & CAPACITY BUILDING
- Operation & Maintenance
- Business Management & Marketing
- Book-keeping & Finance

CREATING INSTITUTIONAL MODELS
- Effective Decentralisation through Participatory Project Planning
- Creating Strong Local Institutions

SYNERGIES & LINKAGES
- Energy Loans: Linking Rural Consumers to Banks
- Synergies with Existing Development Programmes

DEVELOPING BUSINESS MODELS
- Ensuring Return On Investment & Long Term Sustainability
- Customised Pricing Strategies
- Identification of Income Generating Activities

CASE STUDY 1
Solar Multi Utility (SMU) for livelihood generation

CASE STUDY 2
Biomass-Solar Hybrid Cold Storage & Power

CASE STUDY 3
Lighting a Billion Lives (LaBL)

SHG Preparing Sattu for Mid-Day Meal Programme
Decentralised Cold Storage for Horticulture
Solar Lighting for Rural Communities
Pioneering Smart Mini Grids in India
TERI Gram, Gual Pahari

SMART MINI GRIDS: ENERGY SECURITY Decentralised • Optimised • Integrated

Why Smart-Mini Grids?
- Diversity in sources of electricity including both renewable and conventional energy
- Need for optimum resource & demand side management
- Requirement of better quality & reliable power
- The need for decentralised, self-sufficient electricity production

Features
- Intelligent load & energy resource management
- Accommodation of multiple Distributed Energy Resources and energy storage into a common grid
- Self-healing, self-configuring, plug & play

Benefits
- Demand side management
- Minimised fossil fuel consumption
- Reduced power outages, increased reliability, efficiency & safety of the grid
- Increased autonomy of customers

Our Expertise
- Planning, design, simulation and optimization of SMGs
- Load and resource forecasting
- Utilisation of renewable energy resources
- Policy, regulatory and financial aspects of SMGs

Smart Controller Laboratory
Testing, Evaluation & Research laboratory for Distributed Power Systems & Smart Controllers.

Equipment
- Solar PV Array Simulator
- Grid Simulator
- Load Emulator
- Inverter Test Bed
- Embedded System Controller

Testing & Performance Assessment
- Different Photovoltaic (PV) Technologies
- Inverters
- Storage Technologies
- Renewable Energy Based Hybrid Systems (including Smart Micro/Mini-Grids)

Training
- Management Development Programmes (MDP) on Smart Grids & GIS
- Virtual Lab and Hands-On Training Facility for Researchers

BIOMASS WIND ENERGY STORAGE DIESEL SOLAR NATIONAL GRID