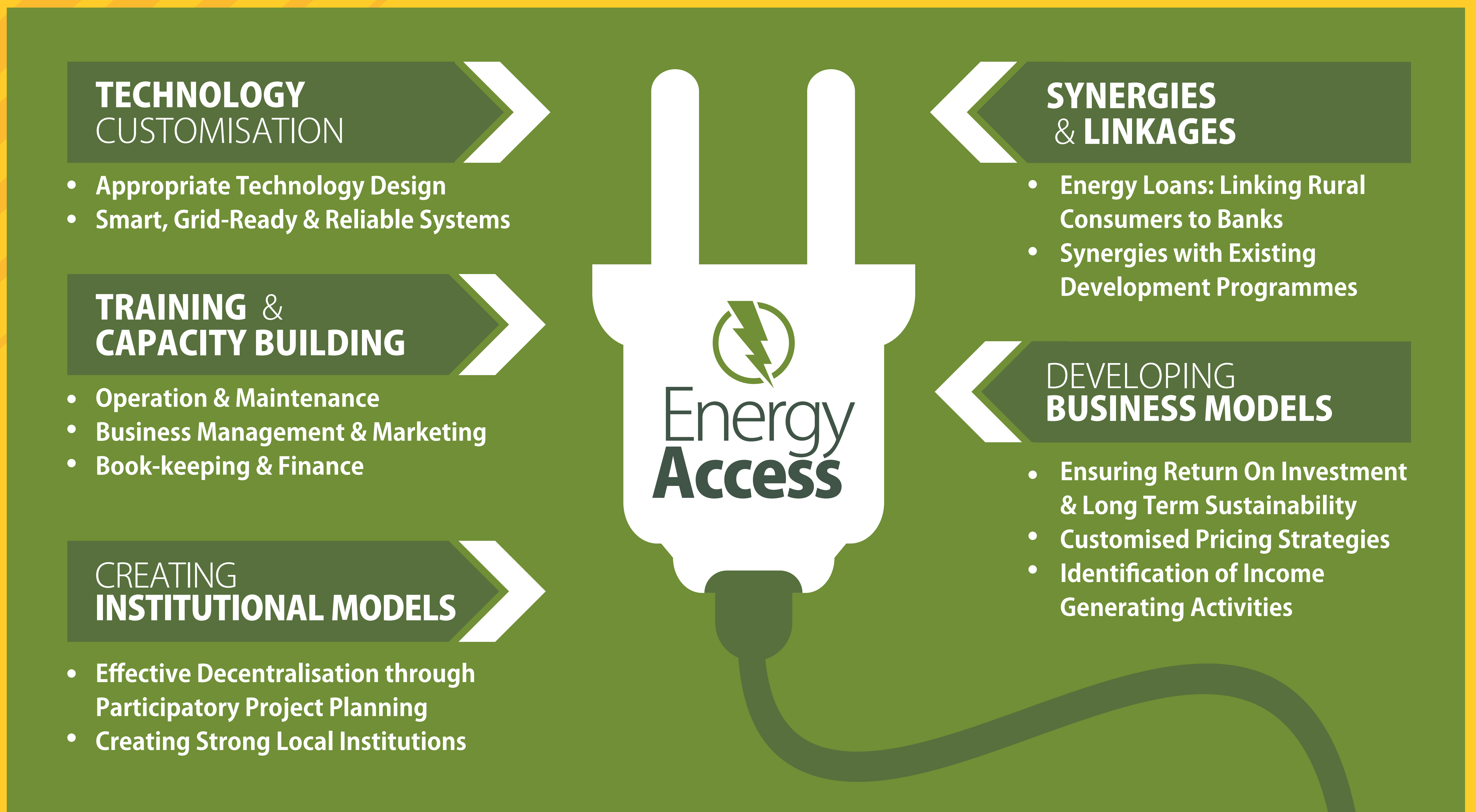


# Sustainable Energy Access



## Concept to Commissioning Solutions for Decentralised Power



### CASE STUDY 1

#### Solar Multi Utility (SMU) for livelihood generation



SHG Preparing Sattu for Mid-Day Meal Programme

### CASE STUDY 2

#### Biomass-Solar Hybrid Cold Storage & Power



Decentralised Cold Storage for Horticulture

### CASE STUDY 3

#### Lighting a Billion Lives (LaBL)



Solar Lighting for Rural Communities



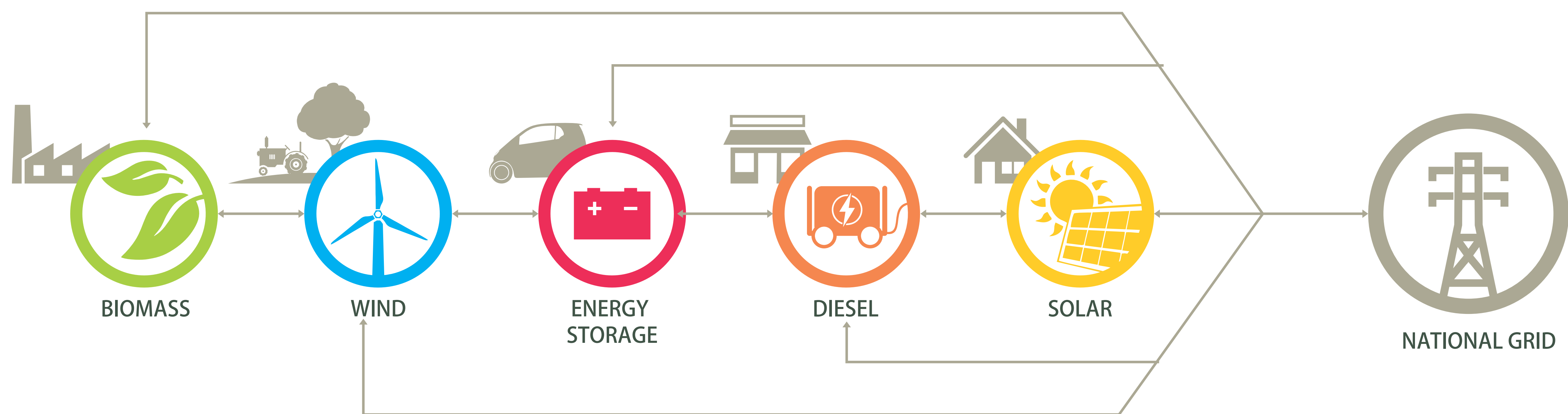
# Innovative Smart Grid Solutions



## 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