



CAT PROJECTS

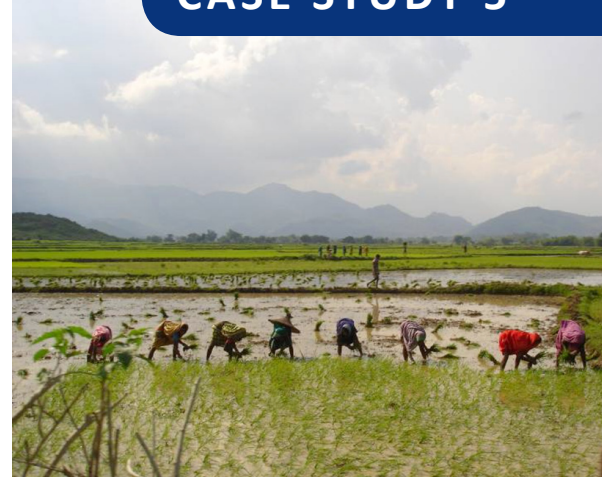
CASE STUDY 5

BUSHLIGHT INDIA

The Bushlight India Project aims to adapt the Australian Bushlight Community Energy Planning Model for the implementation of sustainable renewable energy services within remote Indian villages. To achieve this, CAT Projects is working in partnership with Indian-based community organisations and RE industry participants, including the Government of India, to develop a widely replicable model for the implementation of renewable energy power systems appropriate to the rural Indian context.

Through a number of demonstration systems up to 1000 residents of rural Indian villages will be provided with access to reliable 24 hour electricity, as well as targeted capacity building and support to help maintain the renewable energy systems.

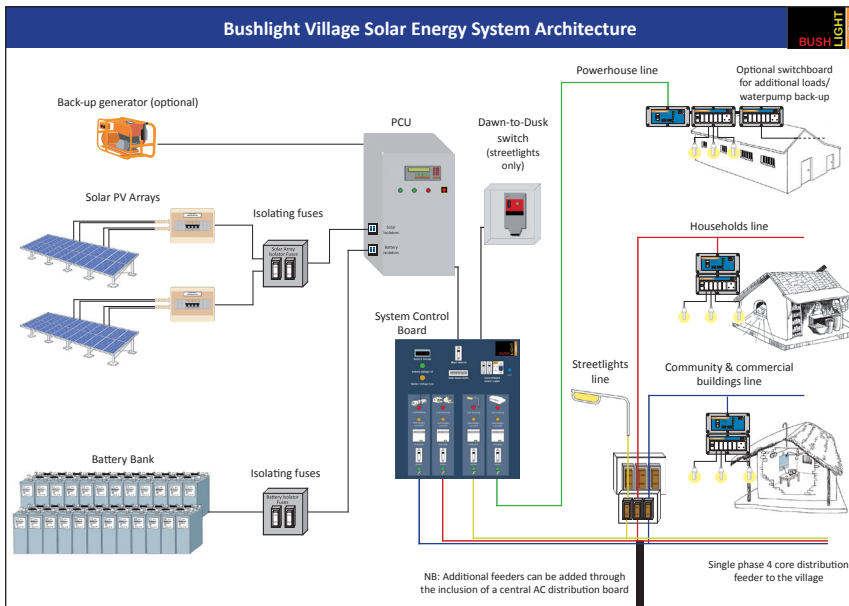
The Bushlight India Project is managed by CAT Projects and funded by the Department for the Environment, Water, Heritage and the Arts through the Australian Government's participation in the Asia-Pacific Partnership on Clean Development and Climate (the APP). Key project partners are: Gram Vikas, a grassroots NGO from the state of Orissa; Tata BP Solar, one of India's leading solar PV manufacturers and system suppliers; and WBREDA and CREDA, the state nodal agencies for the Central Indian Government Ministry of New and Renewable Energy in West Bengal and Chhattisgarh.



The Bushlight India Village Energy Service Delivery Model (VESDM) is based on the original Community Energy Planning Model developed by the Australian Bushlight project (www.bushlight.org.au) and includes:

- A Village Energy Planning process comprising a facilitators manual and a full suite of energy planning, and system operation and maintenance resources in three Indian languages
- Standardised system design and life cycle costing comparison tools
- Development of a low-cost household energy controller and centralised system control board allowing for individual line monitoring and prioritised load shedding
- A system financial analysis tool.
- Up to three demonstration village solar energy systems installed in three Indian states during 2010.





System architecture

The Bushlight India Village Energy Service Delivery Model (VESDM) is based on the successes of the Community Energy Planning Model developed by the Australian Bushlight project, a group within the Centre for Appropriate Technology.

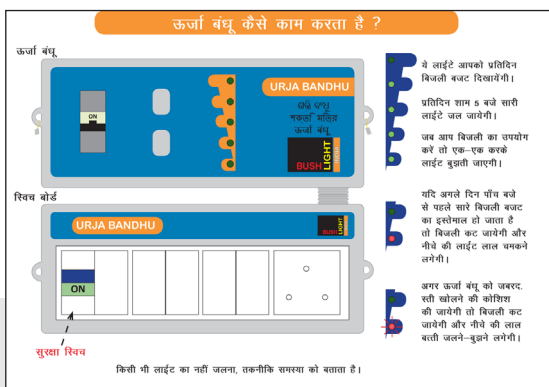
This is a community-focused process for planning, designing, tendering, installing and managing centralised solar PV based energy systems in remote villages in India.

The project will develop a standardised process for engaging with village residents and working with them to determine their energy needs. Design principals have been defined for the implementation of sustainable energy supplies appropriate to their context, with project-specific hardware implemented to facilitate equity in energy consumption in the village context.

The project has developed a low-cost energy management unit called the Urja Bandhu (Energy Friend). These devices will distribute power to buildings according to negotiated “daily energy budgets”. They will also display energy levels remaining, assisting residents to manage their use.

Additional load control and monitoring is supplied through a computer controlled central system control board (SCB) which monitors energy use by each key energy use activity. The SCB automatically load-

sheds different lines on a prioritised basis negotiated with the community, to ensure system longevity.



Left: Urja Bandhu (Energy Friend) in Hindi.

CAT International Projects offers clients in the Asia Pacific region a range of services and support for community energy planning and the design, establishment and maintenance of renewable energy systems; including comprehensive ‘end-to-end’ solutions and straightforward non-technical and technical advice. We have widely recognised capability in:

- Community engagement and planning, training and capacity building
- Providing technical and financial analysis and advice on energy supply options
- Renewable energy system design, procurement and project management
- Designing and implementing long-term renewable energy system support networks.

Drawing on the resources of Bushlight, one of Australia’s leading renewable energy projects, we are able to adapt and apply all or parts of the Bushlight Community Energy Planning Model, to match the context specific needs of projects. Founded on the Sustainable Livelihoods framework and developed over a two year period by a diverse group of engagement and planning specialists, anthropologists, linguists, engineers, RE system designers and resource developers, the Bushlight Model has been successfully deployed in over 100 remote communities across Northern and Central Australia resulting in over 120 household and community-scale decentralised solar PV based renewable energy systems. Our approach to the delivery of sustainable renewable energy services is holistic, ‘demand-driven’, and community-centric. We strive to ensure that each community we work with is able to maximise the livelihood outcomes that can be achieved through the provision of a reliable and cost-effective renewable energy power supply.

