



PROJECTS



Providing reliable electricity supply to remote
Indigenous communities

The Bushlight experience in Australia and India

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Project Director

Bushlight India Project

CAT Projects

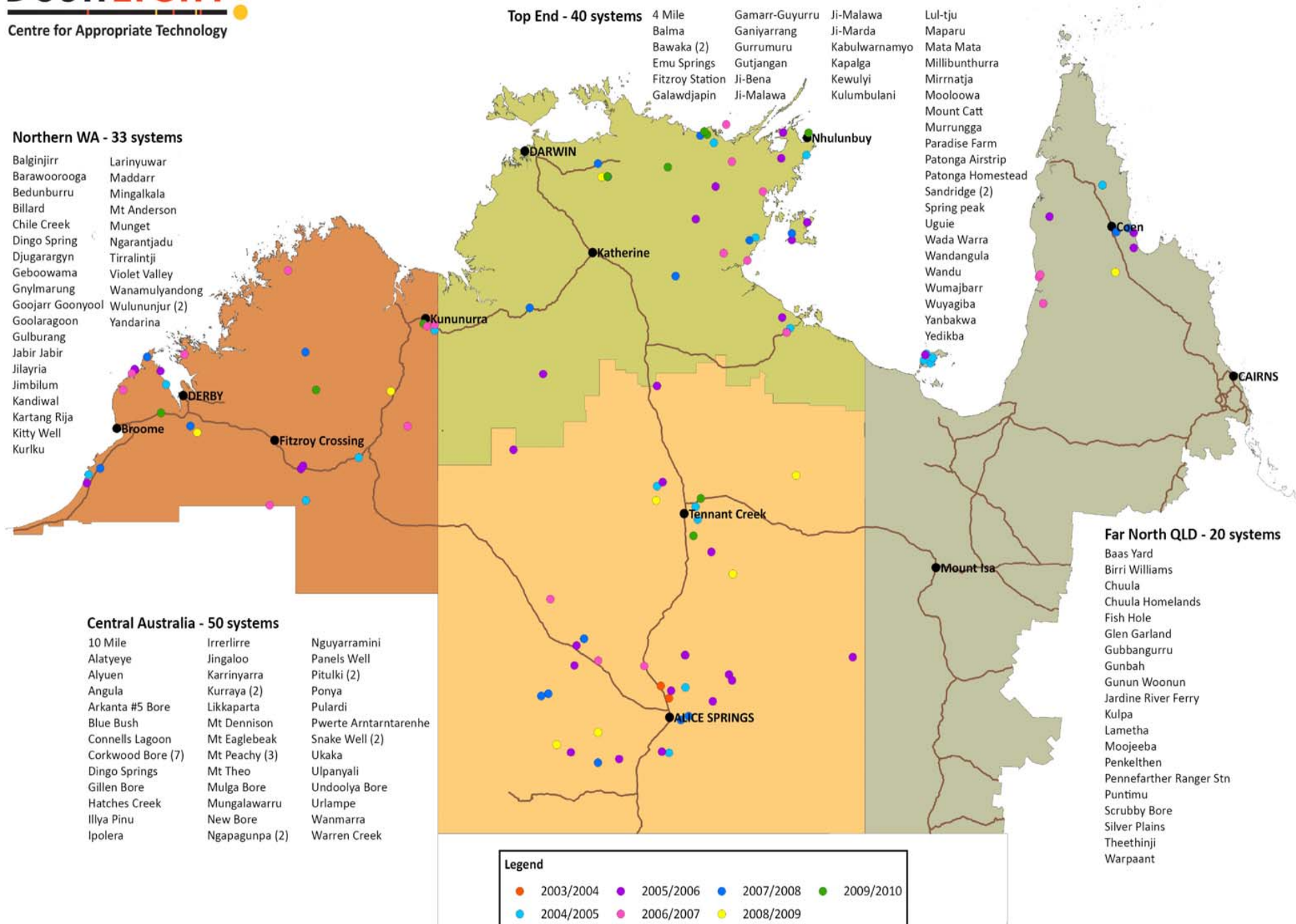


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Bushlight Australia

- Established 2002
- Funded by the Australian Government
- Managed by the Centre for Appropriate Technology
- >\$40m over 8 years

Supporting sustainable livelihoods in remote indigenous communities through the use of renewable energy



Northern WA - 33 systems

- Balginjirr
- Barawoorooga
- Bedunburru
- Billard
- Chile Creek
- Dingo Spring
- Djugaragyn
- Geboowama
- Gnylmarung
- Goojarr Goonyool
- Goolaragoon
- Gulburang
- Jabir Jabir
- Jilayria
- Jimbilum
- Kandiwal
- Kartang Rija
- Kitty Well
- Kuriku
- Larinyuwar
- Maddarr
- Mingalkala
- Mt Anderson
- Munget
- Ngarantjadu
- Tirralintji
- Violet Valley
- Wanamulyandong
- Wulununjur (2)
- Yandarina

Top End - 40 systems

- 4 Mile
- Balma
- Bawaka (2)
- Emu Springs
- Fitzroy Station
- Galawdjapin
- Gamarr-Guyurru
- Ganiyarrang
- Gurrumuru
- Gutjangan
- Ji-Bena
- Ji-Malawa
- Ji-Malawa
- Ji-Marda
- Kabulwarnamyo
- Kapalga
- Kewulyi
- Kulumbulani

- Lul-tju
- Maparu
- Mata Mata
- Millibunthurra
- Mirrnatja
- Mooloowa
- Mount Catt
- Murrunga
- Paradise Farm
- Patonga Airstrip
- Patonga Homestead
- Sandridge (2)
- Spring peak
- Uguie
- Wada Warra
- Wandangula
- Wandu
- Wumajbarr
- Wuyagiba
- Yanbakwa
- Yedikba

Central Australia - 50 systems

- 10 Mile
- Alatyeye
- Alyuen
- Angula
- Arkanta #5 Bore
- Blue Bush
- Connells Lagoon
- Corkwood Bore (7)
- Dingo Springs
- Gillen Bore
- Hatches Creek
- Illya Pinu
- Ipolera
- Irrerlirre
- Jingaloo
- Karrinyarra
- Kurraya (2)
- Likkaparta
- Mt Dennison
- Mt Eaglebeak
- Mt Peachy (3)
- Mt Theo
- Mulga Bore
- Mungalawarru
- New Bore
- Ngapagunpa (2)
- Nguyarramini
- Panels Well
- Pitulki (2)
- Ponya
- Pulardi
- Pwerte Arntartarenhe
- Snake Well (2)
- Ukaka
- Ulpanyali
- Undoolya Bore
- Urlampe
- Wanmarra
- Warren Creek

Far North QLD - 20 systems

- Baas Yard
- Birri Williams
- Chuula
- Chuula Homelands
- Fish Hole
- Glen Garland
- Gubbangurru
- Gunbah
- Gunun Woonun
- Jardine River Ferry
- Kulpa
- Lametha
- Moojeeba
- Penkelthen
- Pennefarther Ranger Stn
- Puntimu
- Scrubby Bore
- Silver Plains
- Theethinji
- Warpaant

Legend

● 2003/2004	● 2005/2006	● 2007/2008	● 2009/2010
● 2004/2005	● 2006/2007	● 2008/2009	



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Light and Life in the Bush

BUSH LIGHT



Bob uses a small generator. It does not belong to Bob. The resource agency provided it. Fuel costs a lot of money so Bob cannot run the generator all day.

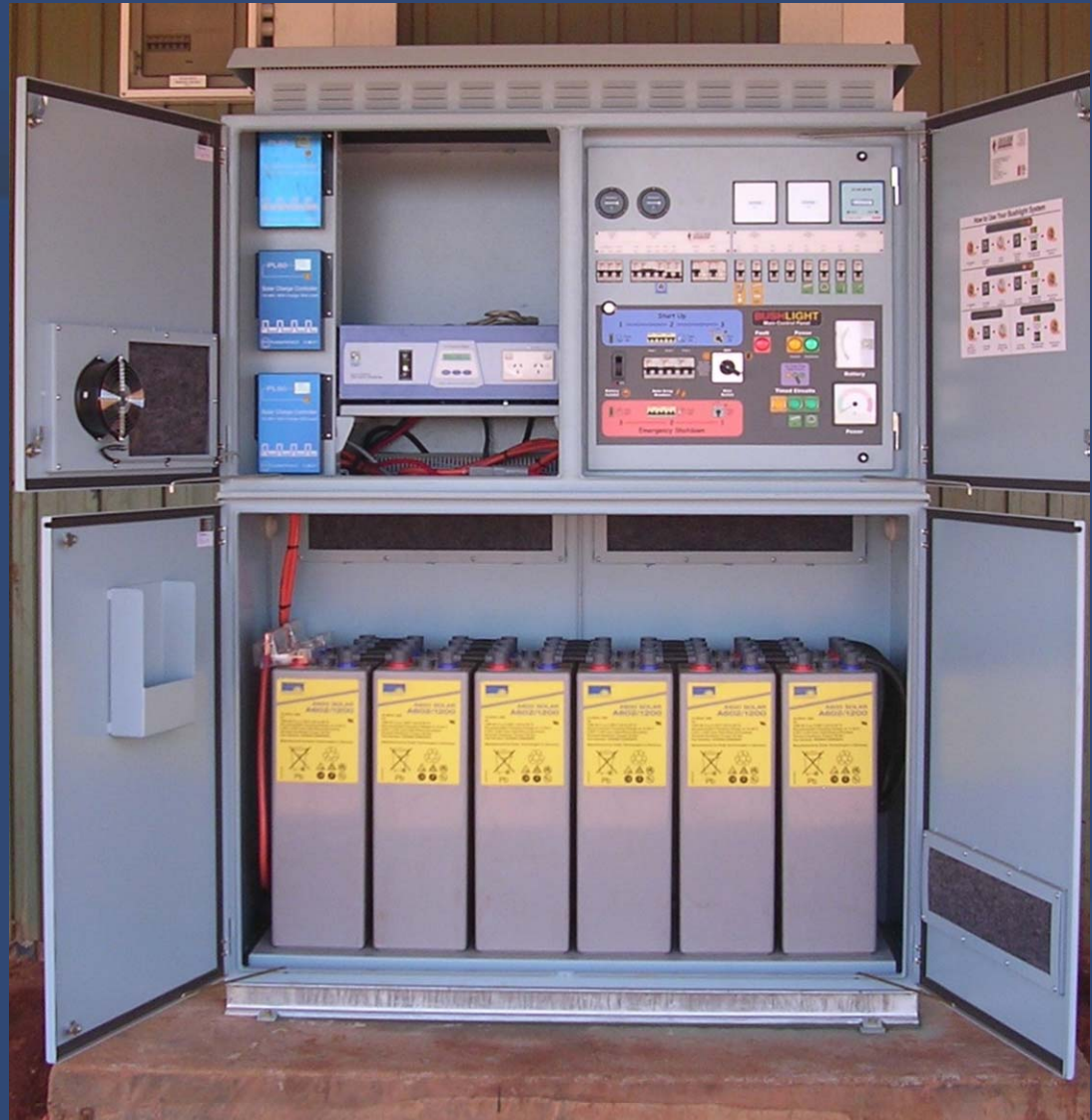


Rebecca has a solar system. She has electricity all day. The solar system does not make enough electricity for everything they do. They also have a small generator.





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Sustainable Livelihoods





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Bushlight India

- AUD \$3m, 2 ½ year project
- Funding provided by the Australian government through the Asia Pacific Partnership on Clean Development and Climate
- Managed by CAT Projects, a subsidiary company of the Centre for Appropriate Technology
- Project will conclude in December 2010

Collaboratively develop and demonstrate a model for the delivery of:

- *reliable*
- *financially sustainable*
- *locally managed*

*centralised renewable energy systems in remote villages,
based on an adaptation of the 'Bushlight'
implementation model.*





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Bushlight India

The Village Energy Service Delivery Model (VESDM):

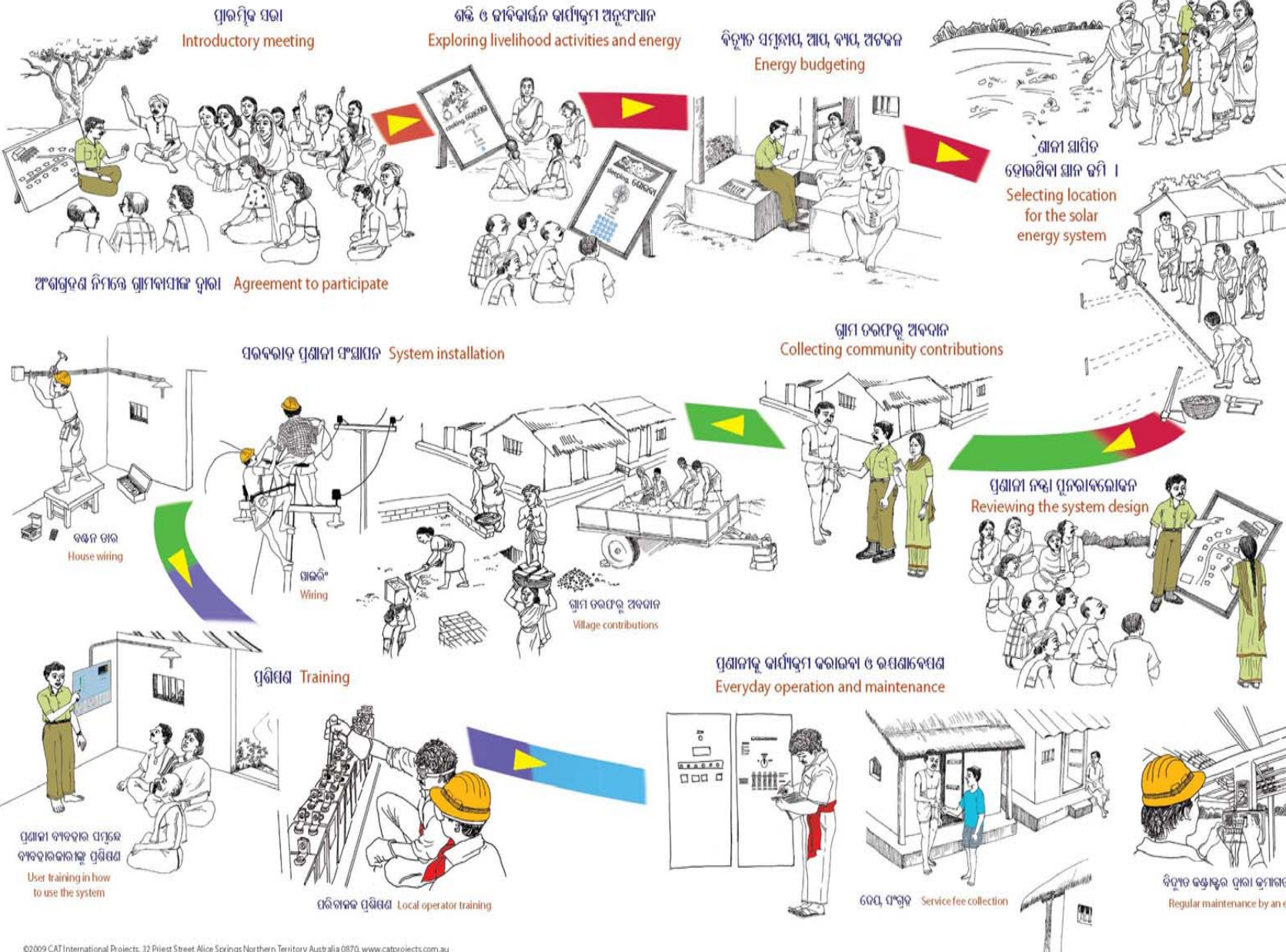
Developed in collaboration with NGOs, RE Industry, Government and Rural Energy experts in India

A comprehensively documented and resourced, stage-wise process involving:

- Village Selection
- Village Energy Planning (VEP)
 - Education & Information
 - Energy budgeting
- System design (solar PV)
 - Technical
 - Financial modelling
 - Comparative life cycle cost assessment
- Establishment of institutional management & support structures
- Training and support program

ଗ୍ରାମ୍ୟ ବିଦ୍ୟୁତ ସେବା ତଥା ବିତରଣ ପ୍ରଣାଳୀ

Village Energy Service Delivery Model



ସଂଗଠକ
Facilitator

ପରିଚାଳକ
Local operator

ଗ୍ରାମବାସୀ
Villagers

ବାହ୍ୟ ବୈଷୟିକ କର୍ମଚାରୀ
External technical staff

ପ୍ରଣାଳୀ ପରିଚାଳକ
System manager



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Bushlight India

How is it different?

Existing models typically supply power for 4 – 6 hours/day with no control on how much energy people use during this period.

With Bushlight India systems:

- Energy is available 24/7
- Access to energy is assured for all connected buildings
- People pay for a fixed amount of energy per day
- System financial modeling allows for accurate projections of income required to meet known costs
- Excessive and unauthorised energy use prevented through programmable automatic control measures

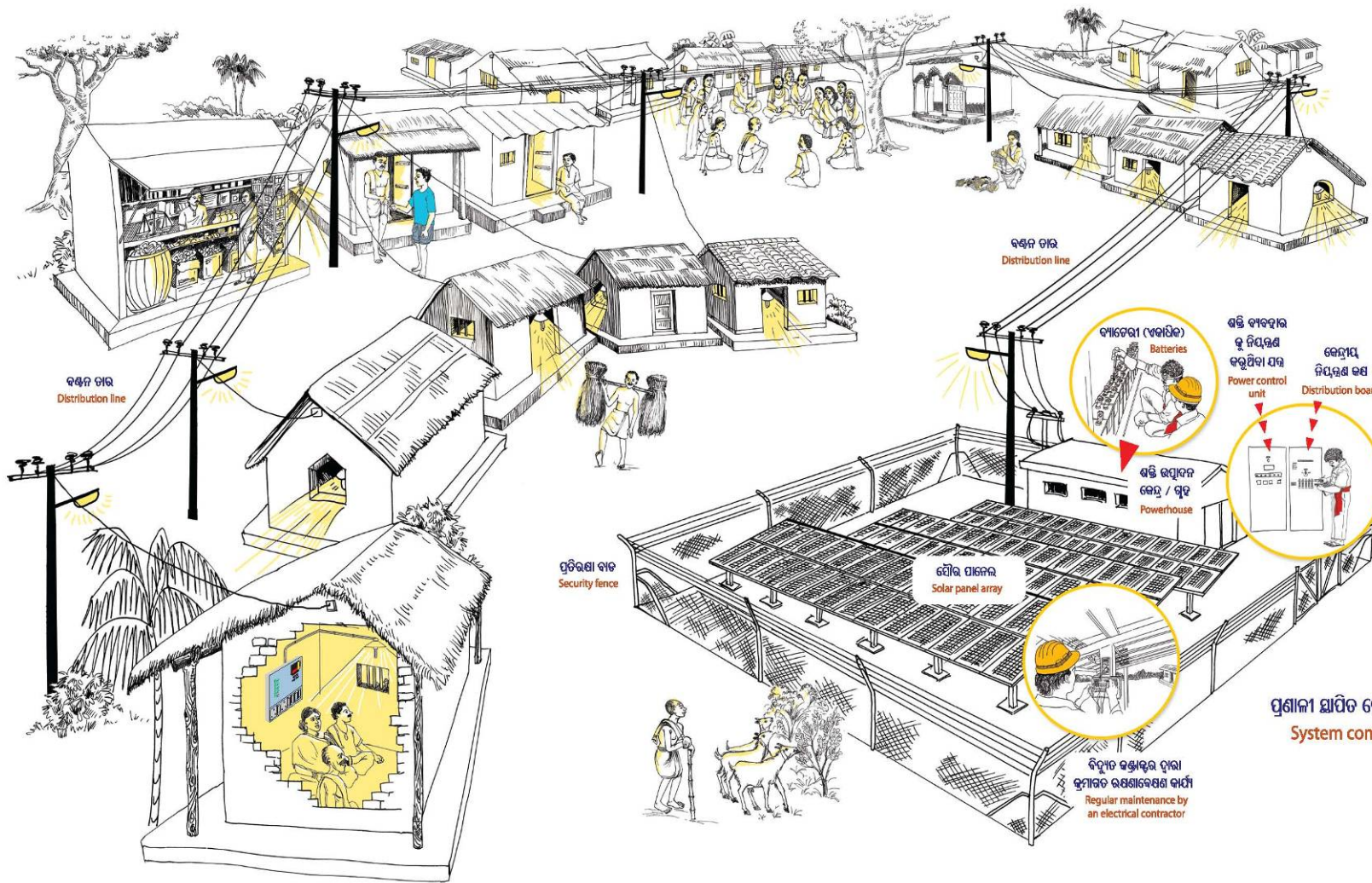




Maligaon Village
Thuanul Rampur Block, Kalahandi District,
Orissa, India



ରୁଗ୍ ଲାଇଟ୍ ଦ୍ୱାରା ସ୍ଥାପିତ ଏକ ସୌରଶକ୍ତି ପ୍ରଣାଳୀ ଗ୍ରାମ କିପରି ଦେଖାଯାଇଥାଏ । What does a Bushlight village solar energy system look like?



-  ପରିଚାଳକ
Local operator
-  ପ୍ରଣାଳୀ ପରିଚାଳକ
System manager
-  ବାହ୍ୟ ଟେକନିକାଲ୍ ଷ୍ଟାଫ୍
External technical staff

ପ୍ରଣାଳୀ ସ୍ଥାପିତ ହୋଇଥିବା ସ୍ଥାନ
System compound





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Bushlight India

The Urja Bandhu

Designed, developed and manufactured in India.

Programmable device for limiting the total amount of energy used by each customer over a 24 hour period.

Low cost: Rs 3000 including switchboard and mounting plate.

Intuitive display links in with the energy budgeting process.

How does the energy friend work?

Urja Bandhu

These lights show your daily energy budget.

At 5pm every day all the lights will come on.

As you use energy the lights will go out one at a time.

If all of your energy budget is used before 5 pm the next day, power will be cut and the bottom light will turn red.

Switchboard

Note: If there are no lights on at all check availability of supply at the main switchboard (SCB).

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Bushlight India

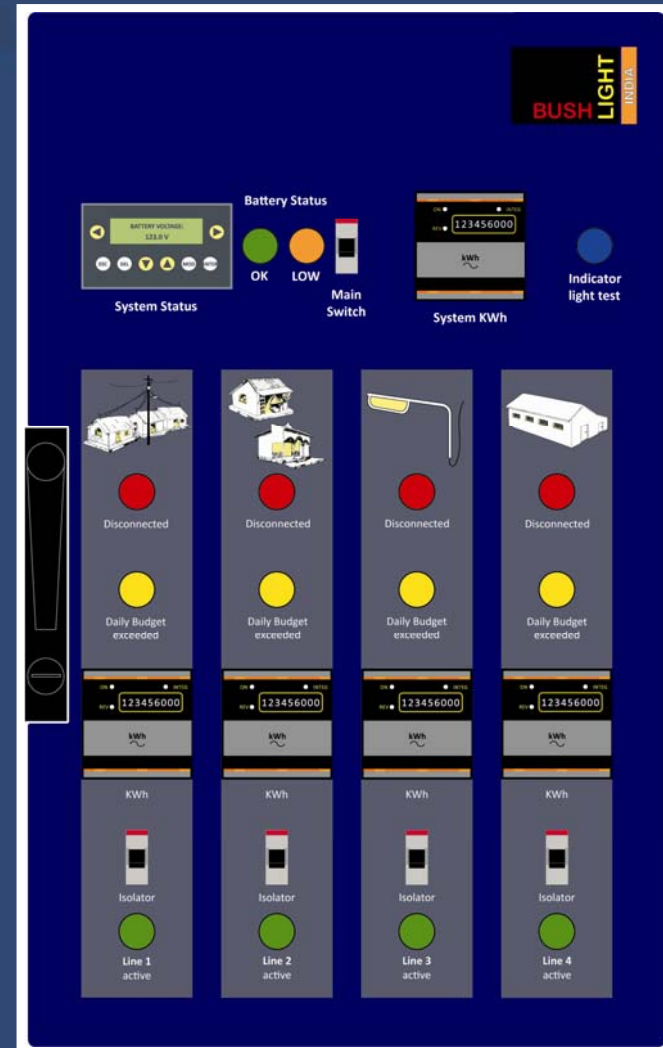
System Control Board

Designed, developed and manufactured in India.

Allows for central control and monitoring of four separate main feeder lines.

Incorporates a smart load shedding system whereby power is cut to the various lines on a prioritised basis.

Intuitive display allows operators to easily monitor system performance and identify instances of power theft.





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For more information, visit:

www.catprojects.com.au

www.bushlight.org.au

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Thank you