

BUSHLIGHT LENDS A HAND TO TJUWANPA

Newsletter No.15, September 2007

Early in 2007 Tjuwanpa Outstation Resource Centre (TORC) contacted Bushlight regarding upgrades to five solar/diesel power systems. Components for the systems had been purchased by a previous employee of TORC experienced in installing RE systems. Unfortunately the employee resigned from his position with TORC before the upgrades were completed, leaving the organisation without the technical capacity to complete the task.



The old and the new

TORC contacted Bushlight to see what help could be provided. Prior to this, CAT's Technical Skills Group had run a series of training workshops with Tjuwanpa as well as collaborating on a research project. This existing relationship, combined with Bushlight's reputation in the field of solar energy, made the connection logical.

Bushlight was subsequently contracted to project manage the completion of the upgrades. To ensure they met Australian standards, the systems were redesigned with additional solar to more appropriately accommodate the community requirements and reduce dependency on diesel generators. A local installer was contracted via a public tender, who successfully completed all five upgrades by early September 2007. All systems were commissioned by Bushlight using the project's standard commissioning checklist and all have 12 month warranties on the installation work and standard equipment warranties on all major components. The systems now operate on an automatic set up where the generator runs to supply high power use appliances or in the event of extended cloudy periods. Otherwise the communities' power needs are met by solar power. The Tjuwanpa systems are now included in Bushlight's Operation and Maintenance Program.

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FOCUS ON UKAKA

The community of Ukaka is 230kms south west of Alice Springs, near Watarrka (Kings Canyon). Ukaka has a permanent population of over 50 and significant infrastructure including seven houses, a school, a store/clinic, three shelters, a laundry and a workshop. Prior to the installation of the Bushlight system Ukaka residents spent over \$23,000 a year on diesel to meet their energy needs. With the new Bushlight solar/diesel system, combining a large 20kWp solar array with regulated generator run-time, the community is expected to save \$21,000 each year.

Bushlight began its Community Energy Planning (CEP) process with Ukaka residents in April 2006. Over the course of the CEP, residents identified their key aspiration as wanting 'to work towards a cohesive and happy community, centred around ensuring the young men were integrated and staying on the community and contributing to its livelihood'.

Part of the process for achieving this aspiration involved significantly reducing the community's expenditure on diesel. The Bushlight system, with its associated demand side management equipment, is helping the community to do this. The solar component provides the great majority of the community's energy needs, with the generator only running when the batteries need charging. As with all Bushlight community systems, to avoid uncontrolled energy use and diesel consumption, each household is allocated a pre-agreed daily energy budget. Additional power is available from small household generators.



Ukaka Community



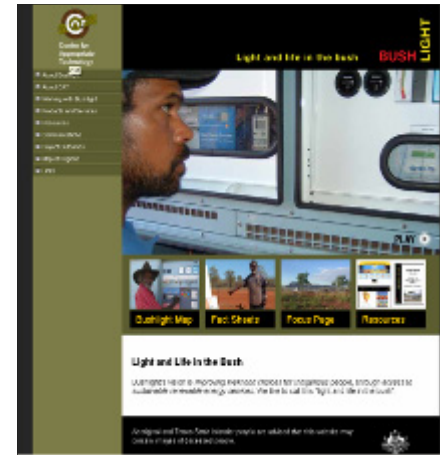
Ukaka's Bushlight System being commissioned

With the installation of the Bushlight system in Ukaka there is now affordable and reliable power for all the community buildings. In the school there is power for the teacher's accommodation as well as educational equipment such as computers, TV, DVD, and a photocopier. The school air-conditioner is also available during summer. A Ukaka Fact Sheet is available from the Bushlight website by following the 'Fact Sheet' link on the homepage.

Light and Life in the Bush

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NEW WEBSITE GOES LIVE



Bushlight recently launched a new website to reflect the growth and success of the project since it began in 2002. The new site makes a wide range of information and resources available to the renewable energy (RE) industry, major project stakeholders, service delivery organisations and the general public.

In designing the new website we investigated the previous site's visitor statistics and were surprised to see that a significant proportion of our visitors were from overseas, suggesting Bushlight's reputation as an innovative community energy project is spreading. The other major site user was the RE industry, with both its commercial and educational arms accessing the site.

To reflect this we now have clearly marked sections for; those wanting to work with us; people interested in the products and services we offer; those wanting to utilise our range of RE resources; and various reportage on project outcomes and progress.

We trust the new site offers users the information they want and provides a useful and informative entry point to this exciting project. Visit the new site at www.bushlight.org.au and let us know what you think.

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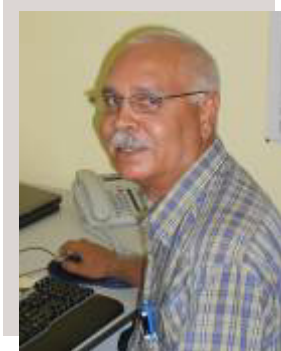


Bushlight Map



Resources

NEW REGIONAL MANAGERS FOR KIMBERLEY & CENTRAL REGIONS



Kimberley Regional Manager David D'Antoine

The Bushlight Kimberley office has recently had a change in management with David D'Antoine moving from his position as Project Officer to Regional Manager, taking over from John Schmidt. A local from the Derby region, David started work for Bushlight in January 2003 after more than a decade working first in the mining industry and then for ATSIIC. Having worked around WA doing various jobs, David thinks Bushlight is one of the best. "...because you can do positive things on behalf of communities; start initiatives and finish them without having to worry so much about funding falling through. The other thing I like is that it's a renewable energy project, which is important given the way the world is going. It's a very rewarding job being able to arrive at such good outcomes as we do".



Central Australian Regional Manager Marteena McKenzie

Marteena McKenzie is our new Regional Manager for the Central Region. She has moved to Alice Springs from Brisbane, where she was undertaking PhD research on rural livelihoods. Marteena's background is in environmental policy, development studies and ecological economics, which she taught at Griffith University for the past few years. Her Honours project explored renewable energy uptake in remote Australia, focusing on the barriers to uptake and the importance of effective community engagement. She found out about Bushlight during the course of her research. Marteena is excited about working with Bushlight and exploring the country in and around Alice Springs. In her downtime, she enjoys being outside, music, bike-riding and books. Marteena is also an accomplished karaoke singer and tambourine playing aficionado. If you ask her nicely she might give you a demo...

BUSHLIGHT POWERING UP NORTHERN TERRITORY HOMELANDS AND SCHOOLS

Bushlight RE systems are powering many of the homeland schools scattered across the four regions in which we operate. In the NT, Homeland schools are either part of the Northern Territory Department of Education's Homeland Learning Centres (HLC) network or the School of the Air.



Annie Roberts supervising School of the Air at Wada Warra.

One of these communities is **Wada Warra** in the Gulf region 45kms north of Borroloola. Wada Warra is a community on the go. Established in 1981, it now has 5 houses and the majority of the population is permanent. Once part of a cattle station and also called Bone Lagoon, the community continues to run cattle, mustering the traditional way with horses.

When Bushlight first started working with the residents of Wada Warra, the community was using about 20 litres of diesel a night for around 10 hours of power. Since the system was installed in late January 2006, the community has used virtually no diesel. Saving money on diesel expenditure is vitally important for the homeland

residents, particularly given the distance from the local service centre and the high costs of everyday goods. Since obtaining reliable 24 hour solar power, Wada Warra residents have also seen new building developments and the upgrade of some existing infrastructure.

The Bushlight system has also allowed the community to forge ahead in education. For a number of years now Annie Roberts has hosted a School of the Air class in her house, using the local Telstra phone to connect to live web-classes. Two children are currently attending classes, with another two already having graduated and now studying in Katherine. This has been a great success for the community. Prior to the installation of the RE system whenever Annie wanted to hold a class, she needed to run the generator which was both expensive and noisy. Now, she can switch on the computer at any time of the day and log in to the School of the Air network.

'Bushlight is the best thing to happen to Wada Warra so far' (Annie Roberts).

Another example of Bushlight supporting homeland schooling is in the community of **Ukaka**, 230kms south west of Alice Springs. Ukaka is a sizeable community with a permanent population of more than 50 people. In July 2007, Bushlight commissioned a solar/diesel power system in Ukaka. One of the more significant loads on the system is the homeland school, including the classroom and teacher accommodation (a teacher lives at Ukaka three days per week and the school operates four days per week). Using the system as designed, the community will use about 4 litres of diesel a day; a small price to pay for the promise of education for the 17 children living in the community.



Ukaka School students

During the course of the project, Bushlight has created a wide range of RE related resources and products that have been designed for use in Indigenous communities. These resources are used daily by Bushlight staff during the community engagement and energy planning process that we undertake in every community. Having seen these resources in use Lisa Hall, the teacher at the **Mulga Bore HLC** near Alice Springs, devised a lesson plan based on the resources. The lessons were so popular that it led Bushlight to put together a package of resources for use by teachers in other schools. Printed copies of *Bushlight in the Classroom* (Schools Pack) are available free of charge from Bushlight (contacts overleaf).



BUSHLIGHT'S ELECTRICAL CONTRACTORS COME FROM NEAR AND FAR FOR TRAINING COURSE

The Bushlight Technical Services Group recently conducted a maintenance training course for all electrical contractors providing maintenance services for Bushlight. The course was held at the Centre for Appropriate Technology in Alice Springs over two and a half days from the 18th to the 20th of July, 2007.



Course participants & Bushlight staff during a session on datalogging

In order to provide effective maintenance services, it is important for contractors to have a thorough understanding of all aspects of Bushlight, including the energy planning process that supports the delivery of RE services to remote Indigenous communities. Therefore the course provided not only an opportunity for contractors to gain a detailed understanding of Bushlight renewable energy systems, it also included an overview of Bushlight's approach to providing energy services from initial discussions with communities through to the post-installation phase of operation, which is where they come in. The course also involved in-depth technical training covering the operating and maintenance related aspects of all Bushlight RE systems and Bushlight specific components (eg.

Energy Management Units) and products such as the Bushlight datalogging tools. Sessions on installing, using and maintaining *Plasmatronics* charge controllers and *Selectronic* inverters were also delivered by representatives of the manufacturers.

The course was attended by 20 contractors drawn from all the regions in which Bushlight works, including the Kimberley, Far North Queensland, NT Top End and NT Central regions. Companies represented include Gully's Electrical Services, Inland Electrical, Power Projects NT, Power House Electrics, SolarWorks, Maurie Morrisson Electrical, Australian Solar Industries, Delta Electrics, Power and Water, Ergon Energy and Eris McCarthy Electrical. This impressive list of contractors is a measure of the important role Bushlight plays in supporting the RE industry in northern Australia.



Presentation and working session on Selectronics Inverters, led by Rob Webb from Selectronics

In addition to the delivery of technical training, the course provided a networking opportunity and a forum for the exchange of ideas and information, drawing on the extensive pool of experience amongst the contractors and Bushlight staff attending the course. Feedback received from attendees indicated together with the opportunity to learn about specific technical aspects of Bushlight RE systems and the overall Bushlight approach, this was one of the most beneficial aspects of the course. Course attendees rated the course very highly and found it provided them with the necessary information and resources to successfully carry out the maintenance activities expected of them.

BUSHLIGHT ENCLOSURES AVAILABLE

Due to demand from the RE industry Bushlight is making its system enclosures available for purchase. Bushlight enclosures are designed to withstand remote area environments; are field tested; come pre-wired with standardised components performance tested in RESLab and are fully factory approval tested. Bushlight enclosures meet or exceed all Australian industry standards. Please see our website for further details by clicking on 'Products and Services'.

