

*In this edition we go around the Bushlight regions for an update of activities as well as talk about the new procurement strategy for the Bushlight Household RE System, and the data logging of systems.*

## **Kimberley**

John Schmidt and David D'Antoine from the Bushlight Derby office have had meetings with ATSIC Regional Council members in Broome, Derby and Kununurra to discuss the draft Regional Energy Plan (REP) and to provide an update on Bushlight Community Energy Planning tools and capital works. All three Councils have referred the REP to their Portfolio Committees for detailed review. John Schmidt is using the priority criteria in the REP to prepare a list of communities for planning for energy services over the next two years.



*Bushlight's David D'Antoine checking the solar pathfinder at a proposed array site, Dingo Spring.*

The Bushlight Derby team recently visited Wangkajanka Community and found some of the elders from Ngarantjadu Community there. We updated them on the installation of an RE system at Ngarantjadu and they were extremely excited and pleased about it. When the wet season is over that system will be installed and commissioned.

The team also visited Dingo Spring community again to discuss the Community Service Agreement and to obtain measurements for the site of the PV array.

## **Busy months ahead for Top End Bushlight team**

The Bushlight Top End team is gearing up for a busy dry season with community energy planning beginning in March at Sandridge and Milibunthurra homelands near Borroloola in the NT's gulf country. Community energy planning is also set to begin at Bawaka homelands in eastern Arnhem Land near Yirrkala and at Wumajbarr homelands near Numbulwar. In coming months Bushlight and residents of these homelands will plan and implement improved energy services.

In the next few months Bushlight will be visiting many other communities wherever roads are passable (and sometimes where they are not) throughout the Top End to discuss the project with communities and begin energy services planning for the next 12 months.

In other news, two new faces have joined Zoë Pilven as part of the Bushlight Top End team. Mark Wakeham and Rhys Arnott have been employed as Regional Project Officers and will accelerate Bushlight's work across the Top End. Rhys will be visiting homelands in the four Top End ATSIC regions to assist in the development of regional energy plans, while Mark will be involved in community energy planning and implementing improved energy services in homeland communities.



*Bushlight Top End team  
Rhys Arnott, Zoë Pilven, and Mark Wakeham*

## North Queensland

Bushlight North Queensland has been working on the development of a Regional Energy Plan (REP) for the Gulf and Western Queensland Region and a draft has now been provided to the ATSIC Regional Council and the ATSSIS regional office.

The process of developing the REP involved visiting and consulting with key stakeholders including homeland and outstation communities, resource and support agencies, ATSSIS and ATSIC to determine regional energy needs and priorities.

Information gathered on the ground at outstations on Mornington Island assisted the Bushlight NQ team, in conjunction with Mornington Island Shire Council and the Gulf and Western Queensland ATSSIS office, to determine renewable energy (RE) priorities and funding options for RE systems for outstations on the island.

Community Energy Planning has commenced in two Mornington Island outstation communities. Bushlight staff will hold workshops with the selected communities to develop profiles of the communities and to develop individual energy budgets. This helps raise community awareness about energy, and how it supports and sustains lifestyle and livelihood activities.

The NQ team has also been working on the development of a Regional Energy Plan for the Peninsula Region.

John Hopkins, Bushlight's North Queensland Regional Manager, recently participated in a joint field trip with ATSSIS field staff, to the Coen area of Cape York Peninsula. Bushlight staff consulted with ATSSIS representatives, resource agency (CRAC) staff and outstation community members to determine priorities for the region.

The weather provided an example of the difficulties outstation residents' encounter, as heavy rain cut access roads to outstations.

A Bushlight RE system will provide a reliable source of energy for remote communities and eliminate the need to transport and store large quantities of diesel fuel during the wet season.

## Central Region Update

The last three months have seen an additional eight standalone systems installed in the Bushlight Central Australia region.

Prior to Christmas a new system was installed at Mt Peachy (see Newsletter No. 3) as part of the Bushlight pilot program in the Central Remote ATSIC region. The system has been performing exceptionally well and the residents report a high degree of satisfaction with their new energy services arrangements. A case study of Mt Peachy is provided on the website (What's New → Regional Updates → Central Aust). Two further systems will be installed at Mt Peachy during the coming months.

The final six systems have now been installed at Corkwood Bore. Ergon Energy was on site during the installation period and completed final commissioning of all systems on 31 March. The Central regional team is now focused on operation and maintenance training for the new residents of Corkwood Bore and providing ongoing support.

In addition to the recent focus on new installations and associated training and support, the regional team is spending considerable time in Tennant Creek working with three communities in the Yapakurlangu ATSIC region. We are working with the community members to plan improved energy services and are currently finalising designs for six new standalone power supply systems.



*Flooded creek crossings cause access and transportation problems for outstation residents; necessitating the need to store fuel in bulk to get through the wet season.*

## Future Bushlight Household RE System Procurement

With some 30 Bushlight Household RE Systems now installed or under construction, the system design, supply and installation contract with Ergon Energy is approaching the final stages. This makes for a timely introduction to the way forward for Bushlight Household RE System procurement.

Bushlight's new procurement strategy incorporates both the evolving requirements of the project, as well as lessons learnt to date from the first round of procurement. This has resulted in some significant changes to the way Bushlight Household RE systems will be procured and installed.

The partnership with Ergon Energy has delivered some very robust "fit-for-purpose" RE system enclosures, and Bushlight now plans to build on this result while increasing the level of regional industry involvement. This will be achieved by offering Household RE System component supply and system installation contracts direct to local suppliers and installers.

In addition to these contracts, Bushlight will implement a procurement contract for the manufacture and supply of Bushlight Household RE System Enclosures. For the next 12 months enclosures, along with comprehensive installation documentation, will be "free-issued" to the successful local installation contractors. This will ensure that Bushlight systems have a robust and consistent equipment enclosure, while maximising local RE industry involvement.

This will facilitate the distribution of knowledge and skills associated with improved RE systems to regional service networks.

Component pre-approval is also continuing well. Solar panels (PV modules) are commonly the most expensive part of a Bushlight Household RE system, and we now have several choices of approved PV modules, including BP Solar, Sharp, and Shell. A number of component suppliers have indicated that special pricing will be available to installers and contractors working on the Bushlight project.

Lists of pre-approved components, together with supplier details, will be provided in

conjunction with future tender documents. This should increase opportunities for competitive pricing by regional installers.

## Community RE System Industry Consultation

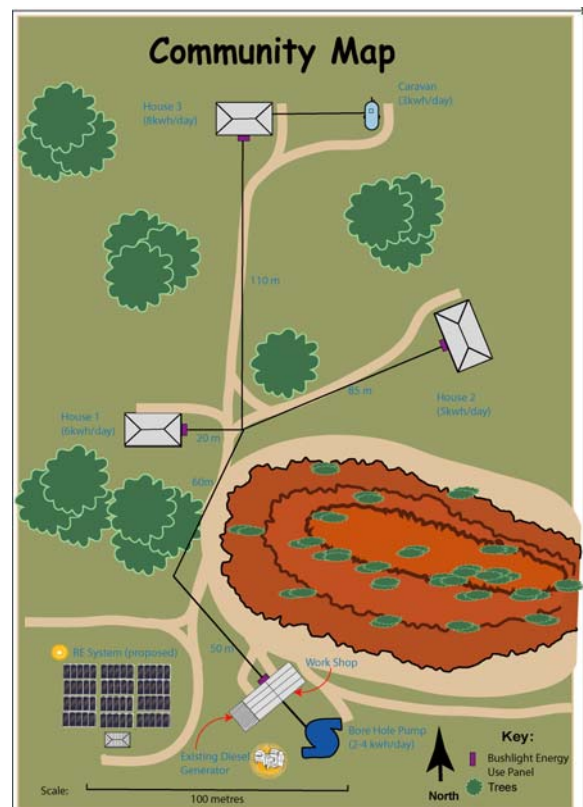
As was the case for Bushlight Household RE Systems, a comprehensive industry consultation process is currently under way for the larger Bushlight Community RE Systems.

The Community RE Systems are technically defined as having:

- Daily Load between 8 and 32kWh/day,
- Peak continuous AC requirement of 3 to 15kW, and
- PV Array of 3 to 12kW peak capacity.

RE industry participants have been invited to provide input into the design and specification phase of the system development, as well as to comment on the process Bushlight will use to procure and install the systems.

A summary of the consultation notes will be published on the Bushlight website at the conclusion of the industry consultation process.



*Bushlight Community RE Systems concept in a typical community*

## Monitoring Bushlight Household RE System Performance

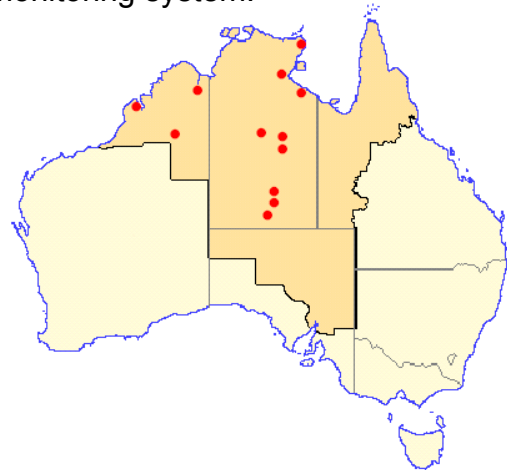
The first twelve Bushlight Household RE systems have been designed to incorporate a unique programmable logic controller (PLC) based monitoring system. Fully monitored systems are currently installed at Corkwood Bore and Mount Peachy in Central Australia. Other fully monitored systems will be deployed to ten geographically diverse sites around Australia.

RE system data will be stored on the Bushlight database, which will ensure the data is secure and readily available (via the internet) to the full range of project stakeholders. In addition, Bushlight intends to publish the results of the analysis of the data such that any key findings will be directly available to RE industry participants.

This enables detailed system performance data to be gathered for these systems. This is a critical element of Bushlight's strategy to provide improved RE systems for indigenous communities. Data collected from the Bushlight Household RE Systems will be used to:

Detailed monitoring is valuable in making long-term conclusions on the success of the Bushlight Community Energy Planning process and the validity of Bushlight system designs. This is a key project deliverable to our stakeholders. Subsequent Household RE Systems employ a simpler and less expensive inverter based monitoring system.

- Confirm design methodologies and RE component performance
- Confirm ongoing correct operation of the RE system
- Detect system failures or deterioration in component or system performance
- Forecast/schedule maintenance activities based on system performance
- Alert users (via local alarm) and support agencies (via telephone) to system operating anomalies or problems.
- Collect in-situ performance metrics for RE system components.



*Location of Bushlight Household RE Systems with comprehensive PLC performance monitoring*

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