

Remote and Isolated Communities Essential Services (RICES) project



An overview of 3 years of Water & Energy research in remote Aboriginal and Torres Strait Island Communities

Infographic summary report, May 2018

Why RICES?

RICES is a collaborative project responding to challenges of water and energy security & resilience in remote and isolated communities

CLIMATE CHANGE
more frequent & extreme weather events



COSTS TO SUPPLY DRINKING WATER & ENERGY TO MANY REMOTE TOWNS ARE OVER

1000% HIGHER*

some towns have no continual access to drinking water



ageing assets



&



low local skillset

Using an innovative approach

Action research | community participation | stakeholder involvement | social research underpinned by empirical data | feedback of water end-uses to householders | Australian first!

Broader community

- Consult and inform
- Identification of stakeholder barriers and benefits of project
- Report project findings



3
remote communities

Local Community

- BBQ for public and council
- Education & information to public and council
- Consult, inform & listen



16
visits to community

Household

- Two-way discussions
- Water & energy survey
- Smart metering
- Feedback on water & energy use



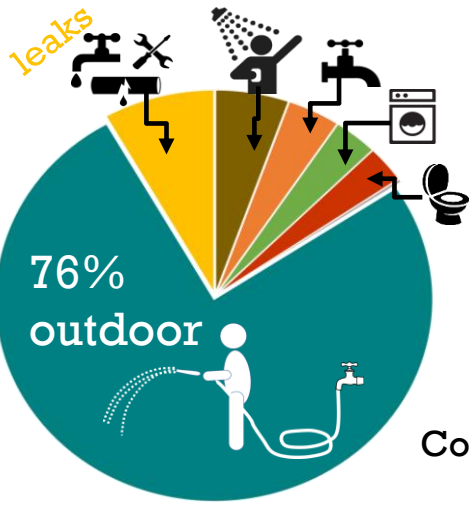
52
households

Individual

- Active participation
- Commitment to efficiency actions
- Identification of barriers
- Project evaluation



238
people



Daily average water end-use breakdown (%) of 50 homes over two week period

DAILY WATER AVERAGE

Per person: 920 L ($\pm 2,636$ SD)
 Per household: 3,480 L (± 562 SD)
 Community bore*: 679 kL (± 26 SD)

DAILY ENERGY AVERAGE

Total household : 25 kWh (± 4 SD)
 Hot water household: 2 kWh (± 1.2 SD)
 Community bore pump*: 252 kWh (± 11 SD)

Measuring to manage better

Smart meter-enabled baseline data from 3 communities in Far North Qld and Central NT

* average from Cape York community bore

Issues of Health & Wellbeing

When asked about outdoor water use, community members identified key motivators relating to environmental health & general wellbeing. This has likely to have contributed to the poor (long-term) responses to council-enforced restrictions



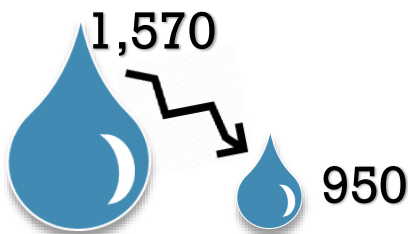
Water demand management trial

Feedback of water and energy data | one-on-one chat about water use | community education BBQ | council commitment on their water (& energy) use | co-develop demand strategies based on water data & community feedback | commit to water saving actions

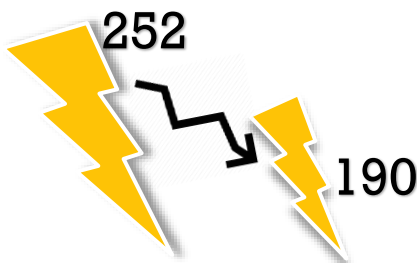


The community responds

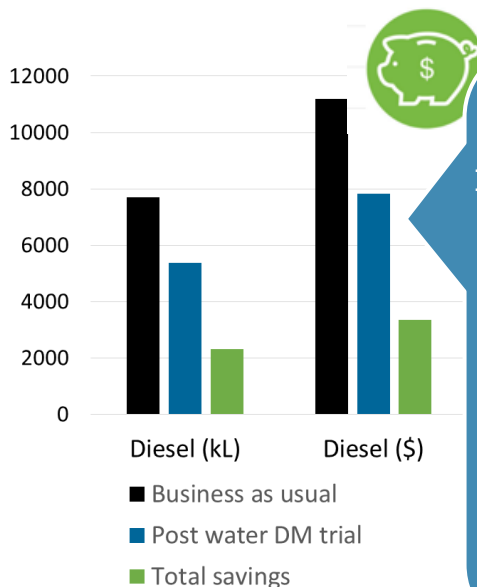
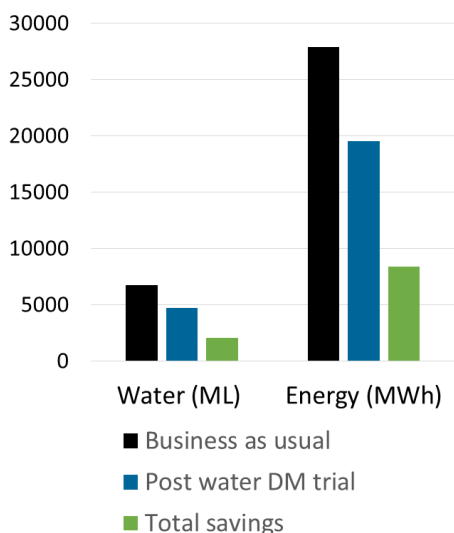
Household water use was reduced by 40% after the demand management trial was implemented. However, data and follow up survey showed this change was not sustained and continual prompts from within community and council support (beyond enforcing restrictions) is critical for long-term behaviour change leading to lower water & energy use



40% ↓
litres / person / day



25% ↓
kWh / day
(community bore pumping)



Makes economic sense too...

Based on the water demand management (DM) trial substantial savings can be realised with millions of dollars of savings to state and local governments – this doesn't include savings from deferred capital / infrastructure costs with lower demand resulting from long-term behaviour change!

Toward a sustained change

Genuinely engage | Identify barriers & benefits of DM from all perspectives | Positive, ongoing efficiency prompts | In-community champions | Upskill locals | Do restrictions really work?

Remote and Isolated Communities Essential Services Project

You've been doing a great job with using less water outside and reporting leaks!

THANK YOU & PLEASE KEEP UP THE GOOD WORK BY:

✓ **Checking taps are turned off properly**



✓ **Reporting leaks**



"It's a big leak, lots of water coming out!!"

✓ **Watering only in late afternoon for 2 hours (set your timer if you have one)**




✓ **Using your tap timers, trigger nozzles and/or soaker hoses**



This project is funded by the Australian Government through the Remote Communities and Industry Partnership Program. © The University of Queensland. All rights reserved. 2017-18-19

RICES OUTPUTS

Final major report out in July 2018

Exploring the residential water-energy nexus in remote regions: results from a Far North Queensland water end-use pilot study

Modelling the impacts of water efficient technologies on energy intensive water systems in remote and isolated communities

The Conversation article, 2017

Securing the essential: assisting isolated communities to sustainably manage their water and energy supplies

Identifying and understanding the drivers of high water consumption in remote Australian Aboriginal and Torres Strait Island communities



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RICES PARTNERS



RICES was a Griffith University led project in collaboration with:

