Lessons Learnt: Community Engagement

PUBLIC

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Beware of the section break here:

Lessons Learnt Report 04

Project Details

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ARENA
Australian Government
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Department of Industry, Science, Energy and Resources

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Executive summary

The aim of Alice Springs Future Grid project is to identify and overcome barriers to further renewable energy penetration in the Alice Springs electricity system.

In this context, Sub-Project 3 (SP3), referred to as "Community Solutions", recognises the importance of community involvement in achieving these aspirations, in particular reaching the Northern Territory's 50% Renewables by 2030 target.

Understanding the role that Distributed Energy Resources (DER), including solar energy and battery storage, particularly at a household/business level, underpins the *Solar Connect*, the Northern Territory's first Virtual Power Plant (VPP), and has been a core focus of Alice Springs Future Grid community engagement activities to date. Additional 'whole-of-project' community engagement has been undertaken to help educate energy system stakeholders about the complexity and idiosyncrasies of the Alice Springs grid.

Purpose of this report

The lessons learnt outlined later in this report, are intended to highlight localised considerations and delivery challenges, but also reinforce the broader community engagement challenges that are likely to be common to energy system transition projects of this nature.

It is clear that the Alice Springs community is overwhelmingly supportive of increasing the proportion of renewables in the local electricity system however technological, financial and housing status will continue to challenge, further involvement by the community.

Community engagement for the Alice Springs Future Grid project was primarily conducted by the Arid Lands Environment Centre (ALEC) – an Alice Springs based NGO with over 40 years of experience across advocacy, research, training, project management and consulting services in the areas of sustainability, water, waste, and energy.

This Lessons Learnt Report has been authored by ALEC in its capacity as the SP3 project lead and CSIRO, the Knowledge Sharing Partner for the Alice Springs Future Grid project.

Project outputs (ARENA Deliverables)

The community engagement activities detailed within this report were part of both SP3 and WOP activities to support the overall objectives and deliverables of the project as well as to specifically support the engagement and recruitment of householders as part of the Virtual Power Plant (VPP) trial.

(Main subject of Lesson learnt Report)

Solar Connect VPP

Direct community participation in the energy system was explored via the Solar Connect trial, the Northern Territory's first Virtual Power Plant (VPP).

Key stages in the sign -up phase for the VPP included:

- Promotion of the Solar Connect VPP trial.
- Multi-stakeholder eligibility assessments
- Engaging installers to conduct
    - Participant site-checks
    - VPP droplet installations
- Troubleshooting with an energy retailer, Jacana Energy and VPP Technology Provider (SwitchDin)
- Participant handover to Jacana for activation.

Trial offers

Four key products or offers were developed as part of the suite of Virtual Power Plant trial participation opportunities:

Solar Connect VPP "Battery" trial.

This element of the trial will observe how solar + battery connected households connected to the VPP can play a role in providing daily grid support services, whilst receiving financial compensation. Batteries connected to the VPP will be scheduled to charge and discharge at optimal times of day to accommodate more solar in the community. Participants received a one-off payment and a monthly VPP credit.

Solar Connect VPP "Solar Only" trial.

Solar-only households can be connected to the VPP, with their solar data used for modelling and forecasting to help manage the transition to renewables in Alice Springs. Participants received a one-off payment and a monthly VPP credit.

Supersize solar trial

Supersize Solar will allow households and small businesses to increase the size of their solar systems while still being allowed to sell an amount of excess energy back to the grid. In addition to increasing the size allowance, Supersize Solar will trial dynamic export control. Participants received a one-off payment for joining the trial.

Solar Hubs Battery trial

Solar Hubs were intended to observe how energy storage systems can be deployed to improve the LV network power quality within identified areas, or clusters, of the LV network. The two clusters that were identified had existing solar PV penetration of 43% and 40% respectively and were considered representative of:

- the typical electrical characteristics within the Alice Springs network,
- typical population demographics; and,

- rates of solar penetration.

Participants were offered a one-off payment for installing eligible batteries for the trial in addition to a monthly VPP credit.

Promotion

Various mediums were used to communicate and attract sign ups to the VPP. Initially, community engagement used a "broad focus" approach of social media (including paid advertisements); radio; in-person events; installer events; media releases; and in-person doorknocking in two select "Solar Hubs." These methods were helpful in creating project visibility and for reaching a broad audience across the town but were less successful in reaching eligible participants.

A targeted engagement of people with new, eligible systems (such as householders who installed a battery under the *Northern Territory Government Homes Business Battery Scheme**), was seen as vital to attracting a viable cohort of trial participants. This was actioned in response to the small number of battery systems installed throughout the town at the commencement of the project (110) and the initially slow rate of sign-ups.

One method of targeting existing solar households was an email from Jacana to their solar customers, which was useful but yielded low eligibility. A more effective approach was to ensure that local solar installers were aware of the project and could encourage their customers to sign up (see below). A further option explored was to approach the NTG, encouraging them to email residents who recently installed solar-battery systems through the Home Business Battery Scheme. Due to privacy reasons, the NTG was not able to contact these participants.

*The Home and Business Battery Scheme was a program run by the Northern Territory Government, offering up to $6,000 for solar-battery systems.

Covid-19

Covid-19 had a material impact on the ability to conduct in-person events, with several events cancelled due to the various restrictions in place. In-person events were seen as a vital way of engaging with the local community and providing a chance for would-be participants to learn more about the VPP and how they could get involved. It could be expected that in-person events would have resulted in a higher percentage of EOIs in non-Covid years.

Results of various communication methods

Following an EOI for the trial, participants were contacted by phone to confirm the details of their application form. During the call, they were asked how they heard about the trial, with the results presented below in Table 1. Some participants listed multiple sources.

Social media was the highest ranked source followed by word of mouth and ALEC channels. Word of mouth included general community word of mouth, but also (anecdotally) included several installers and project partner staff, while ALEC-specific information was largely through e-newsletters, social media and events.

Source	Number of times listed by participants	Percentage
Facebook	37	29%
Word of mouth	28	22%
ALEC	23	18%
Jacana email	11	9%
Installer	9	7%
Radio	5	4%
Event	4	3%
News article	4	3%
Industry or project partner	3	2%
Solar Hub - letterbox	2	2%

Participants were also asked about their motivation for joining the trial, specifically concerning the importance of environmental and economic motivations. The participant was able to give a rating of 1 to 5 for each, where 1 is very low and 5 is very high.

Motivation	1	2	3	4	5
Environmental motivation - i.e., support increased renewables penetration	0%	5%	4%	34%	57%
Economic motivations - i.e., Improving household economics	0%	1%	38%	25%	36%

Results: *High Interest - Low Eligibility*

Of the 130 applications to join the trial, only 50% were deemed eligible and 55 contracts were issued. This shows that there is a willingness of solar households (particularly early adopted households) to partake in VPPs, but technological barriers prevented their participation. The key factors that determined the eligibility were: the age of the system; inverter compatibility; occupancy status (i.e. renter); system size and internet requirements.

Some learnings:

- At the commencement of the EOI process (November 2021), the total number of batteries installed throughout the town was approximately 120 and this increased to 190 by September 2022).

- 65 Battery Applications were received to participate in the VPP trial (approximately 34% of the total installed batteries).
- The conversion rate of 50% showed that the technical requirements and perhaps comprehension of the eligibility requirements did not match the enthusiasm for joining the trial.

Solar Hub Incentives and the impact of NT Government incentives
Arid Lands Environment Centre (ALEC) staff undertook door-knocking in two Solar Hubs to present incentives for battery installations as part of the VPP trials. Despite a high effort in face-to-face door knocking and letterboxing (three attempts at each house), there was minimal uptake of the trial offer.

Many reasons were cited for not wanting to accept the offer including rental status; leaving town or selling; having low energy bills; wanting more incentives; and having ineligible inverters for the trial. Over a third of residents cited that they would lose the 1:1 Feed in Tariff if they installed a battery.

Only a few months after finalising the door-knocking efforts, the Northern Territory Government announced that a new standard Feed in Tariff (FiT) of 8.3c/kWh would be applied to all new business and residential solar installations up to 30kW capacity from 1 July 2022 in place of the 1:1 FiT. Prior to this announcement, there was no indication of any changes to the Feed-in-Tariff.

The reduced FiT has been largely criticised by members of the public as there is a widely held (but not altogether factual) view that the Feed-in-Tariff has increased the amount of solar in the NT, that exported solar is worth the same amount as imported electricity, and that a reduction of the FiT will unfairly disadvantage solar householders. These views were frequently commonly communicated to Community Solutions team members and observed on social media. An example is: "Then the NT govt will make another change to penalise people".

It is considered likely that uptake of the Solar Hub offer would have been higher if residents had foresight regarding the drop in FiT.
Moving forward, the pre-existing 1:1 FIT will no longer present a barrier to the uptake of battery energy storage in the Northern Territory.

Installers

Engaging installers
Engaging with and bringing installers on board with the project has been a critical part of community engagement activities. In a small town, local installers are the face of solar, and their support matters.

A vast number of enquiries fielded by the Community Solutions team? were requests for recommended solar and battery installers. Although installers were the source of information for a reported 7% of trial participants (see above), the number is likely to be much higher – under the “word of mouth” category. As the project progresses, each participant in the trial will be visited by a local installer on two separate occasions – creating more opportunities for participants to learn more about the VPP and their solar system.

Three information sessions with installers took place over the community engagement period of the Solar Connect VPP. The initial session provided a broad overview of the project, the timeline for the VPP, and a presentation from CSIRO on inverter and battery standards. The second presentation was of a more technical nature with a presentation from SwitchDin, and the third presentation was for approved installers to understand the VPP Site Visit Checklist and invoicing requirements of the ASFG project.

Acknowledging the participation efforts of installers who attended these sessions, catering and drinks were provided and they were held in the late afternoon to accommodate early starts in the hot weather. The opportunity for face-to-face interactions was welcomed by installers.

It is likely that industry training, an opportunity for local installers to connect with colleagues and a greater level of connection with utilities would be well received.

The installation phase of VPP

Throughout the process, installers provided valuable feedback and some interesting insights into the interpretation of the connection regulations, inverter settings updates, and the droplet installation process.

Despite a high level of initial engagement and interest, all installers have reported being time-poor and having issues with recruiting staff. All but two local installers pulled out of the project mid-way. This has significantly contributed to delays at the installer stage and VPP-droplet installation stage.

Figure 3: Local installers attend a presentation with Future Grid on the sign-up and Site Visit process.

The whole of project community engagement

Broader community engagement activities were undertaken with the objective of increasing the level of community understanding of the unique circumstances of the Alice Springs energy system and of the Future Grid Project. Initiatives in this context included a regular stall presence at community events such as the Todd Mall Markets, the Alice Springs Show, and the DesertSMART Ecofair; the running of numerous seminars and workshops; whole-of-project communications; an interactive presence on the Future Grid? Facebook page; and the facilitation of quarterly Community Reference Group meetings. Local media attendance and social media engagement were consistent and regular.

The initial brief and requirements for the provision of a community engagement strategy required adaptation over the course of the project in order to align with the needs of the project as it went through the various stages of implementation. Considerable focus was given to what the Alice Springs Future Grid Project was doing or planning to do and communicating this with the existing and extended networks of the Arid Land Environment Centre.

Given the highly technical nature of the project, the Community Solutions team developed infographic-style explainers of the five subprojects and supporting documents depicting key challenges or opportunities for Alice Springs in the energy transition.

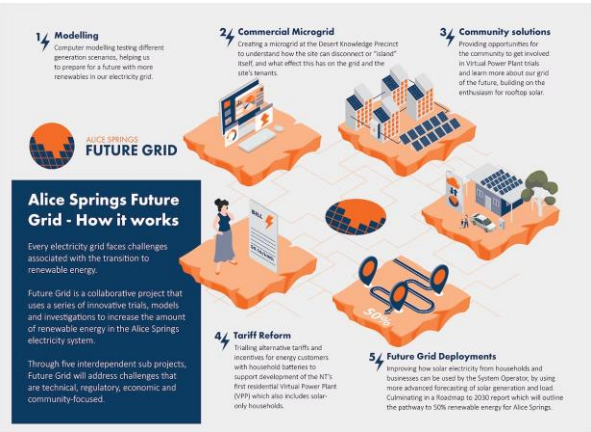
A key learning was that the intersection of the project communication strategy and the community engagement strategy may have been better supported from the beginning, with a clearer message on why there is an immediate need for the Alice Springs Future Grid project. Additionally, with the support of the reference group, this may have created greater penetration of this message to sectors of the community that traditional communication avenues may not reach.

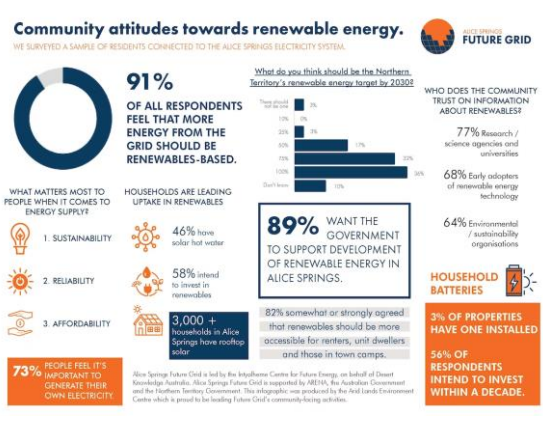
Preliminary indications, based on conversations at public events such as market stalls, public events and seminars, are that:

- "Energy literacy" is lower than what might generally be assumed given the history of solar projects in Alice Springs,
- awareness of the complex issues associated with the energy transition is low to medium,
- awareness of the technical issues associated with the energy transition is low to medium; and
- understanding the circumstances of the Alice Springs energy system is low.

It is intended that additional whole-of-community community engagement will be undertaken as the various sub-project produce more tangible outcomes towards the end of the project. For instance, the installation of a 300kW battery as part of the micro-grid trial will be a more exciting story to communicate once installed rather than in the project design phase.

Conducting community engagement in this manner will ensure that the community, even if holding low energy literacy, can support tangible milestone achievements and comprehend key learnings when they occur.

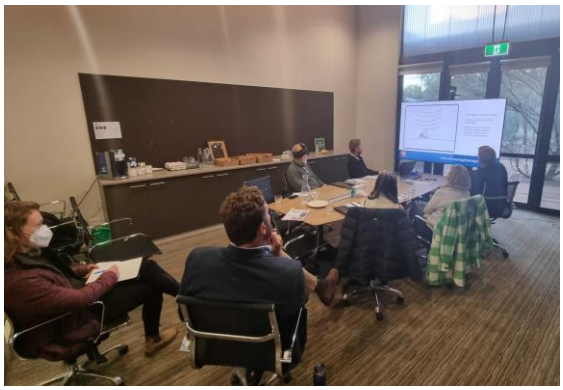




Alice Springs Future Grid Community Reference Group

A community reference group was established in early 2021 as a mechanism to:

- provide ongoing input and feed-back into Future Grid community engagement activities.
- represent community interests regarding renewable energy in Alice Springs.
- provide expertise where relevant, and
- help raise awareness of project activities with-in the community.



A background in renewable energy was not essential and the group comprised of people with no prior energy-system knowledge as well as community members with professional experience or relevant areas of knowledge.

Members of the reference group met quarterly and following a presentation on a topic of focus (preliminary project findings), contributed insights and perspectives which were collated and reported back to the project team.

When possible, questions (and answers) of broad community interest were published on the FAQs section of the Alice Springs Future Grid website. Meeting notes are stored in a repository accessible by project partners.

Low Socio-Economic Households and Renters

Addressing the role of, and lack of opportunities for renters and Low socioeconomic households to play a role in the renewable energy future, was beyond the scope of the community engagement activities.

A separate report was commissioned by Alice Springs Future Grid to identify how barriers to participating in renewable energy projects can be overcome.

Back of house systems

Community engagement is largely seen as the front-facing aspect of a project, yet in a multi-stakeholder project such as Alice Springs Future Grid, the back-of-house systems played a critical role.

Specifically referred to here is project management; critical pathways; customer management; and communication with stakeholder groups and participants from different project organisations. Meeting the requirements of each participating organisation was a challenge when deciding on which digital service platform to use (e.g., CRMs).

Significant time and emphasis (at an early point in the project's scoping), should be placed on determining the most suitable digital platform for the project deliverables at hand. This is increasingly critical in an era of elevated data management risk/privacy concerns. Getting it right will have an immense impact on the quality of data generated, and ultimately on the overall community experience and participant satisfaction.

Conclusion

Over approximately 18 months, Alice Springs Future Grid has engaged with the public regularly about the challenges and opportunities associated with meeting the Northern Territory Government's 50% by 2030 renewable energy target. Alice Springs Future Grid also offered residents and businesses direct opportunities to be part of the Northern Territory's first VPP.

Translating the technological aspects of DER and systems-level aspects of a renewable energy transition will always pose a challenge. This challenge is exacerbated by the need to communicate the trials and modelling concurrently being rolled out and the uncertain outcomes. Despite this, community engagement activities are undertaken to date, especially the Solar Connect VPP, indicate widespread enthusiasm in the Alice Springs community for increased renewable energy penetration in the Alice Springs energy system. Furthermore, the response to these activities, indicates that the Alice Springs community has the willingness to try innovative tariffs and will actively make choices that help to lessen the town's reliance on fossil fuels when it is within their means.

Incentives and government policy will continue to be critical levers to manage the pace of renewables growth into the future. A closer engagement with government departments, to align their strategic offerings with broader focus government policy changes, would assist projects similar to Alice Springs Future Grid.

Finally, any project undertaken should consider the state of the local workforce and how resourcing demands would be met. A transition to a renewable future needs to consider the impact of a lack of qualified local installers and take steps to address this shortage, particularly when they are relied upon for the installation of renewable technologies and as the valuable interface between the community and systems-level projects. Looked at it from a different angle – there is an opportunity to increase jobs in the clean energy sector in Alice Springs and the broader NT.

Gaps identified and lessons learnt.

What went well?

- Providing an opportunity for solar and solar battery owning residents to play a role in the energy transition through the VPP.
- Using existing, community-level networks for more broad-focussed community engagement.
- Building community awareness of VPPs and providing an opportunity to enhance energy literacy in the community.
- Building trust between organisations involved in a multi-stakeholder project.
- The development of the VPP with multiple inverters and integration of existing assets as well as new build battery systems

What did not go well?

- The Solar Hub trial struggled to gain traction with householders given the specific value that householders attributed to the 1:1 FIT.
- Opening up EOIs prior to details for the trial and contracting arrangements with technology providers being finalised.
- Incorporating a multi-technology mix approach.
  Whilst the outcome of the Solar Connect VPP's multi-technology-mix approach is yet to be assessed in a performative context, the complexity of integrating different inverter technologies into a singular VPP (i.e., the SwitchDin platform) has been one of the most significant challenges of community engagement activities to date. Project partners and key stakeholder groups have all expended high levels of resourcing and staff focus on tackling the related challenges, including regular escalation to third-party troubleshooting processes, regular reference to contractual terms and ongoing 'live' contractual negotiations.

What would you do differently?

- Ensure technical issues and contracting are finalised prior to initiating the community-facing elements of the project.
- Survey residents at a local level prior to designing incentives.
- Agree on a CRM tool to accommodate a multi-stage process involving different partner organisations.
- Streamlining the installer process by allowing installers to effectively act as agents for the project to reduce the number of site visits and produce a higher proportion of eligible EOIs.
- Maintaining a closer liaison with government organisations to ensure projects, rebates and schemes are aligned and that there is an opportunity for feedback and cohesion between simultaneously occurring projects.
- Ensure adequate resourcing is available to incorporate different inverter technologies into a singular VPP.
- Greater consideration and support mechanisms to reach closed demographic networks, not necessarily engaged or yet interested in energy management.

External knowledge-sharing opportunities.

There are some opportunities that have been identified to share these lessons learnt within the 2030 Roadmap in order to inform the most appropriate ways forward for community engagement.

Further information

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