

# DER Customer Insights

## Presentation to BEHAVE2020

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Institute for  
Sustainable  
Futures



**ARENA**  
Australian Government  
Australian Renewable  
Energy Agency

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## DER Customers Insights Series: customer values and the customer journey

ISF was commissioned to develop two reports for the ARENA 'DER Customer Insights Series'. The series investigates the experiences of customers involved in twenty ARENA-funded Distributed Energy Resources (DER) projects.

### The content of today's presentation:

- 1 Our project team and methodology
- 2 **A values-based approach to motivate new DER customers**
- 3 **Lessons from the customer journeys of new DER customers**
- 4 Overarching conclusions



**About our team and approach**

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## About ISF

- The Institute for Sustainable Futures (ISF) is an interdisciplinary research and consulting organisation at the University of Technology Sydney.
- ISF has been setting global benchmarks since 1997 in helping governments, organisations, businesses and communities achieve change towards sustainable futures.
- This project is a collaboration between two of our ten research areas: Energy Futures; and Learning and Social Change

**People are at the heart of our vision for Australia's energy future.**



**Institute for Sustainable Futures**

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# ISF project team

A team of DER experts with a shared vision for a new energy ecosystem



**Dani Alexander**

Project Director

- Customer energy innovation
- Networks & customers
- Energy system flexibility



**Dr Scott Dwyer**

Project Manager

- Customer energy innovation
- Markets & customers
- Business models



**Dr Chris Briggs**

Research Principal

- Policy (cities, energy & climate)
- Energy markets
- Just transition & energy fairness



**Prof. Chris Riedy**

Expert advisor – social research

- Sociocultural change methodologies
- Energy transformations & transitions
- Energy & sustainability governance

## The challenge

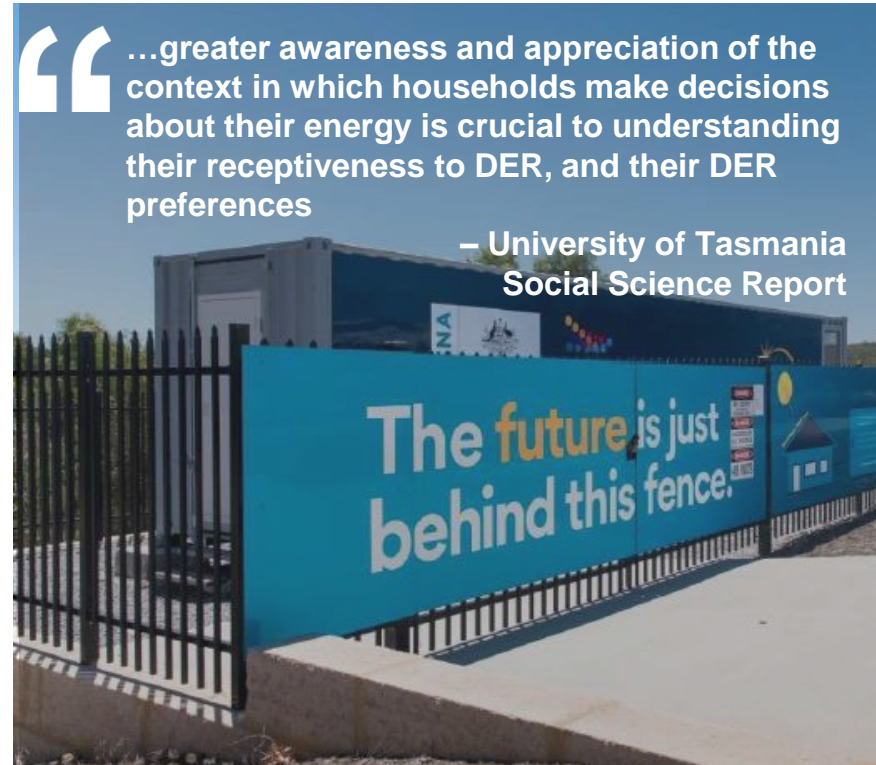
Bloomberg New Energy Finance forecasts that approximately one-third of Australia's electricity capacity will sit behind-the-meter by 2035

How can we unlock and share consumer insights from DER innovation projects that will support the continued growth of DER for the benefit of *all* customers?



...greater awareness and appreciation of the context in which households make decisions about their energy is crucial to understanding their receptiveness to DER, and their DER preferences

– University of Tasmania  
Social Science Report



Source: Synergy (image)

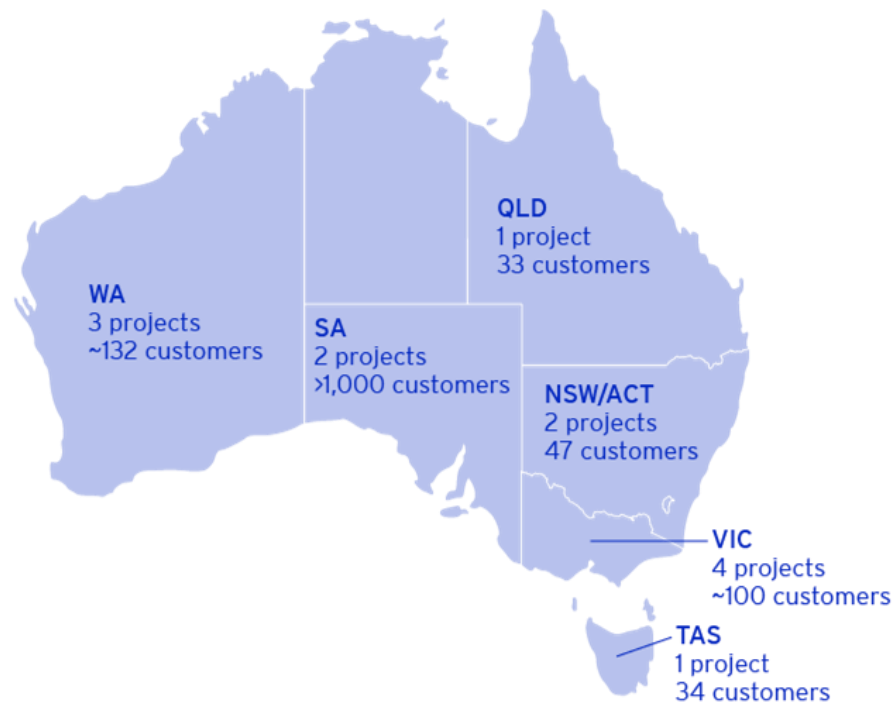
# Investigating DER projects and their customers

To better understand DER customers, we analysed 19 DER projects funded by the Australian Renewable Energy Agency

13 demonstration projects:

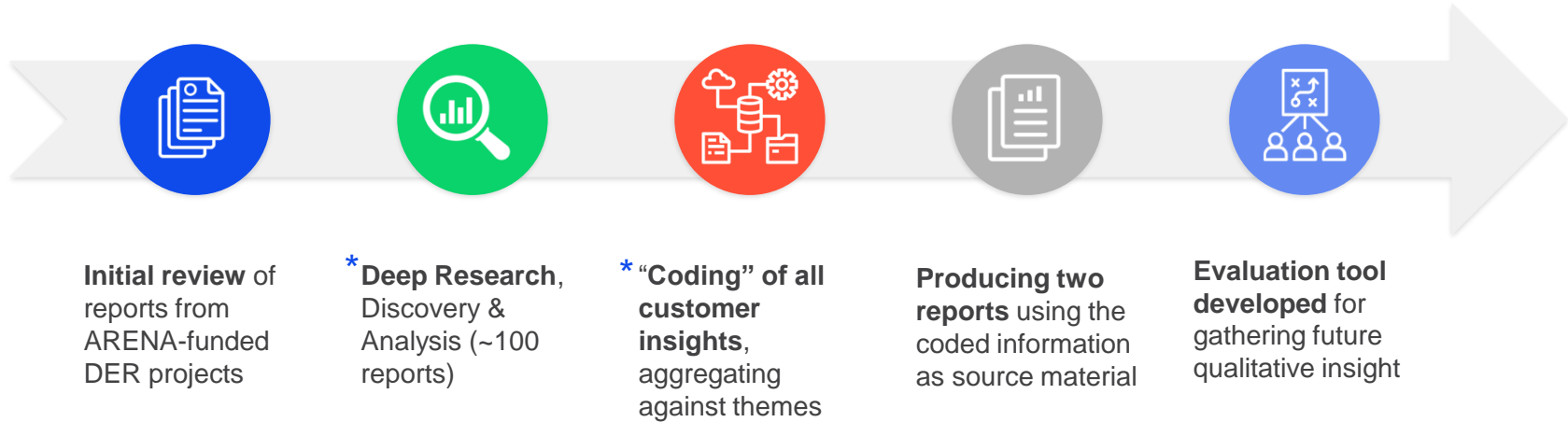
- involved over 1,300 customers who chose to have DER systems installed in their homes.
- were mostly on-grid residential solar and storage trials

6 non-demonstration projects (including feasibility studies, standards development and market testing)



# Our approach to the DER Customer Insights Series

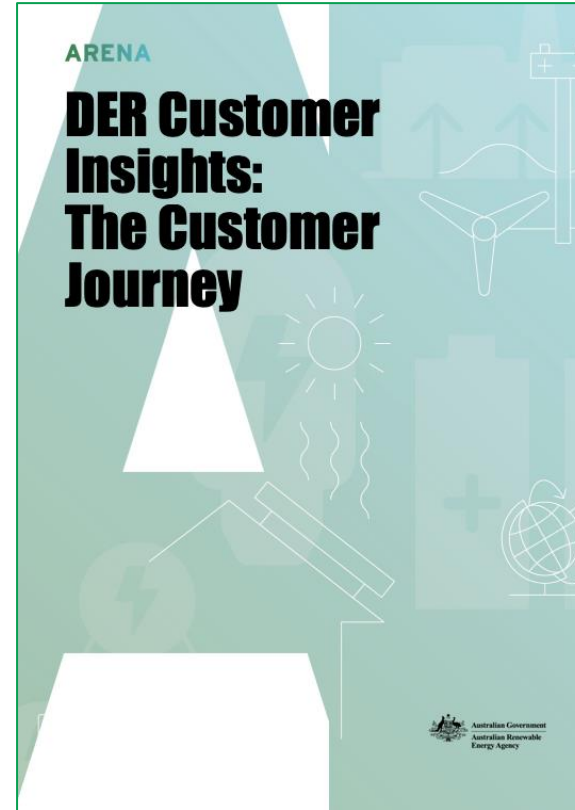
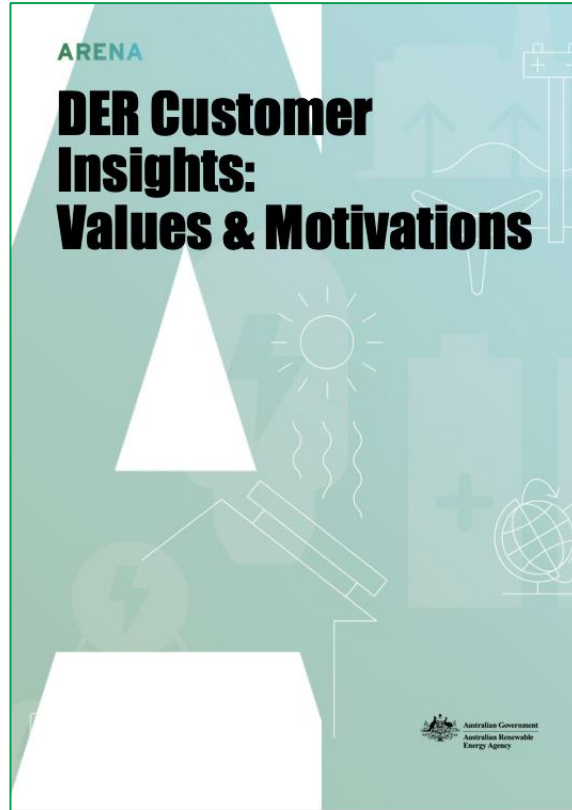
We used a five-stage methodology to capture insights, using NVIVO - a qualitative data analysis computer software package – as a key tool for extracting meaning and identifying themes.



\* ISF used NVIVO to “code” and organise insights from ~100 reports from ~20 ARENA-funded projects, before summarising them in two separate documents



## The two reports under the DER Customer Insights Series



## The two reports under the DER Customer Insights Series

### Report 1: DER Customer Types & Motivations

As market forces drive Australia towards a more decentralised energy system, it is important to more deeply understand the customers that DER products and projects are seeking to serve. This report seeks to determine:

1. The types of customers that were targeted in the ARENA-funded projects, and how to find the right types of customers in future projects.
2. What inherently motivates different types of customers and what engagement strategies could be effective in future projects.

The research uses a values-based framework that is a well-accepted method for understanding and motivating different groups of people.

### Report 2: The DER Customer Journey

Characterising the DER customer journey can facilitate better understanding and lead to continual improvement for the organisations involved in the projects. It can also lead to better customer outcomes and help maximise the benefits of DER to them and to the energy system.

For the purposes of this Customer Insights Series, the DER customer journey has been simplified into four main steps:

1. Engagement & acquisition
2. Installation
3. Operation & maintenance
4. Retention

The DER customer journey was assessed across these four separate stages documenting approaches, experiences, issues and key lessons.



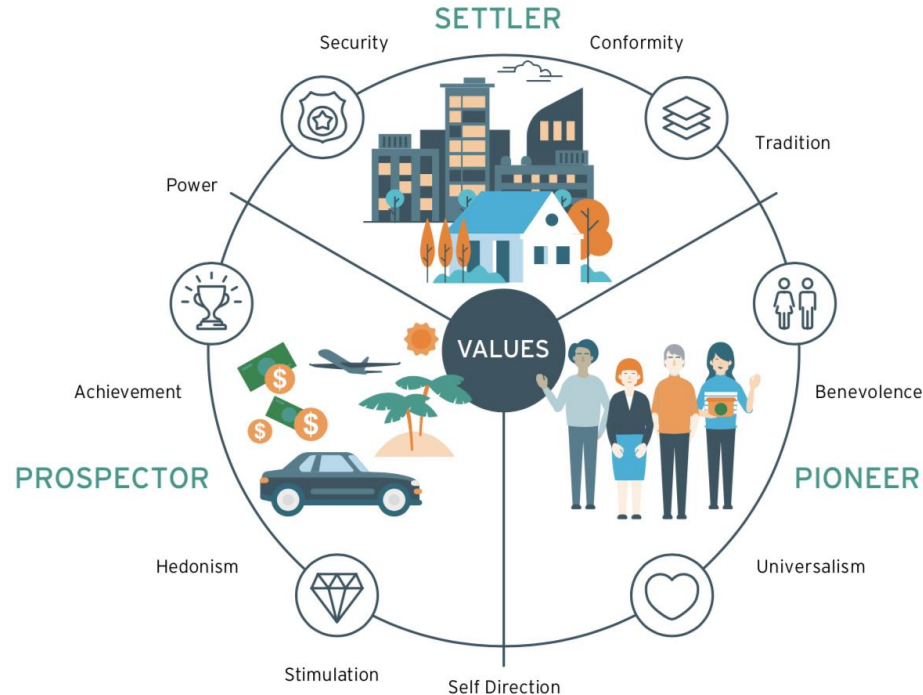
**A values-based approach  
to motivate new DER customers**

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## Universal values and values modes

A value based approach cuts across demographics and can help to understand and target a broader range of potential DER customers



# 'Values modes' offer a simple method for understanding many customers



**Sustenance driven, needing safety, security and belonging**

**Example signposts:**

*"And I just can't be bothered looking at it because I'm not interested in it. If it's done it's done, I get paid so much, but I can't be bothered just checking it."*  
– CONSORT trial participant

*"...I don't like other companies controlling my devices and money..."*  
– CSIRO focus group participant

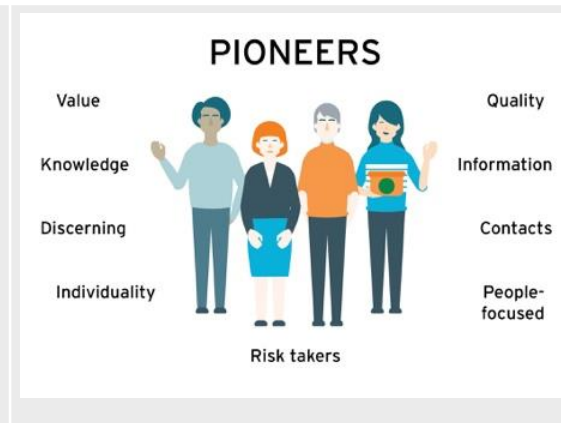


**Want success, including the esteem of themselves and others**

**Example signposts:**

*"I think it's clumsy and I would hope that in the not-too-distant future that'll become a lot more refined...I think there's going to be far better options in the not-too-distant future."*  
– CSIRO focus group participant

*"I'm using the solar from hybrid to power other half of house. Not happy with recommendation to leave in Bypass until advised otherwise"*  
– Ergon Energy trial participant



**Focused on new ideas and self-actualisation**

**Example signposts:**

*"[I'm] attracted to the holistically sustainable and well thought through design of the building"*  
– Gen Y member of White Gum Valley trial

*"I mean Bruny's got a very strong community, and I think it's good to give back to it. I don't see it's a major issue at all"*  
– CONSORT trial participant



## The research mapped eight of the nine motivators of DER customers against the universal values and values modes

MOTIVATORS OF DER CUSTOMERS		UNIVERSAL VALUES	PRIMARY MODE
1	Financial security/benefits	Security, power*, universalism*	Settler
2	Security of supply	Security, power, self-direction*	
3	Maintaining the status quo	Conformity, tradition	
4	New technology	Stimulation	Prospector
5	Aesthetics/ status symbol	Achievement	
6	Energy independence	Self-direction*	Pioneer
7	Environmental benefit	Universalism	
8	Community benefit	Benevolence*	N/A
9	Trust	N/A	

\* Driver from or across other value mode

## Appealing to the target DER customers

Projects will likely achieve better outcomes by deeply understanding their target customers before developing and communicating the DER product

- Most projects experienced delays in customer recruitment and many did not reach their original participant targets
- Thus, there appears to be an opportunity to design better DER offerings that appeal to more customers
- The analysed projects are mostly on-grid residential solar and storage trials therefore it is important to consider the nuances of other contexts when applying these findings



# Cost is a big motivator, and can be communicated across value modes

## Key insights

- Cost was described as the strongest motivator for participating in the projects in all but one case.
- However, financial motivations cut across the value modes:
  - Settlers value cost savings as a financial security measure
  - Prospectors see smart investments to 'get ahead', and
  - Pioneers expect 'good value for money' and fair compensation.
- It is important to adjust and/or communicate value propositions differently, according to the target group
- Saying the same thing in three different ways can help reach more customers

## Hot buttons

- “Reduce your electricity costs to take care of your family”
- “Make a smart investment and choose the best energy option”
- “Choose the fairest, most ethical option, that will help others in the community”

# Motivating Settlers, Prospectors and Pioneers

Developing and communicating DER products to align with customer value modes will likely lead to better customer uptake

## Key insights

- Settlers are motivated by security so products should minimise threats, both financially and to energy reliability
- Prospectors are excited about 'getting ahead' so products should be attractive, both aesthetically and financially
- Pioneers are willing to support 'the greater good' so product design and implementation should consider social equity



# Trust is critical to a customer-centred energy future

A key question for future DER projects is: “How does this project help build customer trust?”

## Key insights

- Trust is critical to public acceptance and advocacy and also cuts across the three value modes
- Customer’s trust in our energy market continues to be low – only 32%\* of households believe that the market is working in their interests
- There are already negative perceptions for DER projects to overcome e.g. the belief that one needs to look out for ‘cowboy’ or ‘rogue’ installers
- To build trust, projects may want to consider models such as the “Trust Equation” (credibility, reliability, intimacy, self-orientation) – recommended by DNV-GL



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You haven't even started and they're not being upfront with their information. How can they earn your trust? You couldn't do business like that.

- APVI focus group participant



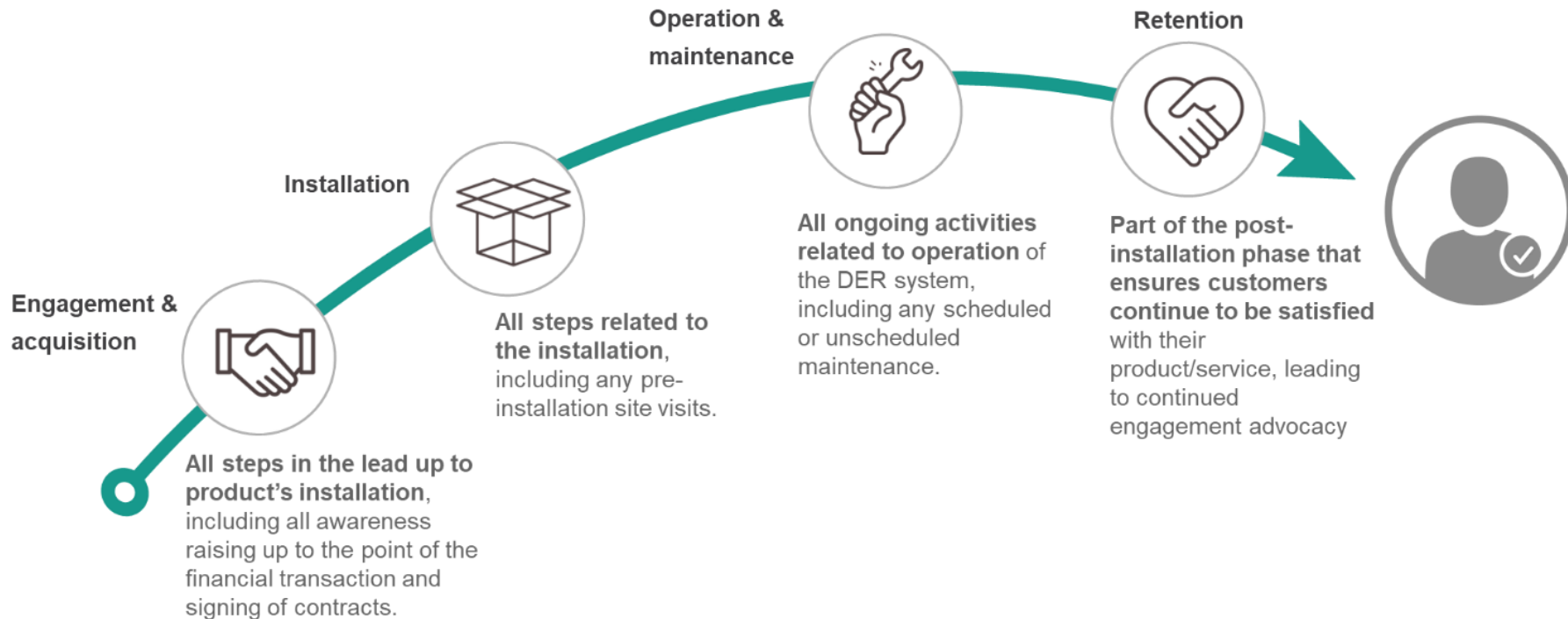
A photograph of a single-story house with a red-tiled roof. A large array of blue solar panels is mounted on the roof, spanning from the left side towards the center. A black chimney is visible on the roof. The house has light green horizontal siding and a large white-framed glass extension on the left side. A white fence is in the foreground, and a satellite dish is mounted on the right side of the house. The sky is blue with a few white clouds.

# Lessons from the customer journeys of new DER customers

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# The DER Customer Journey

Characterising the customer journey can facilitate better understanding and lead to continual improvement for the organisations involved in the projects.



# Insights through the customer journey



## Engagement & Acquisition

### Key considerations for success

- **Communicating the offer** and pricing simply.
- **Address customer enquiries** quickly and effectively.
- **Maintain customer resources** that are accessible, relevant, and up to date.
- **Creating excitement** in the community as part of the engagement.
- **Identifying and working with** a 'Local Champion' (where relevant).



# Insights through the customer journey



## Engagement & Acquisition

### Challenges

Customer acquisition was challenging for the majority of ARENA's DER projects (taking longer than expected, or recruiting less customers than originally targeted).

Those that had more success with this part of the customer journey:

- Undertook detailed customer research in advance to better understand the needs of their target customers.
- Targeted communities that they were already familiar with and/or had high-levels of engagement on energy issues already.
- Had modest customer acquisition targets.







# Engagement channels for acquisition



A range of engagement methods were employed in the projects, often encompassing both 'offline' and 'online' approaches.

Offline 	Online 
Direct mail	Email campaigns
Public/'Townhall' meetings	Project partner websites
Community workshops	Other websites (including news
Home visits	Social media
Community information desks	Media releases
Print material, banners and signage	
Traditional Media	



Source: Synergy (image)



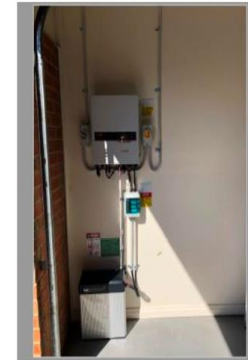
# Insights through the customer journey



## Installation

**A key moment with lasting impacts on the customer and their view of the technology and the provider.**

- If the installation is not planned well, it can be source of frustration for both installers and customers with multiple communications and repeat visits needed.
- This step involves direct contact with the customer, with whom the installer may or may not have been in contact before (depending on if they were involved in the engagement or acquisition process).
- A number of projects emphasised strongly the need to enlist well-trained, knowledgeable installers who deeply understand customers and the product.



Source: United Energy (Images)

## Insights through the customer journey

There were fewer insights from the post-installation phases (Operation & Maintenance, Retention) – possibly due to the focus of ARENA-funded DER projects.



### Operation and Maintenance

- Most projects acknowledged the importance of providing timely and effective support to customers.
- Keeping communication channels open is a way to ensure integrity of the installed technology and build trust.
- As with installation, customers cared about having access to well-trained and knowledgeable personnel.



# Insights through the customer journey

**There were fewer insights from the post-installation phases (Operation & Maintenance, Retention) – possibly due to the focus of ARENA-funded DER projects.**



## Retention

- An important but under-reported phase that would lead to a customer becoming an important advocate of DER.
- A wide range of interactions could be involved: the customer visiting an online portal/smart phone app, proactively contacting the supplier/operator/installer, or passively receiving alerts (via email, text, or a mobile phone app).
- The implementation of ongoing communication plans as part of a retention strategy can contribute to maintaining a generally positive sentiment towards the technologies and the providers.



## 6 ingredients to a happy DER customer

**Earned-trust**  
Trust is critical in public acceptance and advocacy.

### **'Super-installers'**

Installation is a critical moment – enlist well trained, knowledgeable installers who understand customers and the products being installed

### **Smooth customer experience**

Provide a smooth experience along the entire customer journey, with a key and knowledgeable point of contact for when support is needed.



### **Customer knowledge and understanding**

Know who your customers are and the values that drive them

### **Clear value proposition**

The customer value proposition and the benefits are clearly articulated for the customer.

### **Market ready products**

The product works and is ready for being deployed with customers.

A desk setup featuring a yellow and a white hard hat, a small solar panel, a wind turbine model, and a house model. The scene is set on a desk with various papers and tools, suggesting a workspace for engineering or design. The background shows a window with greenery outside.

## Conclusions

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## Key insights

- DER projects can benefit from deeply understanding their target customer base before developing and communicating the product offering.
- A values-based approach may be an effective way to engage and tailor messages to many types of customers.
- Characterising the customer journey can facilitate better understanding and lead to continual improvement for the organisations involved in the projects.
- We identified “6 Key Ingredients” to a happy DER customer.
- A key question for future DER projects is “How does this project help build customer trust?”

**There are many ways that future DER projects can drive a more customer-centered clean energy transition**



- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| <b>1: Understanding the customer</b> | <b>4: Smooth customer experience</b> |
| <b>2: Clear value proposition</b>    | <b>5: ‘Super-installers’</b>         |
| <b>3: Market ready products</b>      | <b>6: Earned-trust</b>               |

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**Thank you**



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# Appendix: customer values & motivations

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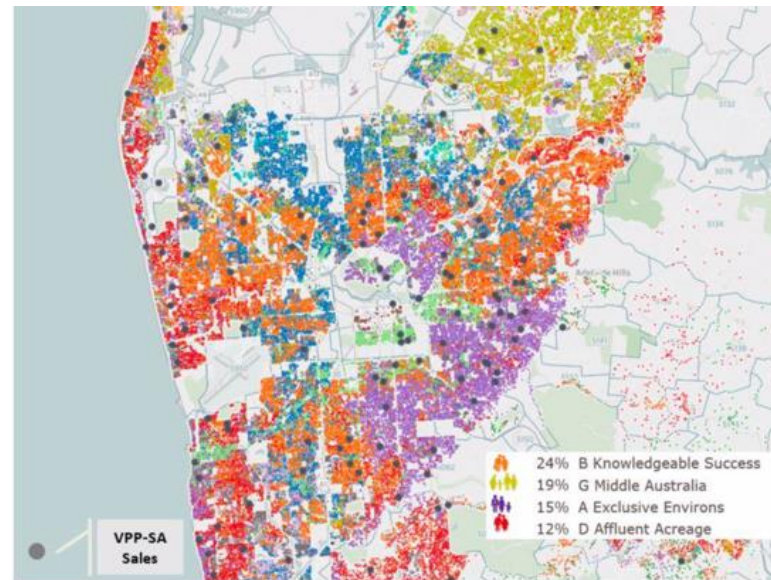


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## Executive summary

1. **DER projects can benefit from better understanding their target customer base** before developing and communicating the product offering.
2. **A values-based approach may be an effective way to engage and tailor messages to many types of customers.** Values are stable psychological structures that motivate behaviour, cutting across demographic characteristics.
3. Projects approaching the mass market are likely to be more successful if they **communicate their product in multiple ways to appeal to all three “values modes”**.
4. Building trust, including ensuring fairness (social equity), through design and implementation will help protect future projects from customer backlash and **move the sector closer to a customer-centred energy future.**

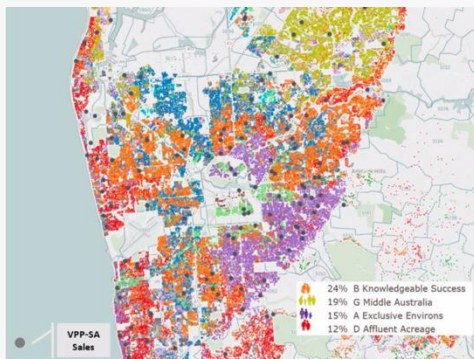


**AGL and Synergy used formal segmentation methods** (Mosaic is a proprietary customer segmentation product) to more deeply understand target customers.



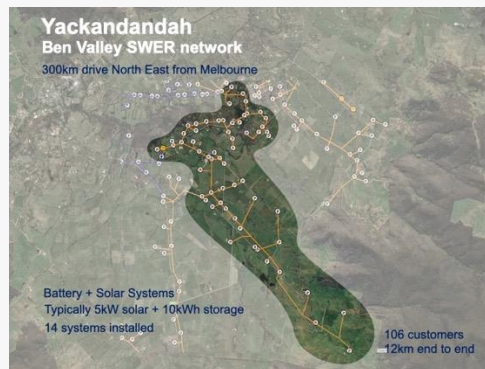
# Apples and oranges: customers targeted in different ways

## Energy retailers segmented the customer base



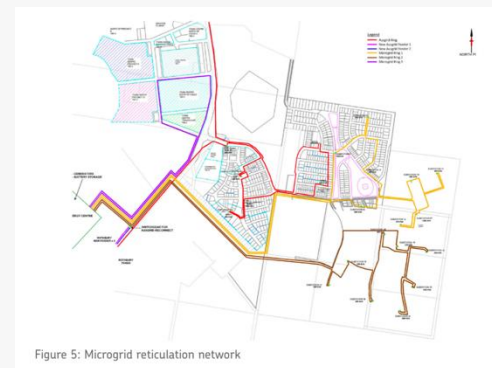
**AGL and Synergy used formal segmentation approaches** via the Mosaic Groups (a proprietary customer segmentation product) to better understand their target populations

## Network businesses targeted locational constraints



**Distribution network businesses used blanket campaigns** for achieving a high customer conversion rate in a network constrained area (e.g. AusNet Services in Yackandandah)

## Community/developer led projects involved customers in design



**Projects led by communities or property developers came from a starting point of good customer understanding**, making it easier to design the trial according to their needs (e.g. Huntlee's microgrid)



## Motivating Settlers

Settlers are most concerned about security, expressed as a desire for reliability and “maintaining the status quo”

### Key insights

- Security values were found to sometimes trump the financial benefits (CONSORT, Networks Renewed, United Energy).
- Security of supply (e.g. battery storage) was particularly relevant in regional / fringe-of-grid trial locations.
- Theory assumes that people tend to start as Settlers and then, as basic needs are met, move on to the other values modes. Even when we express higher-level values, we still “all have a Settler inside of us”.
- Therefore, to maximise uptake across a broad audience, it is important that product offerings minimise their threat to a customer’s security, including energy reliability and financial risk.



“

Even in electricity supply areas with high reliability, customers were very interested in uninterruptible power for specific devices

– Reposit Power

# Motivating Prospectors

Prospectors, who often lead mainstream investment in new technology, are excited about 'getting ahead'

## Key insights

- Prospectors are mainstream adopters who are willing to make higher-risk investments in new DER technologies if they see an opportunity to 'get ahead', financially or socially.
- However, rapid changes in a technology can be a demotivator for some Prospectors who may want to wait until the product is more mature – this is a space for future research
- When targeting Prospectors it is important that the product is attractive (financially and aesthetically)
- Two strategies for targeting Prospectors include showing:
  1. how the DER option will be a smart investment, and
  2. how it can be showcased as a status symbol



# Motivating Pioneers

Pioneers will want fairness and to support the ‘greater good’

## Key insights

- Altruism was apparent in some trials (e.g. in the Latrobe Valley and Yackandandah) but the DER option generally still needed to be cheaper
  - Customers appear to be willing to ‘do the right thing’ (e.g. emissions, equity) over convenience and comfort, once their financial needs are met
  - Promoting environmental and community benefits can help engage Pioneers, however this should be mindful of their financial and energy security
- Several projects did experience minor customer backlash when aspects of the trial were perceived as ‘unfair’
  - Ensuring fairness (social equity) in the project design and implementation will protect a project from customer backlash



“...respondents, who feel responsible for energy problems, have stronger personal norms and are generally more supportive towards distributed energy technologies...”

– CSIRO (2012)

# It is important to consider whether projects are “priming” customer values

## ‘Priming’ cost as a motivator

- There is a chance that the type of DER product may be ‘priming’ customer values towards cost factors.
- In most cases, the projects promoted the cost-benefits as part of the initial customer engagement, which may have prioritised cost as the primary motivator for those customers.
- This may lead to two missed opportunities:
  - The chance that people may be prepared to pay more for (or ask less from!) participating in projects, and/or
  - Turning away people who are strongly motivated by conflicting values (e.g. benevolence).
- An in-depth design phase could address this by allowing project proponents to restructure product offerings after thoroughly investigating the needs of the target customers.



**“Research has shown that by raising a motive from a person’s memory can increase that person’s drive towards that motive. This can also come at the expense of other conflicting motives.**

*(Maio et al. 2009; Vohs, Mead & Goode, 2006)*