

BACKGROUND

UNDERSTANDING PAIN POINTS WITHIN THE CUSTOMER JOURNEY

BARRIERS

? Lack of awareness, understanding and engagement of V2G and the broader energy market.

👤 Loss aversion bias within perceived inconvenience and risks.

🔄 Tension between limited supply and efforts to increase demand.

📁 Psychological discomfort in sharing data with third parties.

KEY ISSUE

How can we enhance public knowledge of V2G technology to foster its acceptance and integration?

How can we alleviate concerns related to battery degradation, flexibility, and mitigating supply and demand of V2G?

How can we engage early adopters in V2G when there is a scarcity in supply?

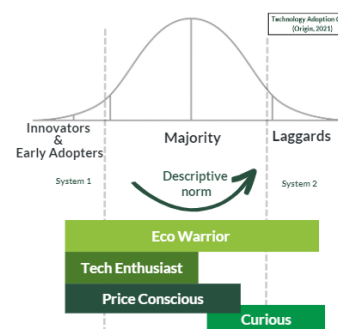
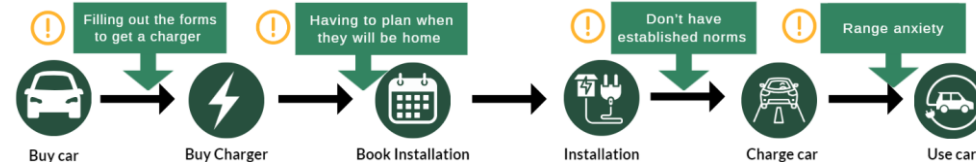
How can we address trust and address privacy concerns to ensure EV owners are comfortable using a third party?

STRATEGY

💡 1. Increase public knowledge of smart charging.

📈 2. Optimise smart charging exposure & usability.

👥 3. Progressing smart charging into a norm.



EVIDENCE

- Expert Proxies - government and industry stakeholders Q&A panel.
- Qualitative Interviews - Ergon Energy Project Manager, data scientist and informed citizen.
- Quantitative V2G trials - run in South Australia and Canberra.

THEORIES

- Social Identity Theory (Tajfel & Turner, 1979).
- EAST Framework (Service et al., 2014).
- Technology Adoption Curve (Origin, 2021).
- Cognitive Biases and Mental Heuristics (Kahneman & Tversky, 1979).
- Consumer Personas (Letheren., et al, 2019).

STAGE 1: INCREASE PUBLIC'S KNOWLEDGE OF SMART CHARGING



- #### BEHAVIOURAL NUDGES
- Priming with imagery
 - Anchoring bias
 - Appeal to novelty
 - Social Identity Theory as Australians

- #### 1 Government Advertising Campaign

Addresses lack of awareness and promote the progression of V2G supportive EV ownership, an official V2G smart charging informative site will be established. To include all age and cultural demographics and increase equity. Advertising methods include billboards, posters, TV advertising, and radio.
- #### 2 Partnerships With State Departments Of Transport

For existing V2G EV owners: While renewing registration at the relevant state department of transport, an opt-in option will be available for all to purchase a smart charger through Department of Transport (3rd party). **For new V2G EV owners:** While making the initial purchase, it is mandatory for the car dealership to explain what that the smart charger entails to the customer. An opt-out option for the customer to manually withdraw from purchasing a smart charger is made available.
- #### 3 "Government V2G Approved" Branding

To further spread the knowledge of the V2G smart charging concept; a tab labelled "AUS Government V2G Approved EV" will be created to make relevant EVs easily identifiable.
- #### 4 Personalised Invoice

Electricity invoices clearly converts data values into meaningful measurements for an individual.

STAGE 2: OPTIMISE SMART CHARGING EXPOSURE & USABILITY

Phone App (Gamification): MyEV

- A streak system where a streak can be achieved through having your car plugged into the smart charger for at least 10 hours within a one-day duration.
- Saver ranking within the community (customizable in privacy settings).
- Facts infographic on the default tab of the app to correct misconceptions of people.
- Link to external government informative website which includes documents on informed consent, usage of application data, etc.
- In-app notifications/emails system where the AI can judge the smart meter and the individual's charging performance against their goals and give feedback to the user.



Personalisation Of Car Key & Smart Charger

- Utilise synesthesia to personalize car key.
 - Green:** Smart charge.
 - Blue:** Regular charging.
 - Red:** Not charging.
- Clock dial on smart charger offering two choices.
 - Default option: AI optimization.
 - Charging from home (regular charging).



STAGE 3: PROGRESSING SMART CHARGING INTO A NORM

The V2G electricity lines are installed within the houses from the beginning, which makes smart charger installation easy.

Building companies lodge a rebate to the government to be subsidised for the initial payment for installation to the utility company.

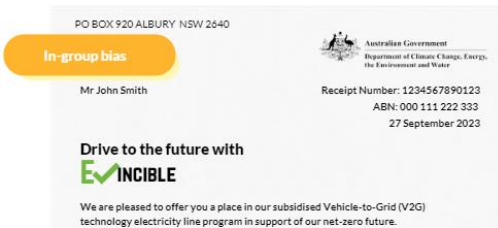
Building companies obtain proof from the utility company that the electricity installation from the house to the grid is satisfactory.

Builders make payment to the 3rd party for the installation of electricity connections from the house to the grid, which allows the infrastructure to host a V2G charger.

Government establishes partnerships with building companies to install electricity lines from the house to the grid during the construction period.

Progression

As the electricity grid establishment expands into the rural regions, paid return mail will be sent to the more populated rural areas eligible for V2G electricity lines. The paid return mail will offer subsidies installments of smart chargers as well as booking preference for site assessment and installation.



Successful Examples

- QLD Industry Partnership Program
- Green hydrogen facility near Gladstone.
- Vecco Group's Townsville vanadium battery electrolyte manufacturing facility.

IMPLEMENTATION

Stage 1

Short Term

Stage 2

Medium Term

Stage 3

Long Term

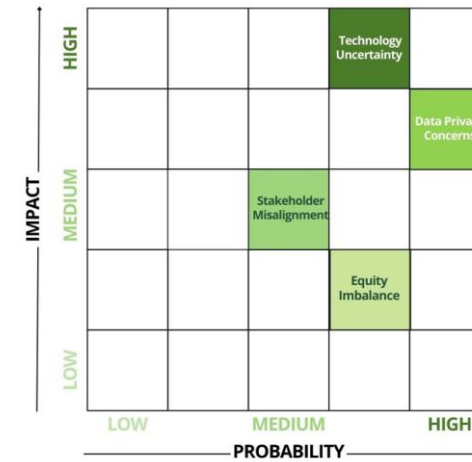
Goals

- Is it equitable?
- Is it financially viable?
- Is it addressing grid concerns?
- Is its use optimised?

Metrics

- Number of new V2G users.
- Amount of energy saved by new signed-up V2G.
- Percentage of public understanding.
- Number of satisfied V2G owners.

RISKS AND MITIGATION & FUTURE CONSIDERATIONS



Future Considerations

- Infrastructure budget.
- Political environment in state, national, and global settings.
- International standard of climate goals.
- Changes in demographic & living conditions of consumer.
- Owner economy to share economy ratio,

Easy

Key pain points were identified and addressed

Attractive

Personas informed key consideration to place at the forefront

Social

Utilized social cognitive theory for personas and national identity.

Timely

Critical and action points were identified and targeted.