



Start of the Trip



The road behind us (Situation)

Australia currently faces a roadblock in the nation's journey towards achieving Net Zero by 2050. That is, the inconsistent production of renewable energy means a reliance on dirty energy sources to meet peaks in demand.

An increasing adoption of Electric vehicles (EV) is complimented by the emergence of Vehicle-to-Grid (V2G) technology, which allows vehicles to both charge from the grid during off-peak times and give energy back to the grid when demand is high. V2G technology is crucial in supporting the transition to renewable energy sources.

As this technology is still being developed, it is not widely accessible to the general population, and awareness of its existence is very low. However, immediate action is required to ensure uptake of V2G technology when it is readily available for consumption.



Where do we want to go? (Problem statement)

How can we raise awareness of V2G arrangements and incentivise continuous participation from the public while the technology is still in its early stages of development?

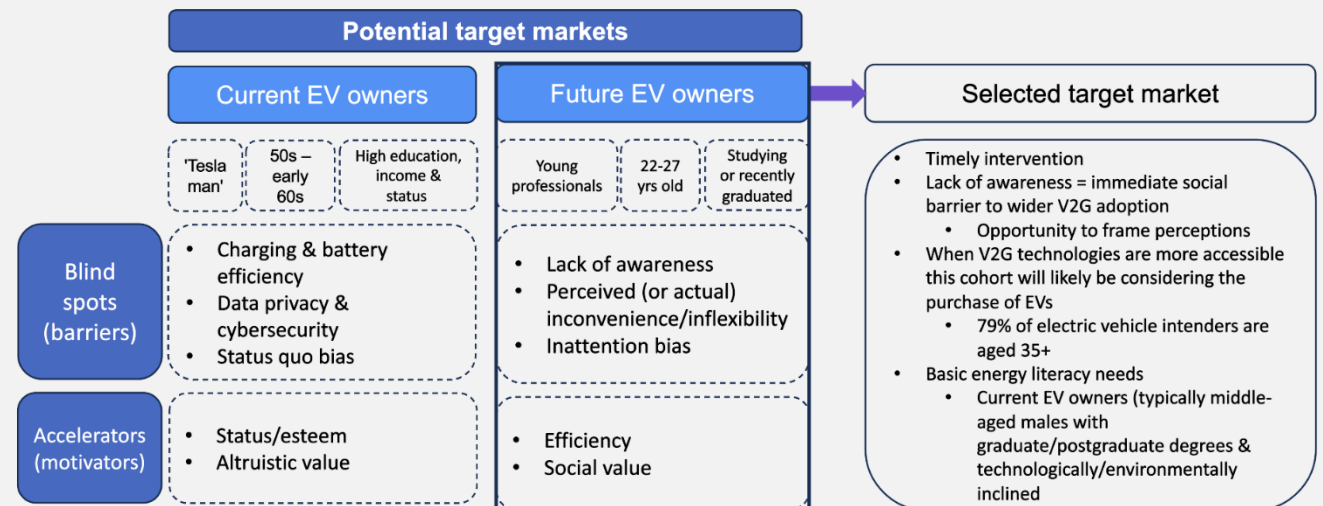
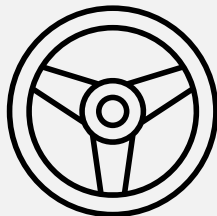
How will we get there? (Theoretical framework)



To gain a deeper understanding of the current roadmap towards V2G implementation, we explored resources that were developed as part of the Realising Electric Vehicle-to-Grid Services (REVS) project via the Australian Renewable Energy Agency (ARENA). These resources highlighted some of the key challenges in adopting V2G technology from the user perspective, based on a range of peer-reviewed research and case studies.

We complimented these insights with behavioural frameworks including Holbrook's Customer Value Dimensions (2007), Cognitive Biases (Kahneman & Tversky, 1979), Diffusion of Innovation (Fry et al., 2018), and the EAST Framework (Service et al., 2014), as well as existing research exploring energy technology adoption influences (Chadwick et al., 2022).

Who is Driving? (Identifying the target audience)

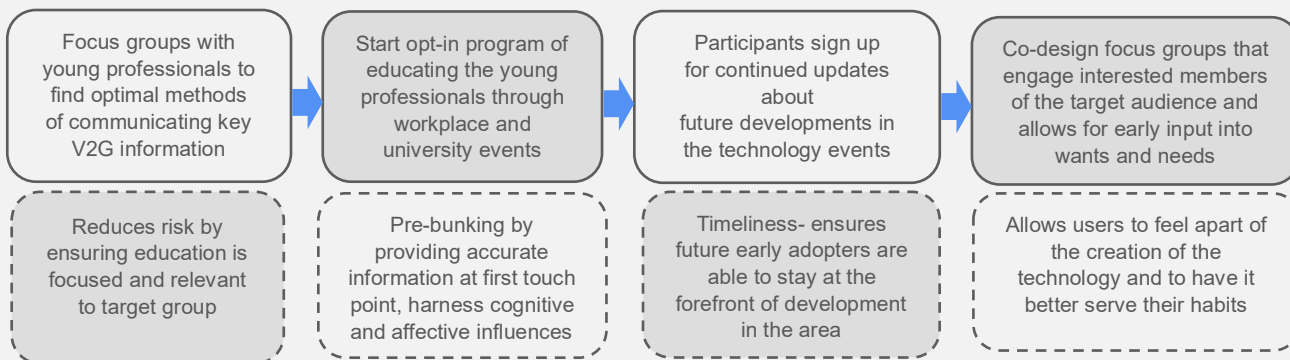




These insights led to the development of our solution to increase awareness of V2G technology and incentivise continuous participation among potential users:

VEEE2G

EDUCATION



Risks & Mitigation

Ineffective communication could lead to negative perceptions of the technology. Aim to address this by engaging participants in discussions throughout for constant feedback.

Lack of engagement with information about the technology beyond an initial touchpoint, apathy. Mitigate by asking participants to provide contact details for follow-up communication.

Feasibility

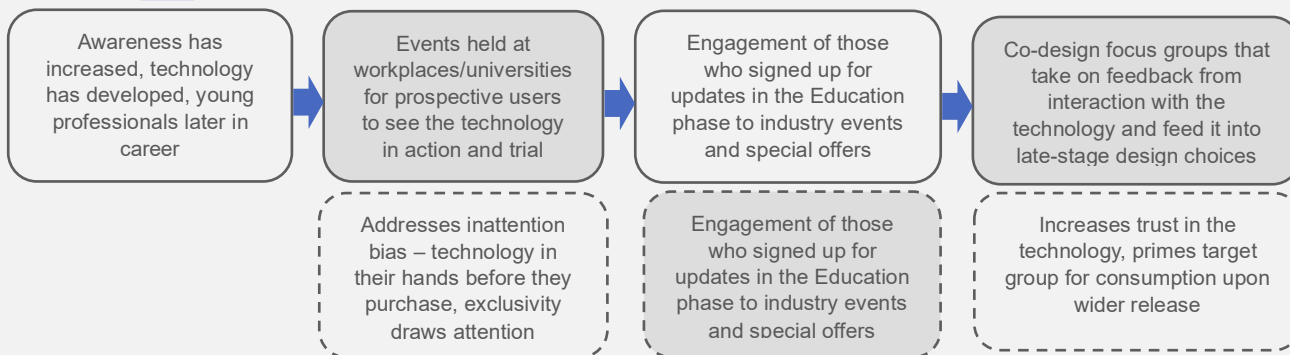
Industry/academic experts engaged to assist with running workshops and events, leverage pre-existing events.

Program begins in Southern Australia and spreads to other states.

Future Considerations

Can run similar workshops for other target groups with different focuses depending on what information is most relevant (e.g. high school visits)

ENGAGEMENT



Risks & Mitigation

Possibility for first interaction with technology to be negative due to misinterpretation of education or unmet expectations. Again, using focus groups and regular feedback/evaluation to mitigate.

Feasibility

Leverage existing infrastructure to hold events.

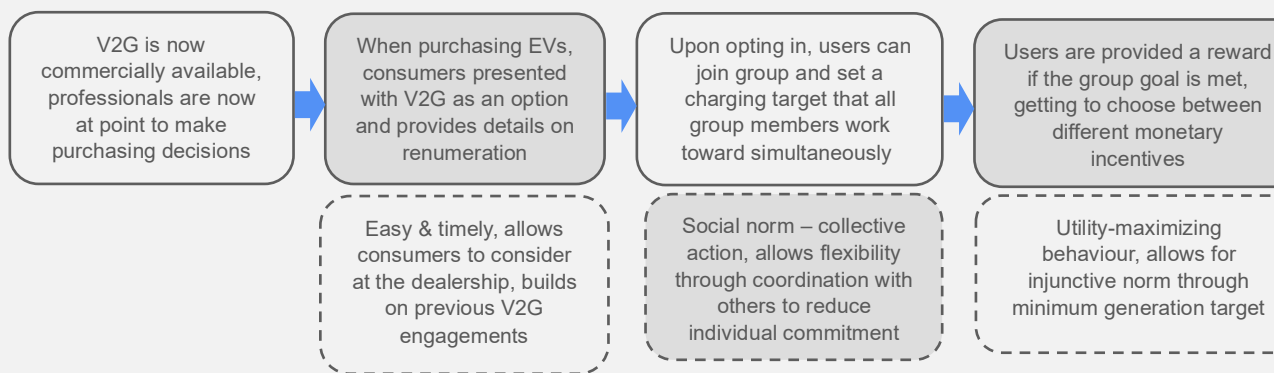
Engage industry partners to create commercial event.

Future Considerations

Can run local 30-day trial runs of V2G with professionals who are now EV owners.

Scalable to other target demographics

EXPERIENCE



Risks & Mitigation

Psycho-social hazards (e.g. conflict between group members). Mitigate by establishing community guidelines for the user interface that all members must adhere to.

Failure to incentivise V2G technology. Address this by sending follow-up resources after EV purchase as salient reminders of the value of V2G and flexible options for use.

Data privacy. Ensure all users are aware of any information collected and allow for personalisation of privacy settings.

Feasibility

Partner with providers to ensure business models are commercially viable and behaviourally informed.

Future Considerations

Bolstering of other features which allow peer-to-peer interaction – (e.g. leaderboard, competitions).

Offering of different contract types to cater to different consumer needs (e.g. pay-as-you-go, individual rewards system, fixed-term lock-in etc.).