

ChargingMadeEasy: Activating V2G through the Power of Free

Executive Summary

ChargingMadeEasy is a strategy grounded in behavioural science, targeting increased adoption of vehicle-to-grid (V2G) charging systems in Australia. The existing market dilemma stems from present-bias and loss aversion, where individuals confront a significant upfront cost for ambiguous future returns. By understanding the psychology of these behaviours, we designed an industry-partnered benefit sharing scheme where electricity providers cover initial costs.

Our approach integrates with the existing customer journey. We detail assumptions about the technology's adoption timeline and potential market. To boost awareness, we integrate with the electricity and vehicle sectors, introducing our scheme on electricity bills and new electric vehicle registration papers. Drawing inspiration from "EnergyMadeEasy", we introduce a choice architecture, leveraging the decoy and anchoring effects, to promote V2G adoption without limiting options.¹ We also explore strategies for sustained adoption, based on behavioural insights on information cascades and social comparisons.

Key Assumptions

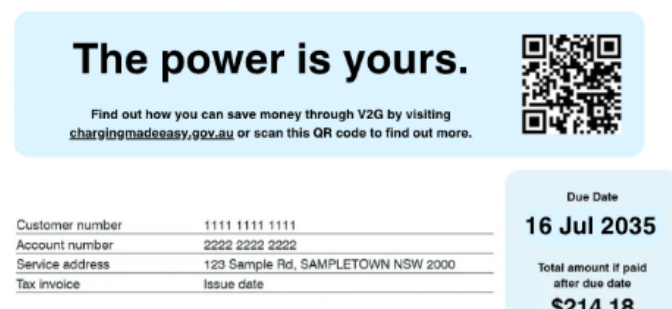
The V2G market is expected to have developed significantly within 4 years. ARENA modelling predicts the incremental costs of V2G installation to fall to around \$4000 in 2027, marking when bidirectional chargers will offer a positive value proposition for EV users.² At this stage, we expect the EV market to have reached early adopters and gathered momentum. Infrastructure and regulatory constraints are also largely addressed by relevant state actors and private third parties, enabling widespread manufacture. We focus on households that are considering purchasing an EV and identify two representative archetypes for likely V2G first-movers - a tech-savvy innovator and young suburban early adopter.

Awareness

The first touchpoint for prospective EV users comes from informational nudges integrated on their electricity bills (see Figure 1). This preempts misinformation via the ChargingMadeEasy website. Tackling this challenge by means of an FAQ addressing common concerns, this will have the additional effect of increasing awareness.

Additionally, we will intervene at the opportune critical decision point of a charging-system purchase, which is achieved by a similar nudge on Vehicle Registration papers.

Electricity Bill



The power is yours.

Find out how you can save money through V2G by visiting chargingmadeeasy.gov.au or scan this QR code to find out more.

Customer number	1111 1111 1111
Account number	2222 2222 2222
Service address	123 Sample Rd, SAMPLETOWN NSW 2000
Tax invoice	Issue date

Due Date

16 Jul 2035

Total amount if paid after due date

\$214.18

Figure 1

¹ Jones, Laura; Lucas-Healey, Kat; Sturmberg, Bjorn; Hendriks, Johannes. "Modelling V2G A study on the economic and technical value proposition for V2G". Australian Renewable Energy Agency. (2022).

² <https://www.energymadeeasy.gov.au/>

Consideration and Purchase

Our strategy partners with the industry through the “ChargingMadeEasy” platform. Here, the government helps consumers compare benefit sharing schemes from energy providers. Providers cover the initial cost of V2G systems, and in return, a profit-sharing agreement is set between them and the consumer.

The main hurdles to V2G adoption are loss aversion and present bias.^{3 4} These obstacles highlight the stress of the immediate, high initial cost for V2G systems against delayed, uncertain benefits. We aim to address this through increased awareness and social networks, but the challenge remains convincing loss-averse consumers to accept V2G’s large and salient upfront costs.

Drawing from the “save more tomorrow” (SMT) program by Thaler & Bernatzi, we designed a repayment structure that delays the energy cost reduction, syncing better with the timing of benefits.⁵ Using choice architecture (see Figure 2), we guide users to this program without limiting the choice set. Anchored by a strictly-dominated decoy option, users are nudged towards choosing our preferred option.

Find the right EV charger plan for you

We will help you by comparing all the retailers

What type of EV charger are you looking for?

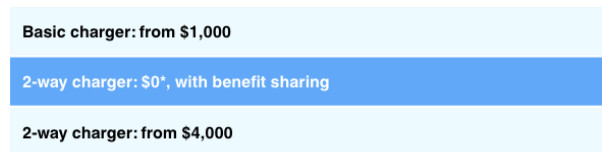


Figure 2

Advocacy

We aim to increase advocacy and smooth the uptake of this technology amongst a broader population by utilising social learning theory.

Built into the benefit-sharing scheme is an immediate cost-free installation and enjoyment of much of the rewards of V2G. We expect that this will cement customers’ positive attitudes towards the technology and encourage advocacy for its benefits. The large initial benefit of the program will cause individuals to identify themselves with the technology, and ensure the maintenance of a positive affective attitude when repayments through the benefit-sharing scheme begin to scale up,

As V2G proliferates, information cascades will support a bandwagon effect that normalises uptake as an obvious choice. This is especially true as non-adopters observe innovators, who are likely to represent informational nodes with high salience and community status, supporting a shared social identity. We will reinforce this social learning and shared identity through facilitating positive social comparison, providing information on the energy savings against comparable households with V2G and without (Figure 3).

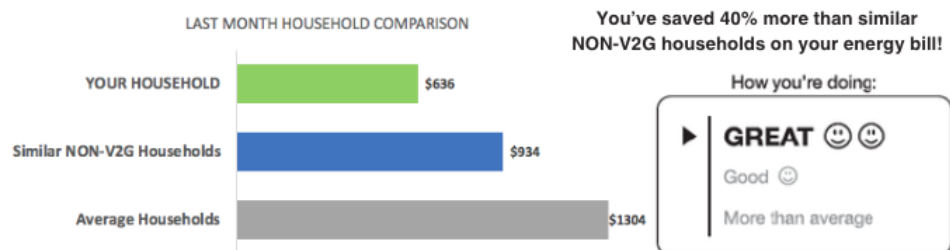


Figure 3

³ Kahneman, Daniel, and Amos Tversky. “Prospect Theory: An Analysis of Decision under Risk.” *Econometrica* 47, no. 2 (1979): 263–91. <https://doi.org/10.2307/1914185>.

⁴ Thaler, Richard, “Some empirical evidence on dynamic inconsistency”. *Economics Letters* 8, Issue 3, (1981): 201-207, [https://doi.org/10.1016/0165-1765\(81\)90067-7](https://doi.org/10.1016/0165-1765(81)90067-7).

⁵ Thaler, Richard H., and Shlomo Benartzi. “Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving.” *Journal of Political Economy* 112, no. S1 (2004): S164–87. <https://doi.org/10.1086/380085>.