

Applying Behavioural Insights to Powershop's Curb Your Power program

Trial report from the Behavioural Insights Team





In November 2018, Powershop Australia and the Behavioural Insights Team co-designed two randomised controlled trials (RCT) in Victoria to find out what works to increase recruitment into behavioural-demand response programs, and what works to reduce energy usage during peak-demand events.

These trials were implemented between November 2018 and January 2019. This report presents the results and recommendations on how to enhance the Curb Your Power behavioural demand-response initiative. The report is divided into five sections:

Section 1	Executive summary of the headline findings and recommendations
Section 2	Deep dive into the behavioural solutions
Section 3	Deep dive into the trial findings
Section 4	Recommendations and next steps
Section 5	Annexes: BI methodology and references

Executive summary

Headline findings and recommendations



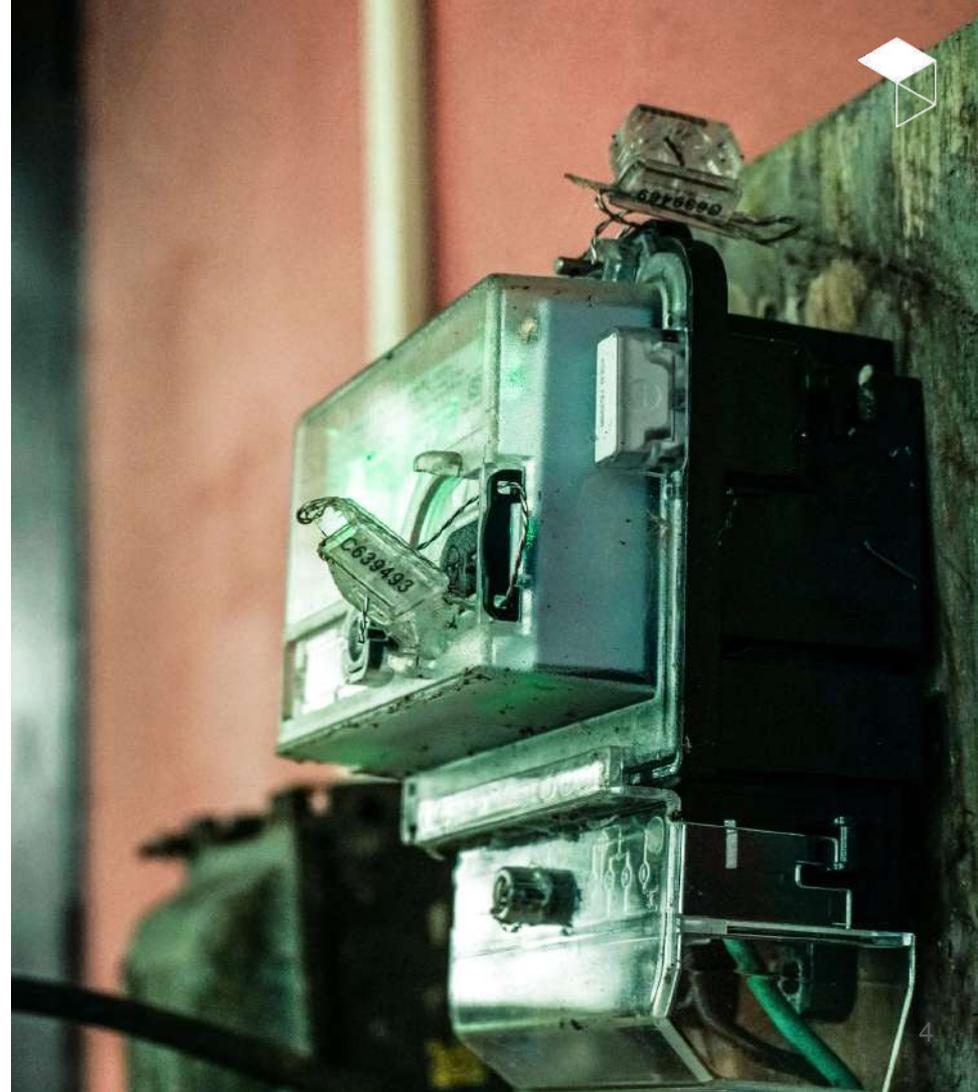
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The aim of this project was to save more energy during peak-demand events

Peak-demand events or 'events' are the times of year when electricity consumption is at its highest, such as hot days when everyone turns up the air conditioning.

During these events, the price of electricity can increase by up to 100 fold.

The traditional approach to this problem has been to build power plants that are only used during these extreme events - causing substantial negative effects on both energy prices and carbon emissions.



Demand-response initiatives can ease pressure on the grid during peak-demand events

Initiatives to deal with peak-demand events, called '**demand-response**' initiatives, are important in preventing planned or unplanned blackouts, or having to invest heavily to upgrade the electricity grid to cope with peak-demand events (which often comprise just 10-15 hours per year).

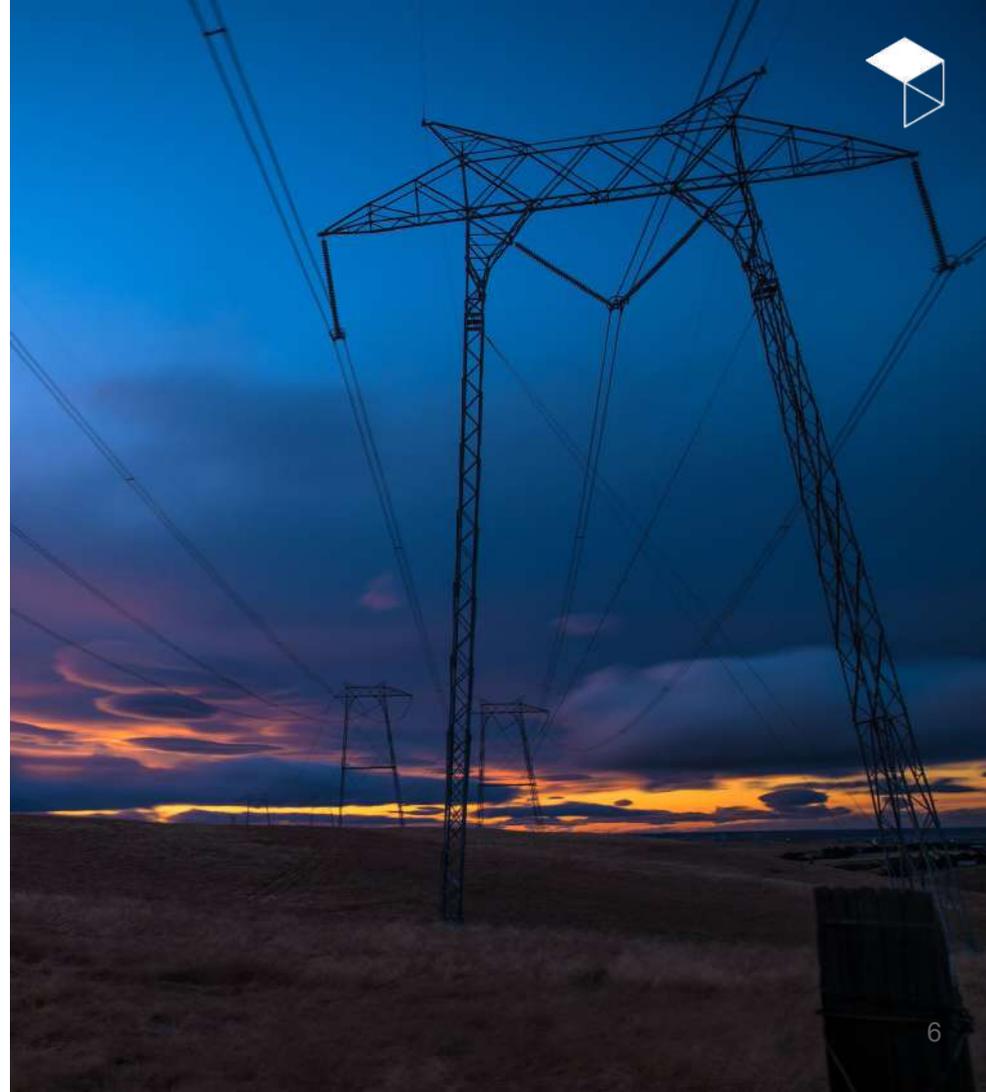
Behavioural demand-response initiatives seek to ease the burden on the electricity grid by changing consumer behaviour. This is done by encouraging customers to use less energy during peak-demand events. The electricity market operator, AEMO, lets retailers know when the demand on the grid is high and an event is imminent



Powershop Australia already has a behavioural demand-response initiative

Launched in summer 2017-18, '**Curb Your Power**' (**CYP**) is Powershop's behavioural demand- response initiative, open to Victorian customers with a smart meter.

When a peak-demand event occurs, CYP customers are prompted by text message to curb their electricity usage during a 1-4 hour period. If they reduce their power sufficiently to meet their personalised target (calculated based on their usage history) they are later rewarded with a \$10 discount on their next Powershop electricity bill.



Behavioural insights were applied to the Curb Your Power program and trialled in Summer 2018-2019

Behavioural insights are empirical findings about human behaviour that can be used to make initiatives more effective - sometimes referred to as 'nudges'.

Behavioural science gives us tools to approach behaviour change strategically, identifying the barriers that can tip the balance between inaction and action.

This project applied behavioural insights to CYP with the aim of encouraging even more energy savings during Victorian peak-demand events.



To reduce demand during an Event Powershop customers need to engage in two behaviours successfully



First, the customer needs to join the behavioural demand-response program so they will receive the Event notifications and thus know when to respond.

Then, the customer needs to reduce their power usage successfully when the Event occurs.

A simplified 'Curb Your Power' program (CYP) journey

Step 1: Powershop Australia invites customers to join CYP



Step 2: Powershop customers sign up to Curb Your Power

Step 1: AEMO calls a peak-demand event



Step 3: CYP members reduce their energy use



Step 2: Powershop Australia texts CYP members - start of Event



Step 4: Powershop Australia texts CYP members - end of Event



Powershop Australia and the Behavioural Insights Team built on last year's CYP communications with a number of behavioural ideas



1. Simplification of last year's communications (Business as usual)

Essentially the same as the previous year's CYP recruitment email and Event text messaging, these comms were slightly improved using simplification. Customers still received \$10 credit for curbing their power usage.



2. Prize draw

Included in the Business as usual (BAU) comms was the offer of a prize draw. Every time they successfully curbed their power usage, the customer would receive an entry into a prize draw for the chance to win prizes worth up to \$5,000.



3. Join the Club

BAU comms were reframed to make this group of people feel they were part of a special emergency response club. The comms were designed to evoke a sense of collective identity and community-minded purpose.



4. Choose your own adventure (CYOA)

Customers were able to choose their reward for curbing their power usage; either getting the \$10 power credit as per usual, OR donating \$15 to Powershop Australia's charity, 'Your Community Energy'.



5. Surprise! The power of defaults

No recruitment communications. Instead, customers in this group were defaulted in to receiving text messages at the time of peak-demand events that asked if they could help. They were not told about CYP or rewards.

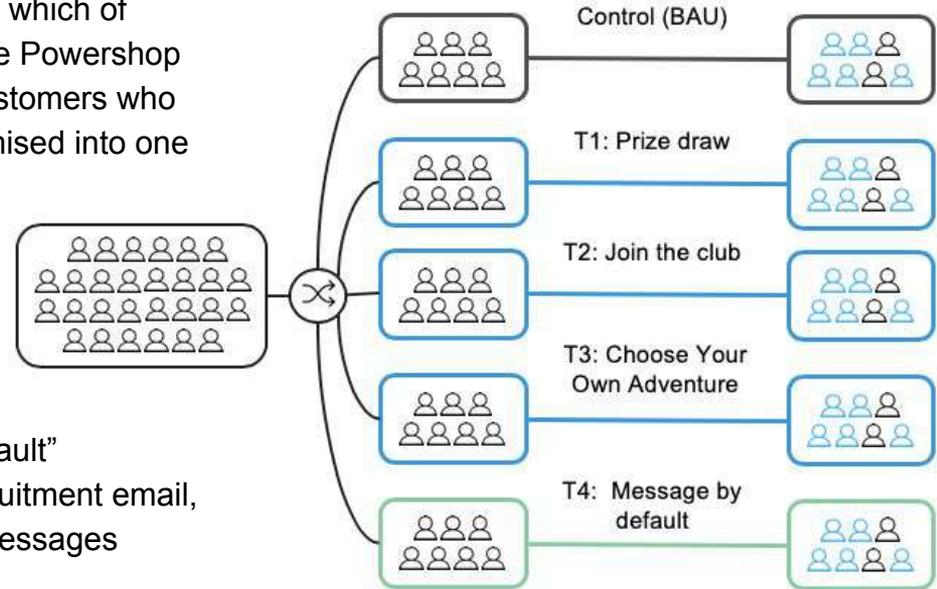
The interventions were designed to encourage Powershop customers who were not yet enrolled in CYP to join the program

A randomised controlled trial (RCT) design was used to test which of these behaviourally-informed interventions would encourage Powershop customers to join CYP. To do this, all eligible Powershop customers who were not yet in the CYP program in November were randomised into one of five groups.

Four of these groups received an email introducing the CYP program and inviting them to join. If they chose to join, they received a series of text messages during peak-demand events.

The exception were those allocated to the “Message by default” (Surprise!) condition. These customers were not sent a recruitment email, and were instead sent a modified version of the BAU text messages when the event occurred.

Email analytics for each of the groups were analysed, along with power usage data from each of the two peak-demand events in January 2019.



This diagram depicts a Randomised Controlled Trial, where Powershop customers were randomly assigned to receive one of the five sets of communications (see Annex 1 for more information on RCTs)

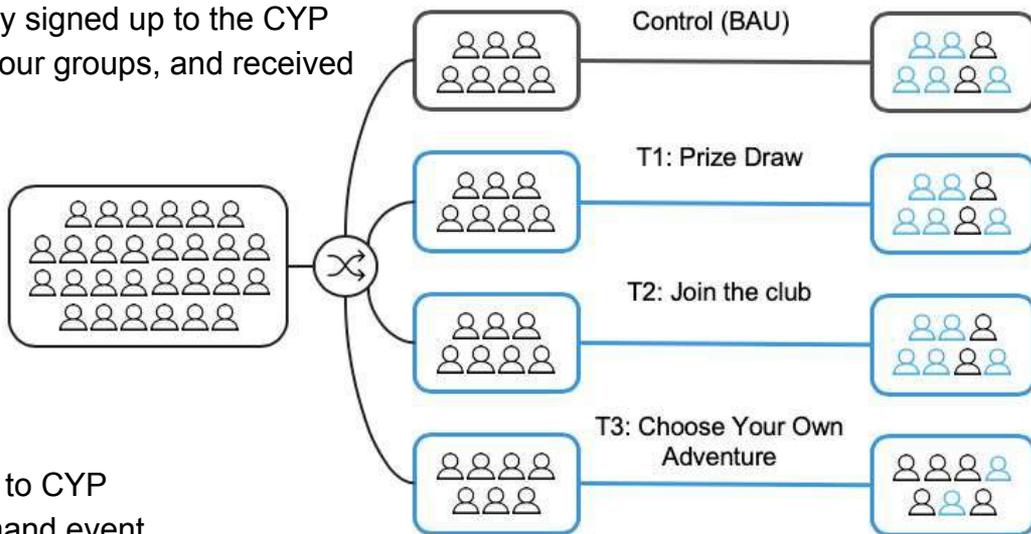
For customers already enrolled in CYP, the interventions were designed to encourage customers to use less energy usage during peak-demand events

To understand how the interventions would impact energy usage during peak-demand events, all customers who had already signed up to the CYP program by November 2018 were randomised into four groups, and received either:

- (1) Simplified 'Business as Usual' communications,
- (2) Prize Draw communications;
- (3) Join the Club communications; or
- (4) Choose Your Own Adventure communications

Each group received:

- An email reminding them they had signed up to CYP
- A series of text messages for each peak-demand event
- A feedback email after the event to let them know about their power reduction



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Data from two January 2019 peak-demand events were analysed.



These two separate trials ('already in CYP' and 'not yet in CYP') were able to address three questions



Encouraging Powershop customers to join CYP

How can we encourage more Powershop customers to sign up to the Curb Your Power program?



Encouraging those in CYP to reduce energy

How can we encourage those already in Curb Your Power to save more energy during peak-demand events?



Encouraging those not in CYP to reduce energy

Can we encourage Powershop customers to save more energy during peak-demand events even if they are not in CYP?



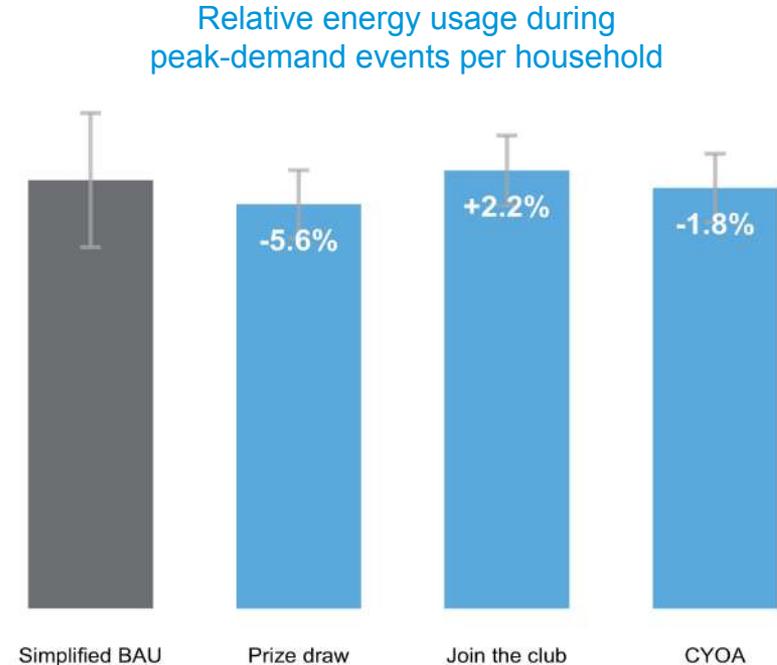
Headline finding: The prize draw group used less power during peak-demand events, but this difference was not statistically significant

Those in the prize draw condition used 5.6% less power on average during the peak-demand event than those in BAU. The CYOA condition also used less power (1.8%) than BAU but the 'Join the club' condition used slightly more power (2.2%). None of these differences were statistically significant at conventional levels.

This suggests that our interventions had a modest impact (if any) on power usage during peak-demand events.

What is statistical significance?

Statistical significance is a cut-off used widely by researchers to distinguish between differences that are large enough or precisely estimated enough to meet a conventional threshold. We report statistical significance as it may be of interest to the reader.



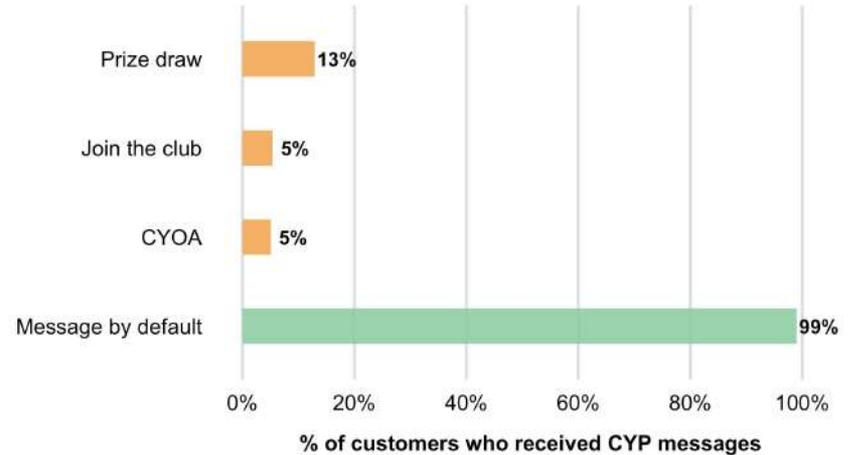
Headline finding: Sending the message by default was the most effective approach by a large margin

The 'message by default' approach increases the proportion who receive the CYP peak-demand messages by almost 8 fold. Compounding this effect, we also observe an average reduction from the BAU group per individual, over 3 times larger than the effect of the prize draw.

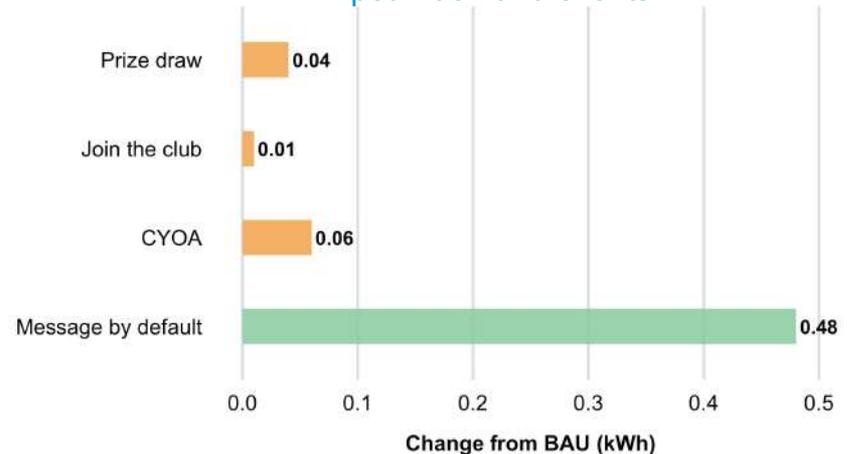
Given these estimates, this implies a 2-3 mWh reduction in power usage per event over the BAU approach if the message by default option was used.

This is in part due to the number of customers being reached, but also due to the type of customers being reached - those who choose to join CYP already use less power on average throughout the year and may not be able to reduce power usage by as much during peak-demand events.

Recruitment into CYP



Impact on energy reduction during peak-demand events





Summary of the headline findings



Encouraging Powershop customers to join CYP

The simplified version of the last year's communications were more effective at recruiting people into the program, and had higher open and click-through rates.



Encouraging those in CYP to reduce energy

The Prize Draw intervention was the most effective at reducing power usage during peak demand events, but this was not a statistically significant difference.



Encouraging those not in CYP to reduce energy

Defaulting Powershop customers into receiving peak-demand text messages resulted in a large reduction in power usage, with few customers taking the option to opt-out.



Headline recommendations

1

All households should be made aware of peak-demand events: Many customers who may be willing and able to reduce power usage during a peak-demand event may not want to join a specific program.

2

Target CYP at more engaged customers: Those that choose to join CYP differ significantly in their baseline usage and are more likely to have solar power installed. The CYP program could be redesigned with higher curb targets and an emphasis on education and long-term impact.

3

Keep communications simple: Future efforts should go into simplification of messaging. Additional behavioural features and reframing of messages may add a layer of complexity or crowd out the call-to-action and headline message to customers.

4

Continue to trial and refine demand response interventions: Valuable insights were gained from these RCTs. Future trials should focus on factors not yet tested, such as changing the messenger or the timing and frequency of text messages around Events.

Behavioural solutions

This section outlines relevant insights from the behavioural sciences literature, which of these insights were already present in the CYP program and how they were applied in the trials



Powershop has taken a disruptive approach to demand response, inviting Victorian customers to reduce energy consumption during peak-demand events



Powershop prides itself on being Australia's greenest energy company, and is the only national electricity retailer to be certified 100% carbon neutral.

Powershop's consumer demand-response program, **Curb Your Power (CYP)**, was launched in 2017 in partnership with the Australian Renewable Energy Agency (ARENA) and the Australian Energy Market Operator (AEMO).

CYP invites Powershop's Victorian customers to reduce their energy use during peak-demand events to help ease pressure on the electricity grid. This reduces the need for planned blackouts, and lowers reliance on non-renewable backup energy sources.

Powershop has over 100,000 customers across NSW, QLD and VIC, however Curb Your Power launched in Victoria first. CYP is only available to customers with smart-meters. Smart meters permit more accurate measurement of energy consumption, tracking and transmitting consumption data remotely every 30 minutes (eliminating the need for manual readings).



During peak-demand events, CYP participants receive text messages asking them to reduce power usage

Powershop Australia asks their Victorian customers to join the CYP initiative, recruiting through emails, in-app notifications on their website and social media channels.

Peak-demand event notification: AEMO determines when power needs to be curbed and notifies Powershop. Powershop sends CYP participants an SMS asking them to voluntarily reduce their usage for a set period of time (1-4 hours).

Curb Targets: Powershop asks CYP participants to try and reduce their energy consumption by a pre-specified amount; their 'Curb Target'. This has been calculated as 10% of their baseline consumption*.

Baseline consumption is calculated using an algorithm based on an individual's' previous 14 days' power consumption to create an estimate of what power usage would be at a certain time.

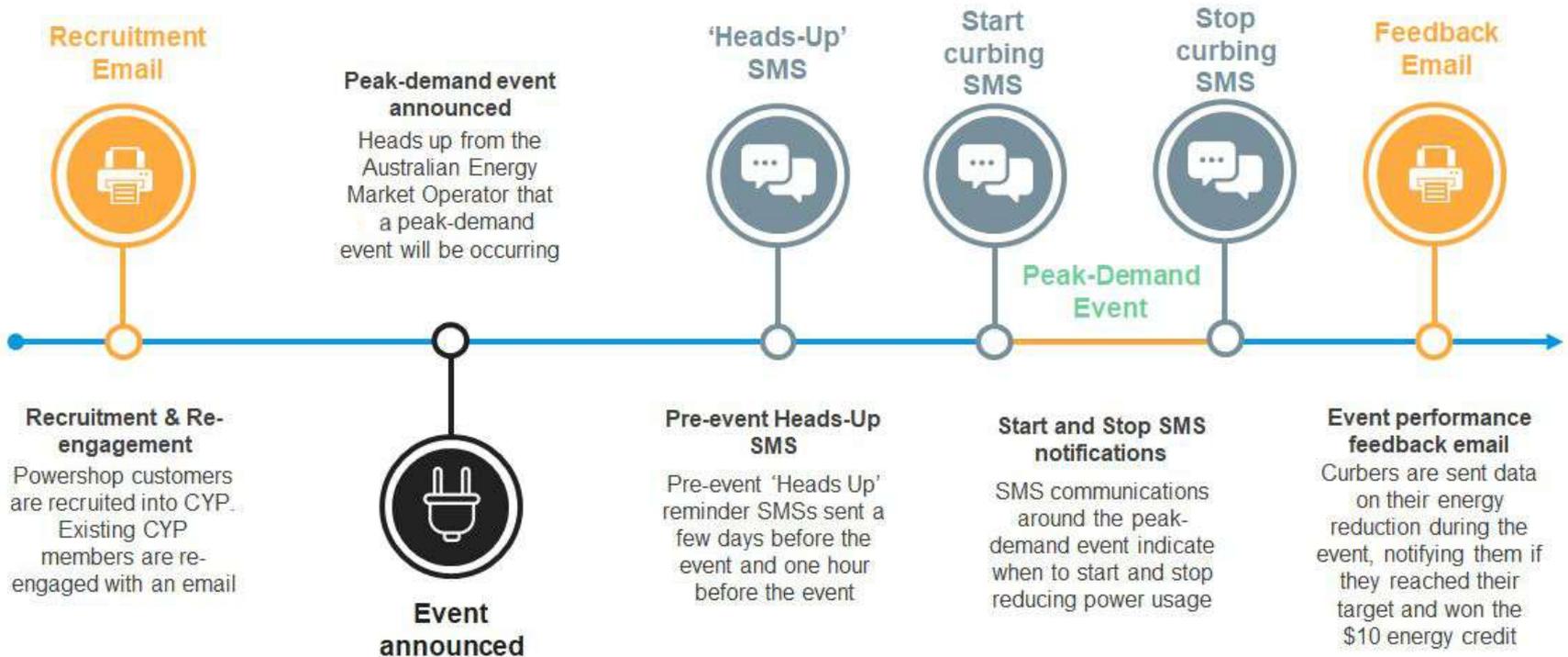
**For non-solar customers.*





The CYP program sends several timely communications to customers before and during a peak-demand event

The current CYP communications timeline





The current communications timeline can be modified using evidence-based concepts to encourage energy-saving behaviours

The Behavioural Insights Team conducted a review of academic literature and behavioural interventions which have previously been shown to be effective at encouraging energy saving and other pro-social behaviours.

Narrowing down the interventions that have strong evidence in contexts such as energy reduction, blood donation and charitable giving, three key concepts and interventions were evident:



1. Use of feedback



2. Use of incentives



3. The power of defaults

The following pages provide an overview of the evidence supporting these behavioural concepts, how they have already been applied in the CYP program and how they were incorporated into the different trial arms.

See Annex 2 for references.



Concept 1. Providing feedback has been used to effectively change consumer behaviour



Direct feedback on energy use, generally provided through in-home devices (e.g. smart meters) has been shown to reduce household energy consumption.



Social norms feedback, which involves demonstrating to individuals how much energy they are consuming in relation to their peers, has been used to encourage reduced household energy use.



The timing and content of feedback and targets should be carefully considered: Direct feedback loops via the Powershop app could encourage CYP customers to achieve their goals during peak demand events.

Concept 2. Incentives can encourage prosocial behaviour



Carefully structured incentives can encourage participation in energy-reduction interventions in a cost-effective manner. Incentives should be carefully considered so as not to backfire by 'crowding out' intrinsic motives.



Prize-draws and lotteries that give customers a smaller chance of winning big have been used to effectively encourage a wide range of behaviours.

Concept 3. Defaults can encourage pro-environmental behaviour

- ✓ Removing 'friction costs' (small details that make a task more effortful, but can have a disproportionately large effect on behaviour) is a quick way to change behaviour.
- ✓ Research suggests that using defaults can have a greater impact than moral appeals, education or economic incentives on choosing 'green' products.





Powershop Australia's business-as-usual emails for Curb Your Power already contain many behaviourally-informed features



Recruitment Email

The Control/BAU email was a slightly improved and simplified version of the previous year's CYP email

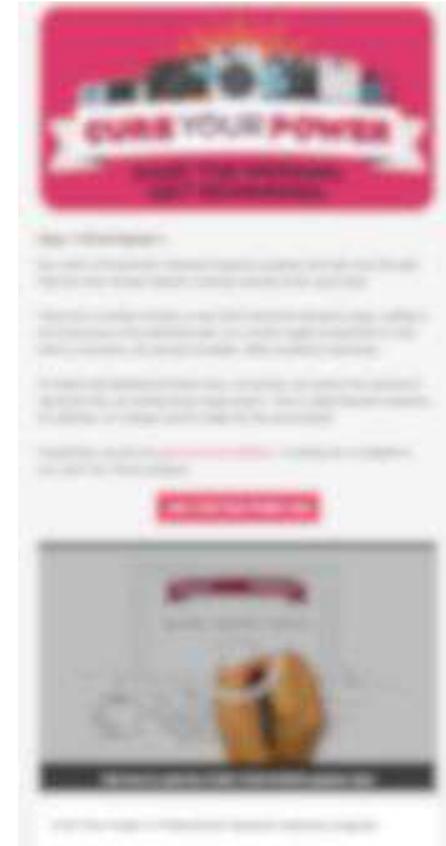
Behavioural features included:

Personalisation - Addressing the customer directly

Emphasis on benefits - Making salient the benefits of the program by making the financial and environmental benefits front and centre

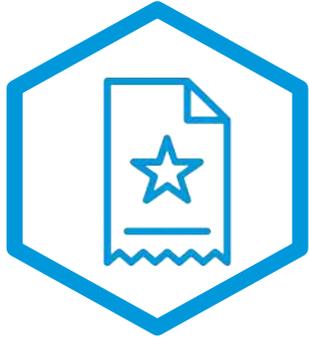
Simple - Easy to read, simple instructions for how CYP works, and an emphasis on how easy it is to participate, in jargon free language

Attractive - The use of colour to draw the eye to important elements, and a video developed to engage those who would prefer not to read





Using the BAU comms as a foundation, four behavioural ideas were added to encourage recruitment into and effective participation in CYP



Prize Draw

A lottery component was added to the CYP reward structure, focusing on the extrinsic reward for taking part. On top of the Business-as-usual \$10 credit, customers hitting their target also get an entry into a prize draw at the end of Summer.



Choose Your Own Adventure

At the point of registration for CYP, customers could choose whether to take the \$10 credit as a reward for hitting their 'curb' target, or donate \$15 to a community energy initiative, a clear pro-social purpose option.



Join the Club

The recruitment letter and Event SMSs were re-framed to evoke a sense of collective identity and community-mindedness. An unconditional thank you \$10 credit was given on joining CYP as a token of thanks.



Surprise! We need your help

This group received no email communications about CYP. Everyone automatically received SMS notifications around the peak-demand event. The messages did not mention rewards, however customers received \$10 credit for hitting their target.



Behavioural principle: Prize Draws focus people on the chance to win big

Prize-draws can be an effective recruitment tool, and a powerful and cost-effective way of structuring financial incentives.

People tend to overestimate the likelihood of small probabilities,^{1,2} and over-value chance of a large gain,^{3,4} i.e. we have a tendency to focus more on the size of the prize, rather than our chances of winning it.

The \$10 incentive may not be sufficient for those who are not already motivated by helping ease pressure on the grid.

Rather than simply providing everyone with a one-off small incentive for participation, an additional chance to win a substantially larger prize may encourage more effective energy savings among participants.



How this was applied: Customers were told that they could win their choice of prizes worth \$5,000



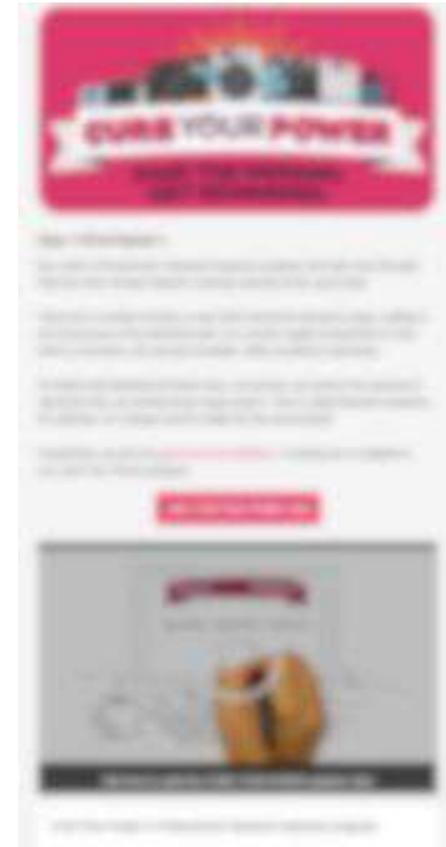
Prize Draw Email

This e-mail included the chance to win prizes when they signed up to CYP

Additional behavioural features included:

- Making salient the chance to win prizes worth up to \$5000
- Emphasis on eligibility to win prizes throughout the summer
- Attention is drawn to the range of higher-value prizes on offer
- Smaller-value prizes are available to a larger number of prize-draw entrants

as well as all the behavioural elements of the BAU email





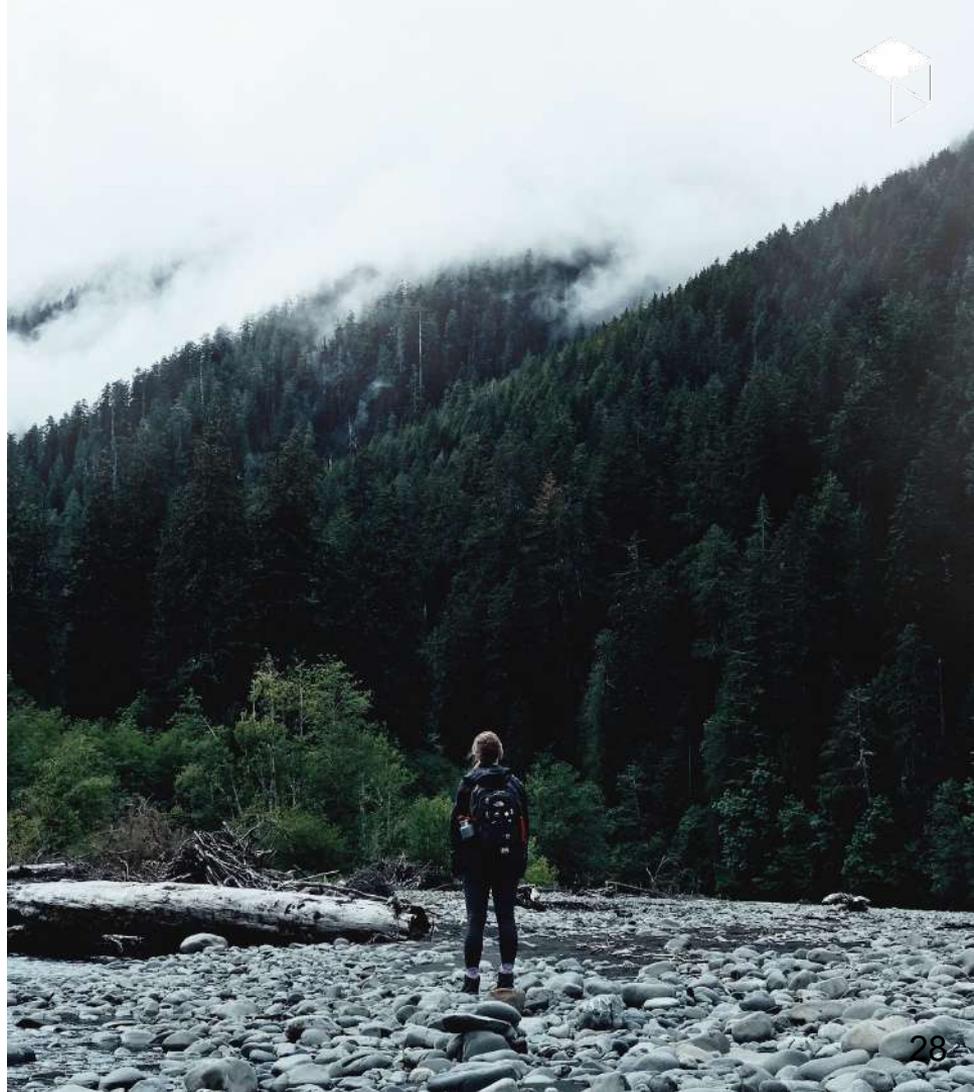
Behavioural principle: 'Choose Your Own Adventure' provides a prosocial option

Crowding-out motivation: Providing financial incentives or other 'extrinsic' rewards can sometimes decrease the socially desirable behaviour one is trying to encourage, i.e. by 'crowding-out' 'intrinsic' motivation to act prosocially.¹

Emphasising enjoyment of a task or feelings of civic and moral responsibility can motivate action.

For example, paying people to donate blood can 'crowd-out' blood supply, with those who want to donate for a good cause less likely to donate if they are paid to do so.²

However, when these potential donors are given the opportunity to donate the payment to charity, the intrinsic reward of donating blood is no longer 'crowded-out'.³



How this was applied: Customers were told that they could choose to keep the \$10 power pack, or donate \$15 to Powershop's community energy charity



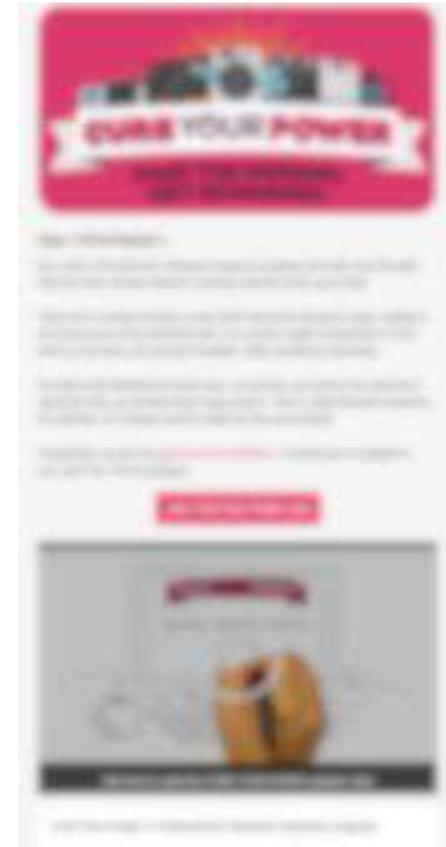
Choose Your Own Adventure

This e-mail gave participants the choice of different rewards

Additional behavioural features included:

- Emphasis on the negative impact peak-demand events have on the community
- Customers are given the option to claim the financial incentive for themselves, or choose to donate it to Your Community Energy
- Call to Action emphasises that members get to choose their preferred reward

as well as all the behavioural elements of the BAU email





Behavioural principle: 'Join the club' was designed to prompt reciprocity and collective group action

Reciprocity: A widely tested and effective way to encourage prosocial behaviour is through reciprocity. People exhibit a strong 'gift exchange' motive – that when someone gives something to an individual, they feel a desire to give something back.¹ In the charitable giving literature, small gifts to donors can encourage more people to donate and to donate larger amounts, particularly if the gift is seen as a 'thank you'.

Social identity: Our identity is tied to the social groups and categories that we put ourselves in, e.g. Victorian, environmentalist etc. Highlighting group membership can prompt us to act in line with group norms.^{2,3} However, attention needs to be drawn to the relevant group membership for this identity to influence us.





Case study: 'Join the Club' was inspired by the Red Cross Special Registry

Slonim and colleagues ran a study to encourage blood donation to the Australian Red Cross by creating a behaviourally-informed 'emergency blood donation registry'.^{1,2}

In an analogous program to Curb Your Power, potential blood donors were asked to join a registry in which they would be called on if there was less than three weeks supply of their blood type available.

The study found that registry members were more likely to volunteer and respond to a shortage appeal, and that this was largely driven by altruistic donors who felt they were doing something special and important for others.





How this was applied: Communications emphasised that members were a special group who were helping the community by participating



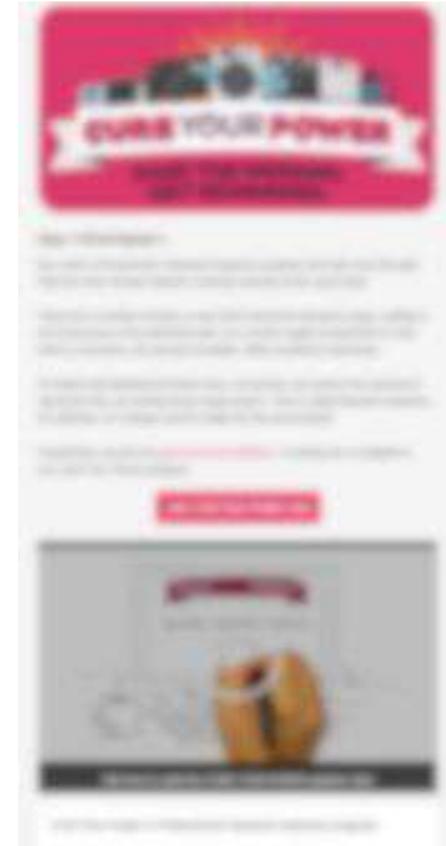
Join the club

This e-mail emphasised the pro-social and community aspects of the Curb Your Power program

Additional behavioural features included:

- Focus on the broader implications for the community
- Highlights that they are a special group that are going above and beyond in their contribution
- Collective identity emphasised with the name “CURBERS” given to the group

as well as all the behavioural elements of the BAU email





Behavioural principle: The ‘Surprise!’ messages removed the friction of sign-up

The power of defaults: People tend to stick with the ‘status quo’ (the default). The Curb Your Power program requires customers to opt into the demand-response program rather than opt out, so they may be more likely to stick with the status quo and not register.

Remove friction costs: The tendency to stick with the status quo can be exacerbated by ‘friction costs’. Small, seemingly minor details that make a task more effortful, can have a disproportionately large effect on whether people complete a task.¹

Automatically enrolling people into receiving peak-demand messaging overcomes this initial barrier of having to register in advance.



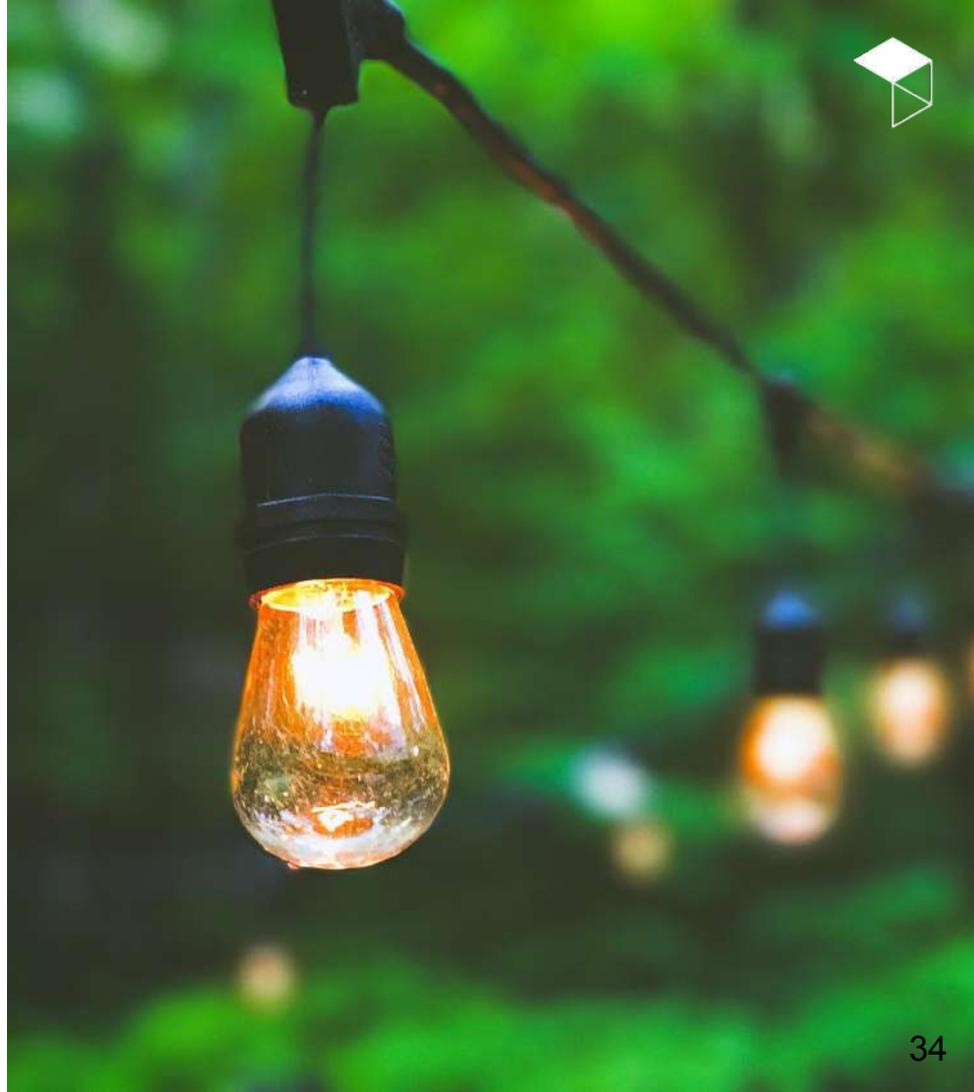


Case study: Defaults can have more impact than moral appeals, education or incentives

Even when consumers state a preference for green energy, Pichert and Katsikopoulos¹ found that when consumers must 'opt-in' to purchasing green energy, there is a very low uptake.

However, they found that when green energy is the default, with consumers having to opt-out if they did not want it, over 90% of consumers used it.

Even in cases where green energy is more expensive, changing the default to opt-out has been shown to increase uptake nearly tenfold.²





How it was applied: Customers were defaulted in to receiving text messages at the time of a peak-demand event



Customers not signed up to Curb Your Power may still be willing to act when needed.

The 'Surprise! We need your help' group did not receive the recruitment email or post-activation email.

Individuals in this group received three peak-demand event text messages (heads up, start curbing and stop curbing messages) and a feedback email.

Each of these messages included an option to stop receiving communications (a clear opt-out option).

Customers still received \$10 if they hit their target, but they were not told about this until after the event.



Trial results and findings

This section presents an overview of the effects of the behavioural interventions on the recruitment and peak-demand behaviours of Powershop's customers



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Two separate trials were conducted, each targeting a key group and a key behaviour in the CYP process

One trial tested which behavioural interventions would prompt Powershop customers, not yet enrolled in CYP, to join.

In the other trial, the behavioural ideas were used to encourage customers already enrolled in CYP to reduce their energy usage during peak-demand events.



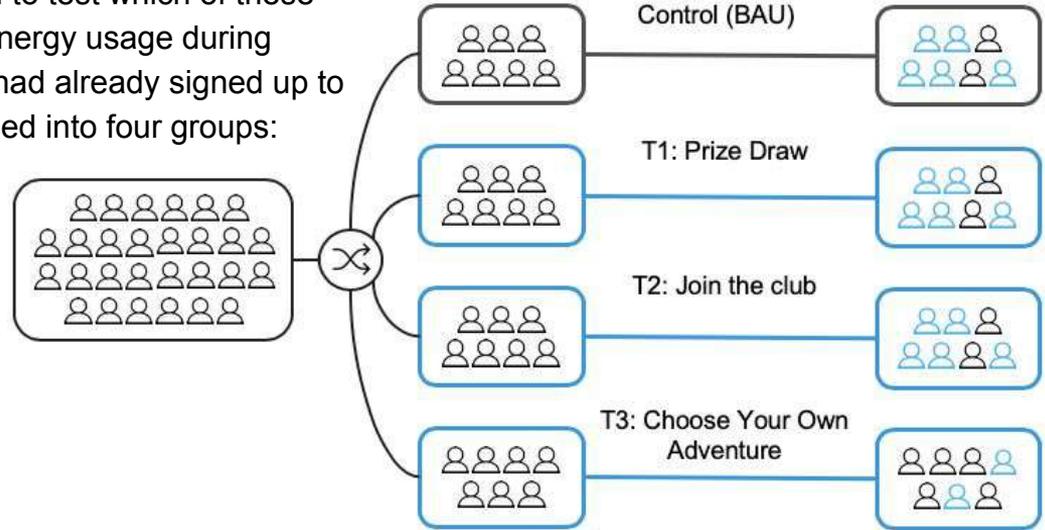
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Each of these conditions received:

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We then analysed data from two peak-demand events that took place in January 2019.



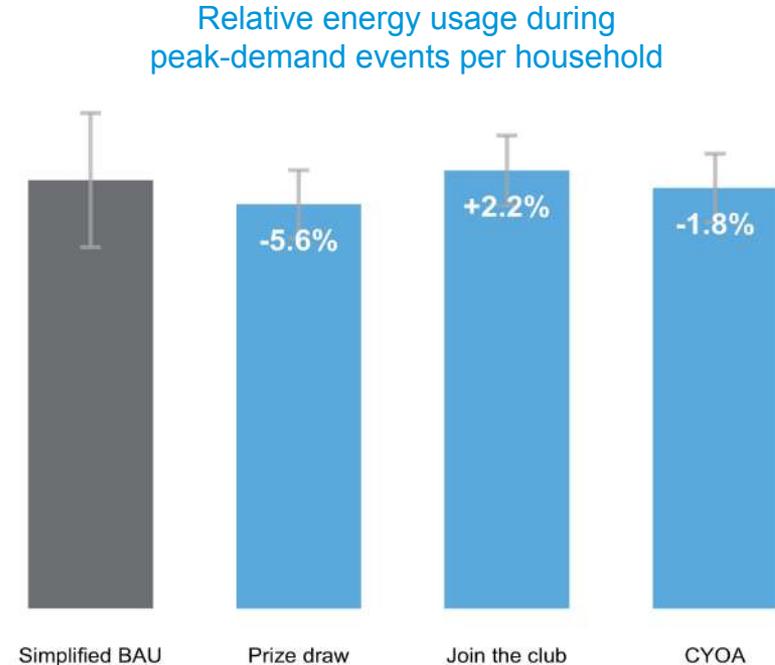
Finding: The prize draw group used less power during peak-demand events, but this difference was not statistically significant

Those in the prize draw condition used 5.7% less power on average during the peak-demand event than those in BAU. The CYOA condition also used less power (1.6%) than BAU but the 'Join the club' condition used slightly more power (2%). None of these differences were statistically significant at conventional levels.

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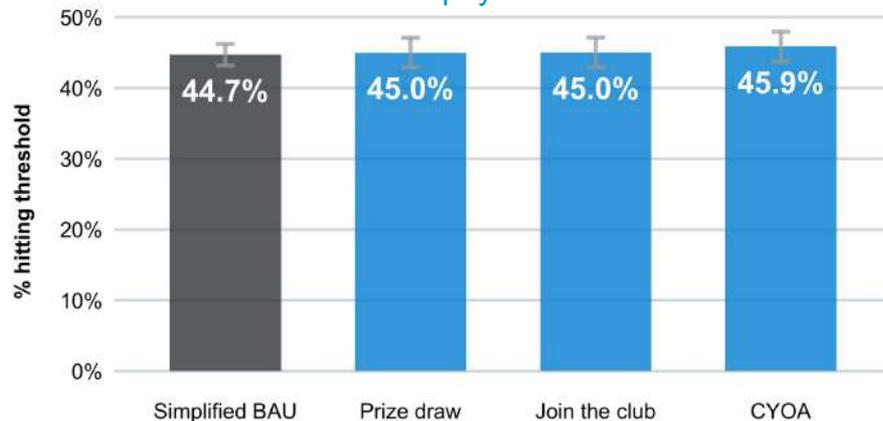
Finding: More members in the prize draw condition reduced power

The lower average power usage in the prize draw group was driven by a higher proportion shifting their energy usage by 50 to 100%. This implies that this difference is driven by members curbing power more intensively, rather than inducing more people to curb.

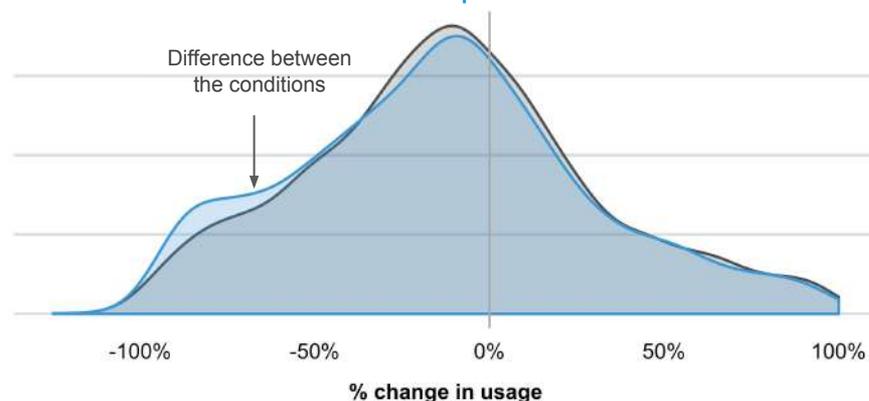
Despite having a lower average power usage, the prize draw condition did not have a higher proportion of members that reached the 10% reduction which was the threshold to receive the incentive payment, and be entered into the prize draw.

All four conditions had similar proportions reaching the 10% threshold, which means that the payout of incentive payments were similar across the 4 conditions.

Proportion reaching the 10% threshold for payment



Distribution of % change in usage, for BAU and prize draw



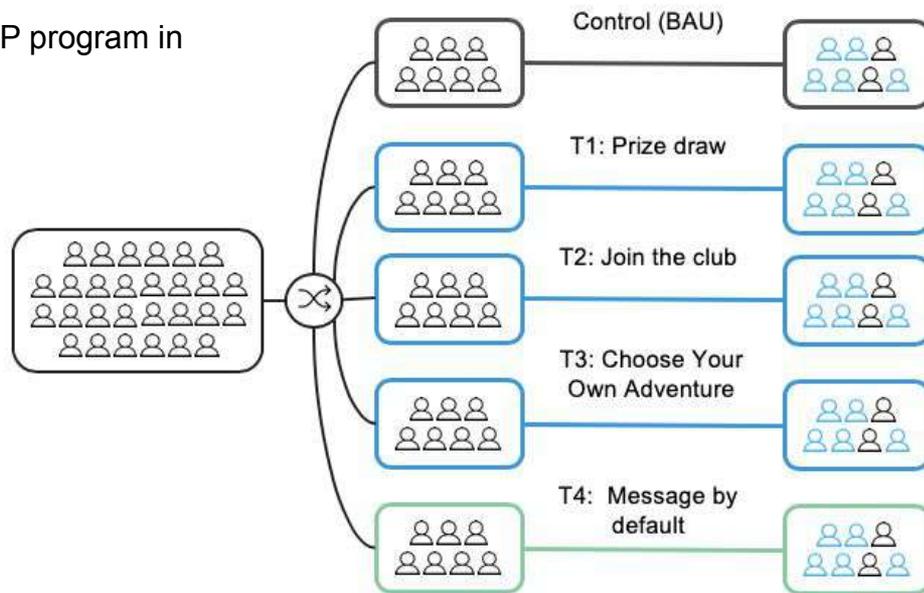
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Four of these groups received an email introducing the CYP program and inviting them to join. If they chose to join, they received a series of text messages during peak-demand events.

The exception were those allocated to the “Message by default” (Surprise!) condition. These customers were not sent a recruitment email, and were instead sent a modified version of the BAU text messages when the event occurred.

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Finding: The behavioural additions and re-framing CYP did not increase recruitment

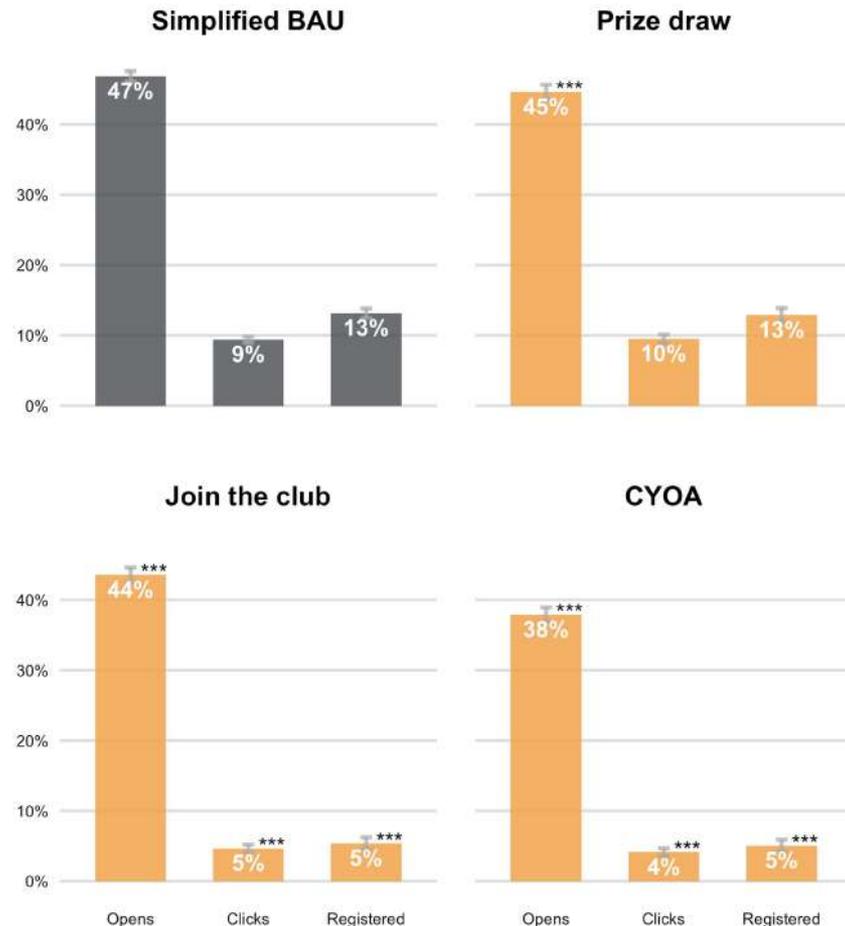
The simplified version of last year's recruitment email (BAU) had identical recruitment rates to the Prize draw email, and statistically significantly higher rates than the 'Join the club' and Choose Your Own Adventure recruitment emails.

These results were reflected in the open rates and click through rates, with both the BAU and Prize draw emails soundly out-performing the other two conditions.

This suggests that re-framing the program would lead to lower rates of recruitment.

This may be because these conditions added another layer of complexity to CYP, leading customers to disengage.

Recruitment and email analytics, by condition
(% receiving email)



Finding: There were no significant differences in power usage when customers did sign up

The impact that receiving the recruitment emails had on power usage during peak-demand events was also analysed.

This analysis includes all customers who were sent the email, not just those who joined the CYP program.

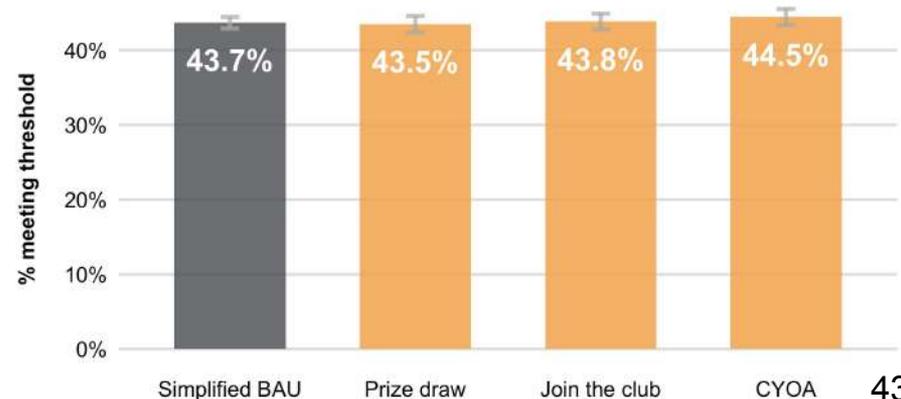
We did not observe any meaningful differences in power usage during peak-demand events between each of the four groups that received recruitment emails. There was a slight reduction in power usage, but these differences were not statistically significant.

Similarly, there were no meaningful differences in the proportion who met the threshold of 10% to receive their incentive payment.

Relative energy usage during peak-demand events per household



Proportion reaching the 10% threshold for payment





Finding: The biggest impact on energy usage came from those defaulted into the peak-demand messages.

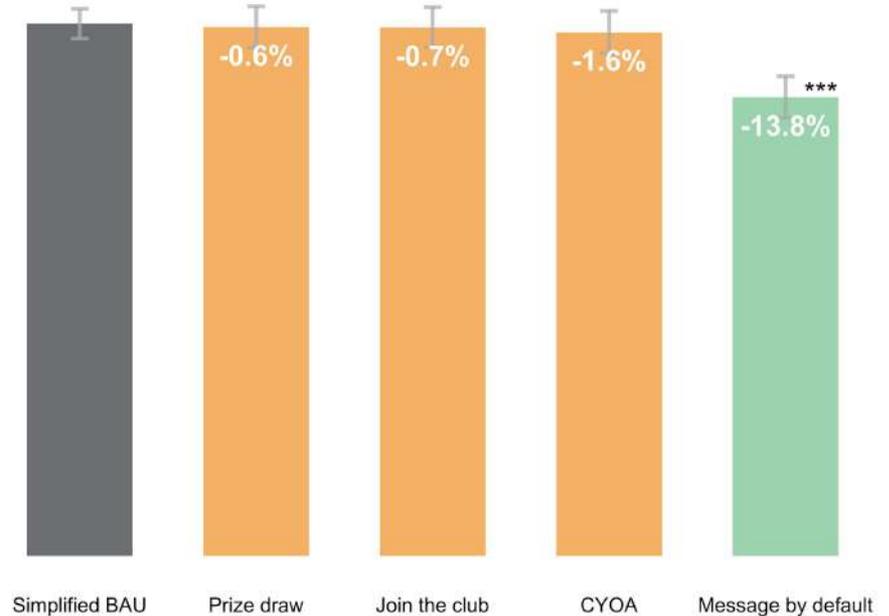


Customers who received the peak-demand text messages as part of the 'Surprise! We need your help' condition used 12.6% less power than those in the BAU group.

Powershop did not receive any complaints about the surprise condition, and very few opted out of the messages.

This means that the opt-out message was able to reach a larger group of Powershop customers, while having a large impact on power usage during the peak-demand event.

Relative energy usage during peak-demand events per household

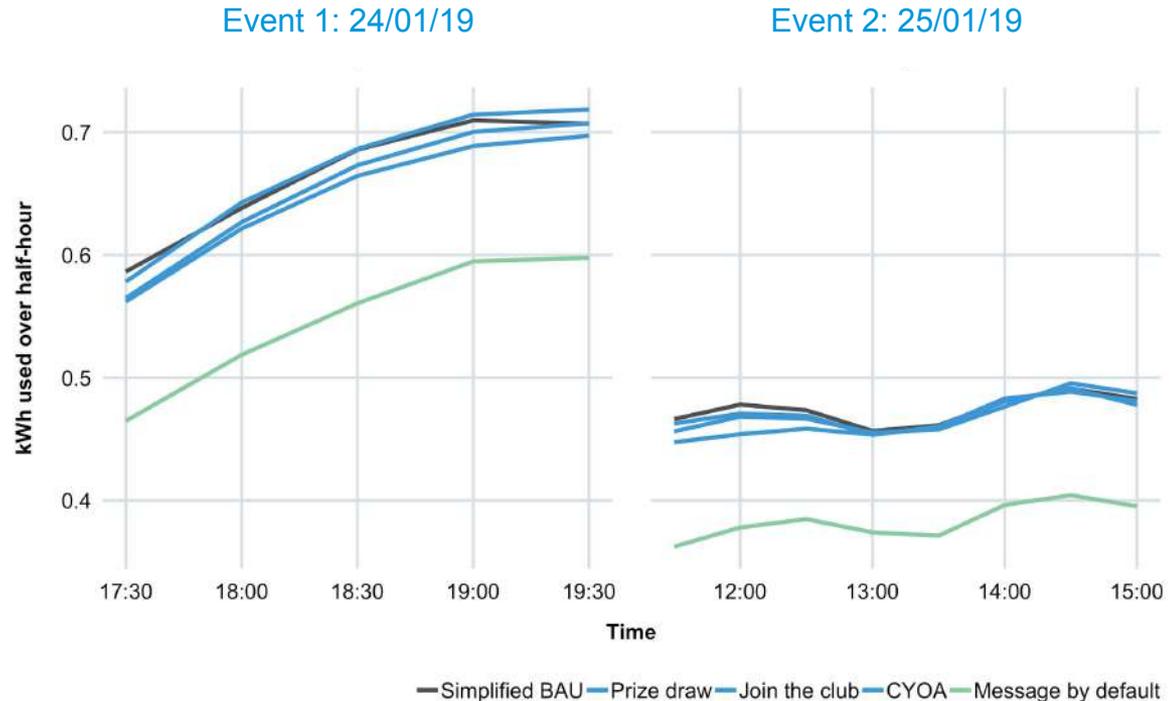




Finding: Those defaulted into receiving the message consistently used less power across the duration of the two peak-demand events in January 2019

Customers who received the peak-demand text messages as part of the 'Surprise! We need your help' condition used less power for every half-hour of both events in January 2019, with the impact of the message staying constant throughout the event.

Although there appears to be a slight decrease in power usage between the BAU group and the other treatment groups during event one, this does not persist to the second event.



Finding: Defaulting customers into receiving the messages was the most effective approach to reducing power

We find that allocating customers to receive a message by default was by far the most effective intervention.

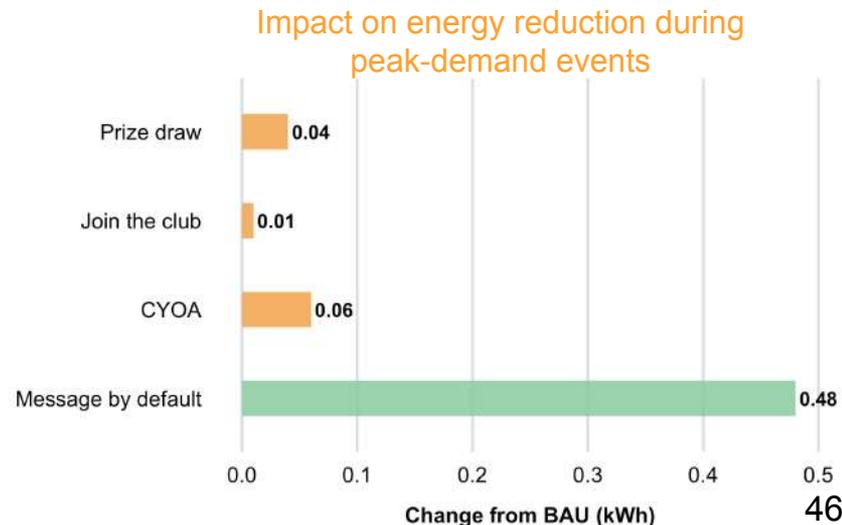
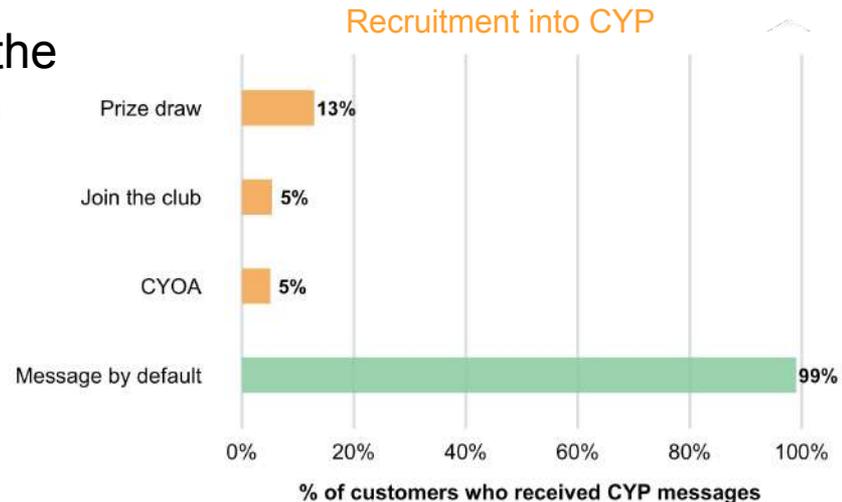
This is shown in the impact of the behavioural interventions on the two key behaviours:

- (1) Recruiting people to join the CYP program
- (2) Reducing power usage during peak-demand events

The 'Surprise! We need your help' message-by-default approach increased the proportion who receive the CYP peak-demand messages by almost 8 fold.

Compounding this effect, an average reduction of 0.41kWh from the BAU group per individual was observed - over 3 times larger than the effect of the prize draw.

Given these estimates, this implies that a 2-3 mWh reduction in power usage per event would have been observed, compared to the BAU approach, had the 'message-by-default' approach been applied to all in the trial.





Considering both trials together:

The results are likely to be driven by two factors

Behavioural demand-response programs that require customers to sign up serve as a friction to reducing power usage during peak-demand events.

The small additional effort of joining the CYP program may prevent customers from finding out when the peak-demand events are happening, despite potentially being a customer that would participate in curbing during a peak-demand event.

Removing the friction of signing up greatly increases the potential pool that can be impacted by the peak-demand event text messages.

Those who sign up to behavioural demand-response programs are less likely to be able to reduce power usage significantly

From the data analysis it appears that customers who join CYP differ significantly from those that do not join. For example, the average baseline usage for those who join CYP is less than half of the average we see amongst those who do not join. Similarly, a higher proportion of those who join CYP have solar power, compared with those who do not.

This suggests that those who join the program are already more conscious of their power usage, and are less able to reduce power usage significantly. Reaching those who would not opt-in may be crucial for increasing the impact of demand response.

Recommendations and next steps

This section discusses how the results from these trials can inform the Curb Your Power program and similar behavioural demand-response initiatives





Four main recommendations based on the findings

1. **All households should be made aware of peak-demand events**

Simply making customers aware by default that a peak-demand event was happening had the largest impact on power usage during events. Many customers who may be willing and able to reduce power usage during a peak-demand event may not want to join a specific program or may not get around to joining when they receive the invitation. Those that do wish to join may be less able to curb as they are already frugal with their power usage.

2. **Target CYP at more engaged customers**

Our data analysis showed that those that choose to join CYP differ significantly in their baseline usage and are more likely to have solar power installed. This suggests that these customers are more engaged in reducing their power usage. The CYP program could be redesigned with this in mind, with higher curb targets and an emphasis on education and long-term impact.



Four main recommendations based on the findings

3. **Keep communications simple**

The simplified version of last year's communications was more effective at recruiting people into the program, and had higher open and click-through rates. Additional behavioural features and reframing of messages may add a layer of complexity or crowd out the call-to-action and headline message to customers. Future efforts should go into simplification of messaging.

4. **Continue to trial and refine demand response interventions**

Valuable insights were gained from these RCTs. There are a number of factors that were not experimented with in this project that may make a large impact. These include:

- Trialling different frequencies and timing around events (e.g. giving customers time to prepare and make plans)
- Changing the messenger (e.g. have the peak-demand notification come as an automated message from 'the grid', the regulator, or even the Minister for Energy)



Additionally, there are five evidence-based behavioural ideas not tested in these trials that could boost CYP recruitment and engagement

Social Norms 	Social normative messaging could be included in communications sent to customers both before and after peak demand events. ^{1,2} This could be combined with the competition and gamification ideas, below.
Competition 	There is ample opportunity to enhance CYP using competition amongst users (e.g. rewarding or drawing attention to the household that has the lowest usage or greatest change from baseline). Social rewards, such as praise, recognition and social approval, could be taken advantage of when incentivising participants to participate and engage in CYP. ³
Gamification 	Powershop could add elements of gamification ⁴ to Curb Your Power via the Powershop app, by giving people different tasks for energy reduction and framing reductions on terms of points as opposed to kWh. Teams could also be encouraged to participate to increase social accountability and encourage better engagement.
Step-wise Incentives 	There is much opportunity to enhance and trial out different incentive structures for encouraging Powershop customers to engage in the CYP program. The current step-wise incentive approach used for small business customers could be rolled out among individuals. ⁵
Goal setting 	The structure of how goals are set should be carefully considered for CYP. Goals should be realistic, but trials could test the effect of slightly increasing targets on customers' behaviour in response. ^{6,7}

Annex 1: Behavioural insights methodology

This section provides an overview of the methodology used in this project, using the Behavioural Insights Team's project frameworks



BIT and Powershop Australia worked together to structure our approach to solving the problem using BIT's project methodology, the TESTS framework



Target	A white icon of a target with a crosshair inside a hexagon.	Define the problem. We decided to carry out two trials, one to increase the number of participants recruited into the CYP program, and a second focusing on the extent to which recruits curbed their power usage during peak demand events.
Explore	A white icon of an open book with a magnifying glass over it, inside a hexagon.	Understand the context and existing evidence. We used a multi-method approach to investigate the factors that affect customer recruitment and participation in Curb Your Power; and to explore opportunities for applying behavioural insights.
Solution	A white icon of a wrench and a screwdriver crossed, inside a hexagon.	Develop a behaviourally-informed intervention. Using the findings and our EAST framework (explained overleaf) and the behavioural literature review, we devised a number of behaviourally-informed solutions to our two target areas.
Trial	A white icon of a bar chart with an upward-trending line, inside a hexagon.	Test for impact and analyse results. We implemented our interventions and robustly tested the results using randomised controlled trials (which are considered the gold standard for evaluation).
Scale	A white icon of a square with an arrow pointing up and to the right, inside a hexagon.	Interpretation, recommendations and implications of the findings. The results from the trial allowed us to assess the impact of our intervention, what we learned, and how it could be applied in future work.

BIT's EAST framework was used alongside the behavioural literature review to devise a long-list of solutions, before homing in on the ideas that were trialled



Make it Easy

- Harness the power of defaults
- Reduce the 'hassle factor' of taking up a service
- Simplify messages

Make it Attractive

- Personalise the message
- Design rewards and sanctions for maximum effect

Make it Social

- Show that most people perform the desired behaviour
- Use the power of networks
- Encourage people to make a commitment to others

Make it Timely

- Prompt people when likely to be most receptive
- Consider the immediate costs and benefits
- Help people plan their response to events

For example, to influence the behaviour of Curb Your Power members, we could:



Easy

MAKE IT EASY

- Simplify requests, use plain English, take advantage of white space. Make recruitment emails shorter and clearer.
- Introduce a clear rationale for requests: e.g. "...when there is a lot of demand on the electricity system, *which drives up energy costs and is bad for the environment.*"
- Make better use of the post-registration email, to display simple ways to curb power.

Attractive

MAKE IT ATTRACTIVE

- Tailor communications with customer's previous usage data (high vs low) to personalise further
- Appeal to the self-concept of customers:
 - Environmental/health framing for more receptive targets (e.g. families).
 - Financial framing for those who purchase more cost-saving power packs.

Social

MAKE IT SOCIAL

- Use social norms to tell Powershop customers that many others are participating, and how they are doing.
- For instance, for 'high use customers', tell them that they use more energy compared to their peers. For 'low use customers', tell them they are among the best, and can keep helping the environment by engaging.

Timely

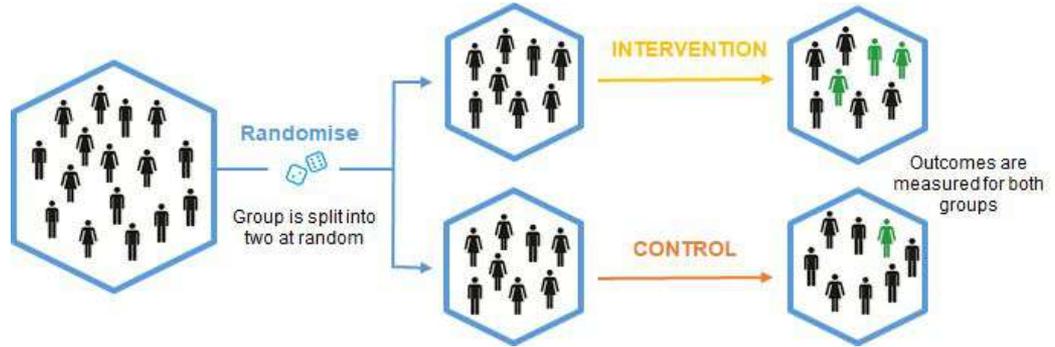
MAKE IT TIMELY

- Recruit curbers closer to the event, or immediately after previous events, so people are engaged at the optimal time or the impact of the last event is high in their mind.
- Use data from previous events to recruit customers who would have been awarded \$10 if they were part of CYP.



A Randomised Controlled Trial design was used to evaluate the effect on CYP sign up and on energy use

What are RCTs? RCTs are considered the gold standard in evaluation methodology. They allow us to rigorously evaluate our intervention, and have confidence that any outcomes we see are due to our intervention and not any underlying difference between the groups.



Why rigorously evaluate?

Evaluation allows us to build an evidence base and continually improve Powershop's communications, enabling them to continue on their mission of changing the Australian energy industry for good by figuring out what works to ease demand on the grid during peak demand events.

The steps involved in running an RCT (*illustrative example*)

1. Start with the group of people you want to try something new with
2. Randomly assign each individual in your audience into two groups: intervention and control.
3. Give your intervention to one group. The 'control' group receive 'business as usual'.
4. Measure the changes in both groups, and calculate the differences in outcomes of interest.

Annex 2: References





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Page 28

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