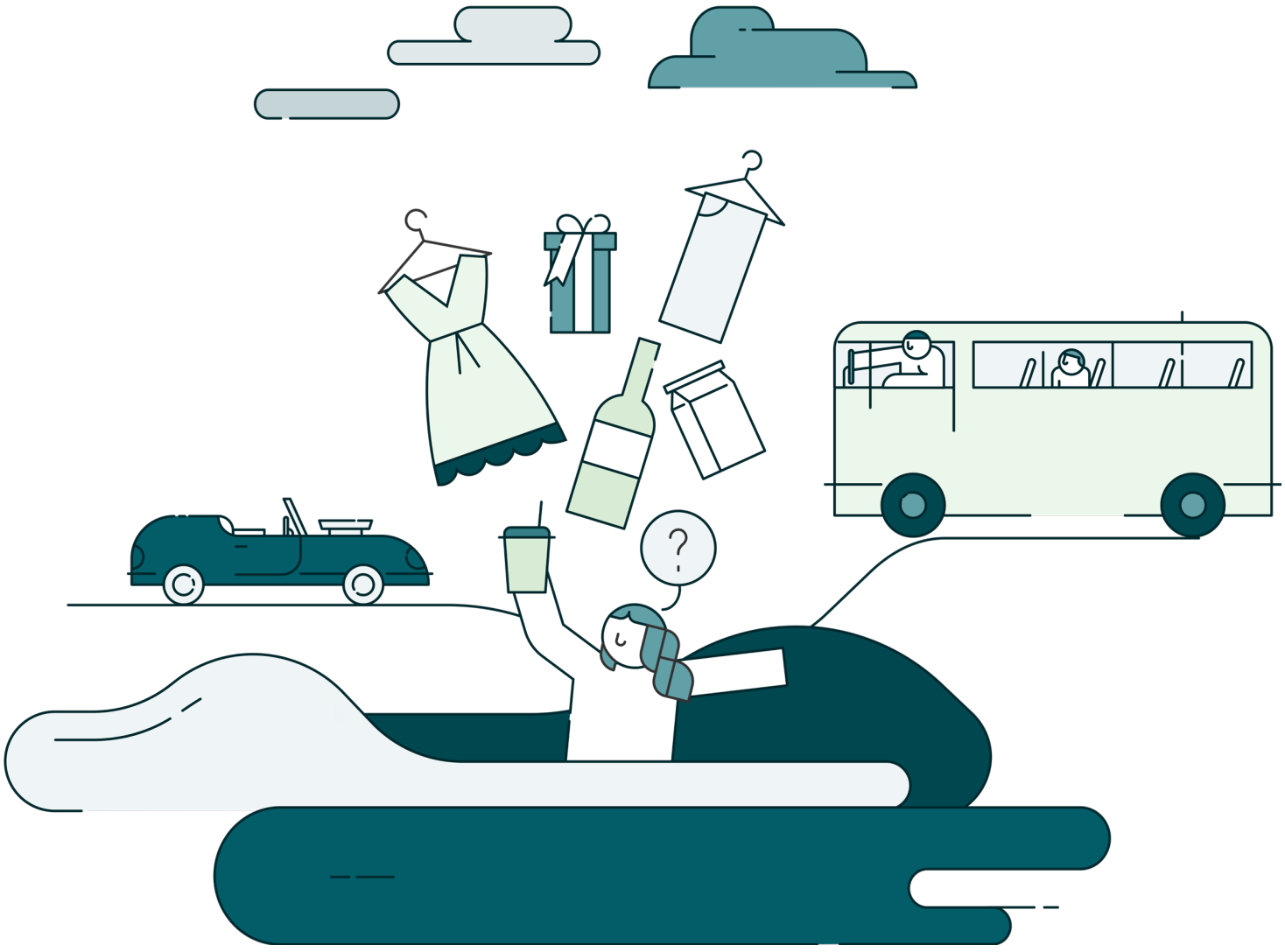
Why we need to talk about Carbon Literacy

Improving carbon understanding and increasing climate action



“Our vision is a world where knowing your carbon footprint is as typical as knowing your calorie intake or your daily step count.”

Emma Kisby
CEO EMEA at Cogo

/ Introduction

Over the past decade, it's not just the climate that has changed – media coverage and public interest in the issue have also increased. As a result, more and more people are trying to embrace a sustainable lifestyle.

Yet, the complexity of messaging around the climate crisis prevents many from taking meaningful action.

Every day we see carbon footprint information on different products and services. But most people don't know what kg CO2e means or what to do with this information. Consequently, people lack the confidence to take action. This creates an 'intention–action gap', where people's actions don't match their values.

Here at Cogo, we believe that carbon literacy can help bridge this gap.

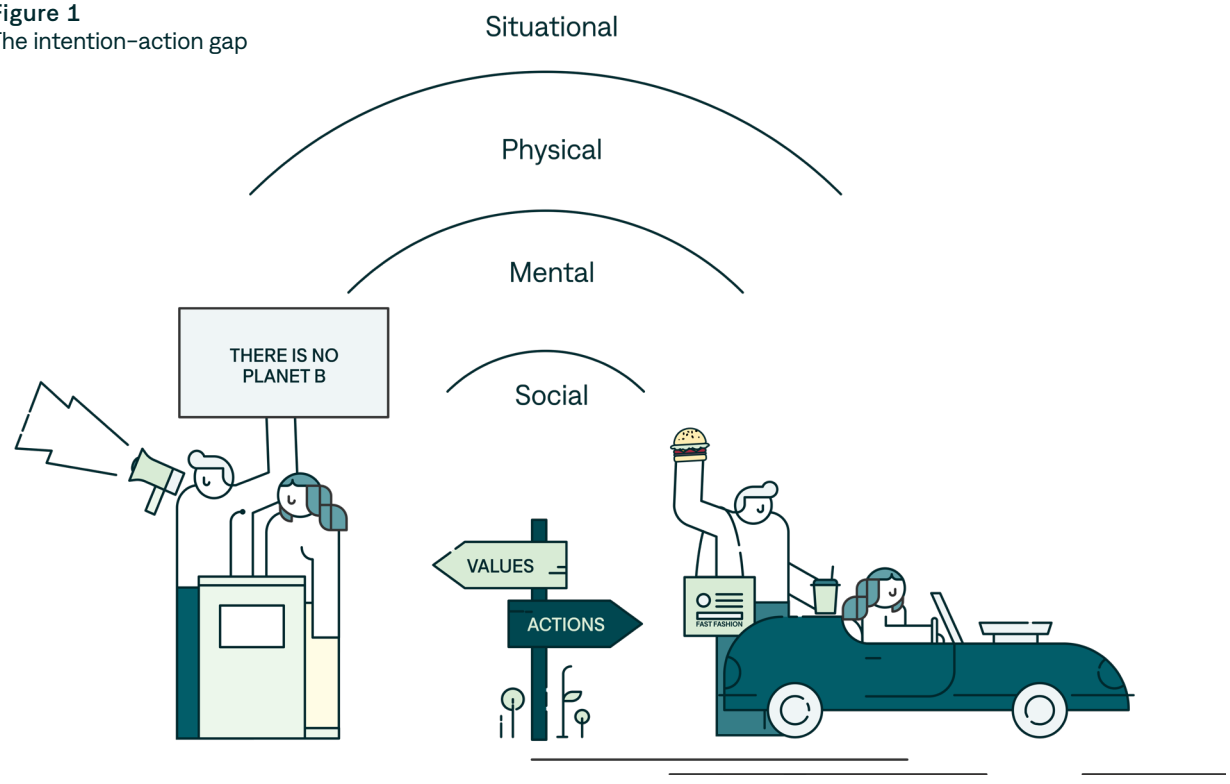
Carbon literacy is the understanding of the environmental impact of your actions and the ability, confidence and motivation to reduce emissions.

In view of the recent work done by our multidisciplinary research team and CogCo, we believe that equipping people with knowledge about their carbon footprint will empower them to take action and improve their environmental impact.

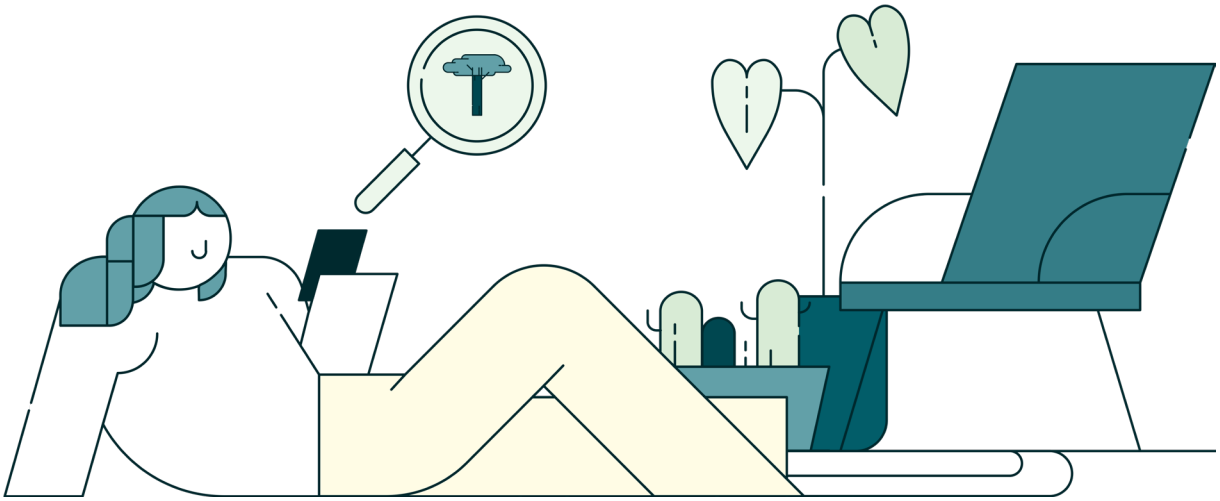
Because knowledge is power.

Let's take a look at how carbon literacy can impact an individual's carbon footprint by following the daily routine of Anna, a young woman who's at the start of her sustainability journey.

Figure 1
The intention–action gap



/1
Anna researches how to be more sustainable



Scenario

Anna decides it's time to embrace a more sustainable lifestyle, but she's not sure where to start.

She opens her laptop and Googles 'how to be more sustainable'. There are 1,300,000,000 search results...

Anna feels overwhelmed by all the information. And she doesn't know what 'carbon footprint' or 'emissions' means. Feeling none the wiser, Anna closes her laptop.

Research Findings

Our team conducted extensive research into the existing behavioural science literature to make sense of the psychological barriers to understanding carbon footprints.

We discovered that carbon emissions—usually expressed in kg—are too abstract for people to understand. And people find the language around climate change confusing. There is also often a lack of context and conflicting/ inconsistent exposure from different sources.

In our user research, we asked people to try and interpret their carbon footprint. Here's what they said:

"[I can see on the screen that] my carbon footprint from the month of March is 1,433kg. To me, that number means absolutely nothing. I mean, it sounds a lot."

"When I think about kg, I think about a solid thing. I didn't know carbon footprint was measured in kg."

"I have no idea. Obviously, kg is so weighted and so physical to me."

/2
Anna travels to the city centre

Scenario

Despite not getting very far with her research, Anna is confident that taking the bus is better for the environment than driving her car.

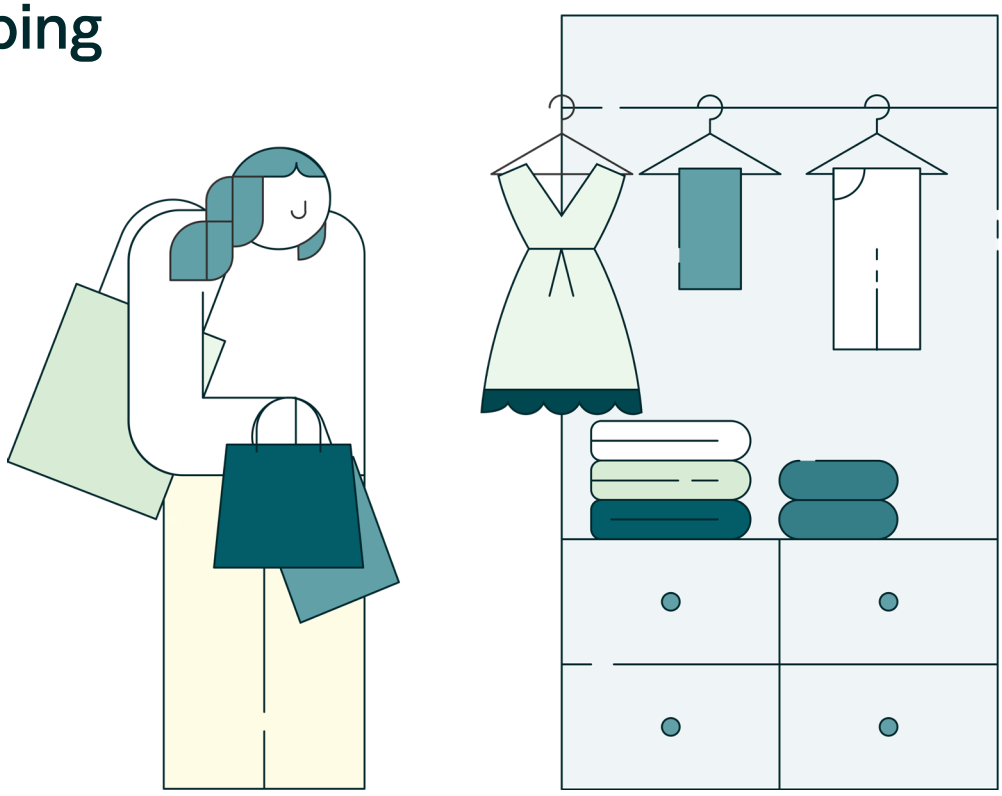
So, she hops on the bus and heads to the city centre. She wonders how much better it actually is for the environment and how it would compare to taking the train or cycling.

Research Findings

We found that Cogo app users have a directional understanding of climate actions but they often lack confidence in their knowledge and understanding of the scale of different alternatives.

Like in this example, Anna knows that using public transport is more environmentally friendly than using a car, but she still struggles to understand how meaningful the difference is between these actions.

/3
Anna goes shopping for a new dress



Scenario

Anna heard in a podcast that the fashion industry creates massive amounts of carbon emissions and waste. They said to avoid buying new clothes and shop second-hand instead.

Anna wants to buy a new dress for her friend's party, and she is fed up with her clothes, so she heads to the charity shops. But she can't find anything that she likes. So she heads to a fashion shop and buys a dress for £28. She knows it's not good for the environment, but she thinks 'it's only one dress'...

Research Findings

In a joint study conducted with the Behavioural Insights Team, we found that of the 2,007 UK mobile-banking app users we asked, 88% of them considered the environment when choosing what to buy.

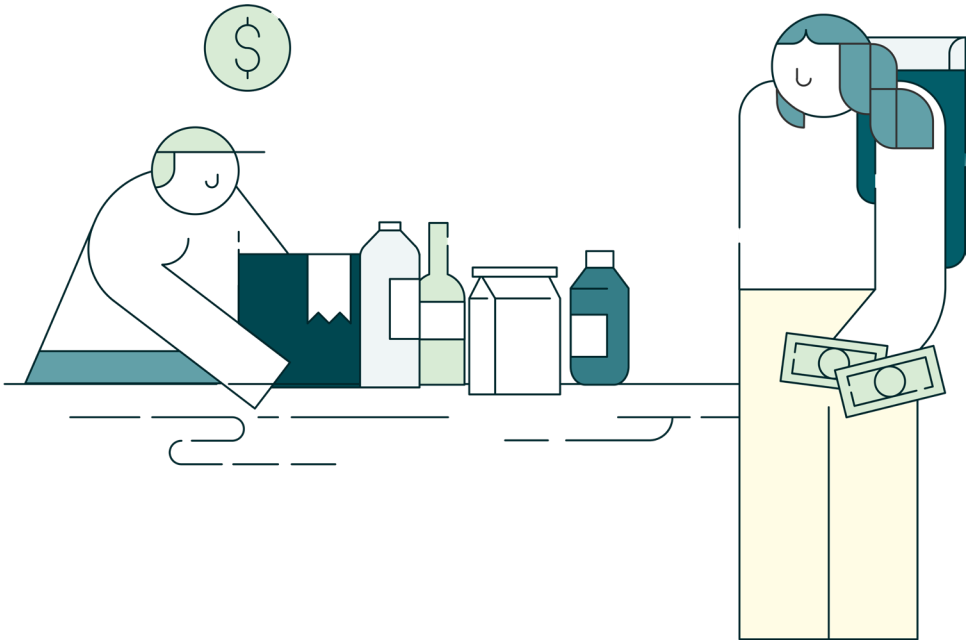
But behavioural science literature suggests that when it comes to actually taking action, people experience "knowledge-" and "intention-action gaps," i.e. knowing what needs to be done and having the intention to take positive climate action does not mean people will follow through.

Like in this example, Anna wants to be more sustainable and knows that buying new clothes is bad for the environment, but she does it anyway.

Low carbon literacy is the reason for this intention-action gap in sustainable behaviours. Our concern for the environment and our intention to take action conflict with our lack of understanding about the negative impact of our spending.

If Anna could see the environmental and human cost of buying the dress, she might not purchase it. This is backed up by our research that shows higher carbon literacy means a higher likelihood of taking positive climate action.

/4
Anna does her food shop



Scenario

Anna heads to the supermarket to do her weekly food shop. She walks down the aisle of her local grocery store and sees her usual cereal with a little number that says 3.51kg CO2e. She picks up another product, which states that for the same amount of cereal, the emissions would be 2.65kg CO2e.

Out of context, these numbers don't mean anything to Anna. She's not sure what kg CO2e is. Or whether it means the cereal has a high or low carbon footprint. So, Anna decides to purchase her usual cereal.

Research Findings

We wanted to build on the work of brilliant researchers like Seth Wynes and learn how to improve Cogo's carbon communication, so people like Anna could take more meaningful climate action. So, we reviewed the best practices in the industry, identified gaps, and conceptualised solutions.

Our design team then developed a carbon spectrum (see figure 2), which uses scale and colour to help visually compare the impact of different actions. We tested the carbon spectrum through user testing and an online experiment in collaboration with CogCo.

The user testing revealed that the traffic-light colours helped people easily interpret whether the action was good, average or bad for the environment. And seeing carbon data next to transactions and spending categories helped users put their carbon emissions into perspective.

The online experiment with 1,003 UK participants showed that the carbon spectrum increased carbon literacy by up to 8% or 4.2 percentage points.

We also found a positive relationship ($p < .001$) between people's level of carbon literacy and the likelihood that they would calculate their carbon footprint. This suggests that improving carbon literacy is a useful approach to encouraging more environmentally-friendly behaviour.

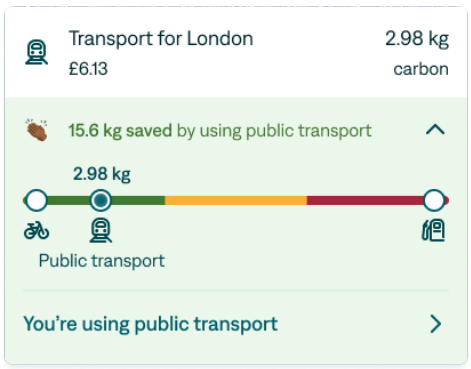


Figure 2
Carbon spectrum display

The Cogo Solution

Summary

Our results suggest that communicating carbon information in a way that helps people understand the impact of their spending is an effective way of improving carbon literacy. And this, in turn, motivates people to calculate and potentially reduce their carbon footprint. These findings hugely influence how we move forward with our carbon literacy designs.

We are currently iterating on the carbon spectrums to improve them even more and help ensure our users follow through with their intentions.

How Cogo works

Cogo's Personal Carbon Manager is designed to help people measure, reduce and offset their impact on the climate.

We use customers' transaction data to calculate the carbon footprint of their consumption and lifestyle choices. We then send personalised recommendations to help them adopt new behaviours and habits that reduce their carbon emissions.

We focus on educating our users as well as suggesting actions they can take to reduce their impact. We also recognise the actions they have already achieved to reinforce these behaviours and help make them stick while encouraging further progress.

For any impact that can't be improved, users have access to certified projects which allow them to offset their carbon footprint.

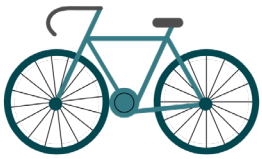
The barriers we all face to taking climate action are unique, which is why our product combines both market-specific carbon data and behavioural science techniques to deliver personalised nudges proven to engage individual customers.

/The Sustainable Journey

So let's go on the journey again, but this time Anna has Cogo's carbon spectrum at her fingertips.

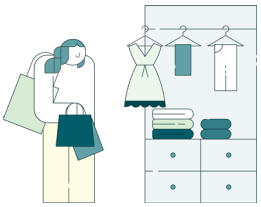
1 — Anna researches how to be more sustainable

She searches on Google but fact checks on the Cogo app. She discovers the most impactful actions she can make are reducing her meat consumption, avoiding air and car travel and adapting her home for energy efficiency. She plans to focus on lowering her emissions in these three areas.



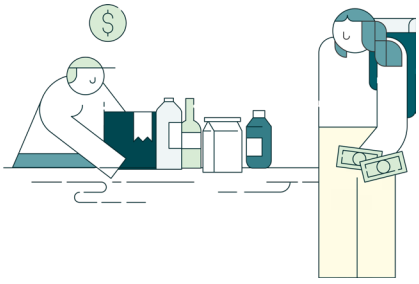
2 — Anna travels to the city centre

The carbon spectrum has helped Anna analyse the difference between the different modes of transport. She can see that cycling is better for the environment than taking the bus or driving her car as it's closer to the green on the spectrum than the other options. So, she hops on her bike and travels to the city centre.



3 — Anna shops for a new dress

When Anna is in the fast-fashion outlet, she receives a nudge telling her that shopping second-hand is better for the environment. She puts down the dress and continues her quest in vintage shops. When unsuccessful, she asks her friends to borrow a dress instead.



4 — Anna does her food shop

The combination of her carbon data on transactions and the carbon spectrum has helped Anna contextualise the impact of choosing the lower carbon options.

Receiving feedback on her spending's impact and seeing repeated visuals has improved Annas' knowledge of what the most impactful climate actions are. She is more confident in her choices and motivated to continue her sustainability journey.

Interested in discovering how Cogo can help your users be more sustainable? Get in touch with our team today.

/ How our multidisciplinary research team operates

Our multidisciplinary research team consists of user researchers, data and behavioural scientists. We work closely with the design team to ensure our products are behaviourally informed and planet-centric.

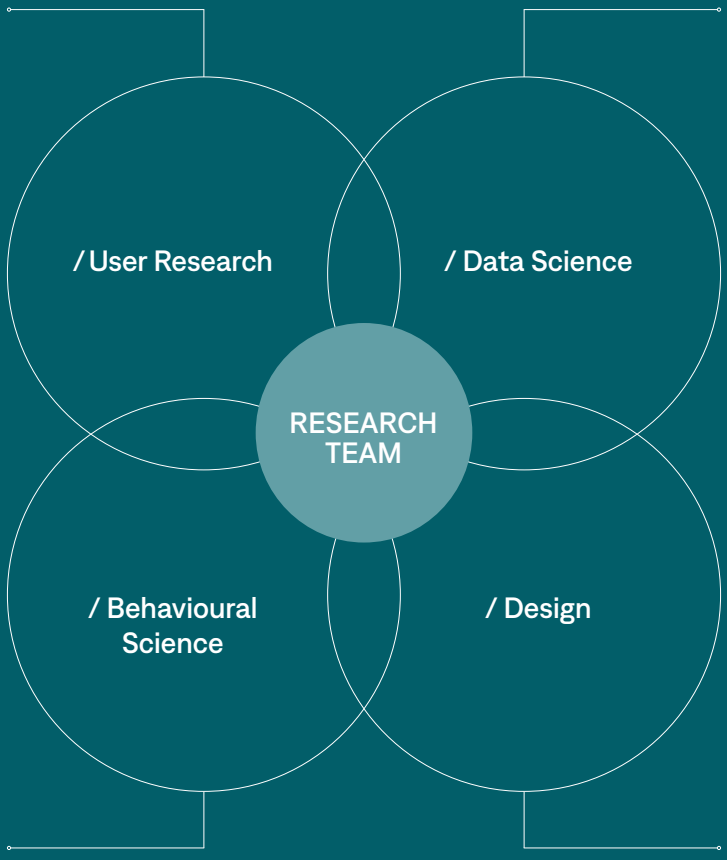
Using different research methods, we produce insights into current and future Cogo users' needs, motivations, and the experience they have using Cogo's products.

1 — User Research

Focuses on uncovering users' needs and motivations through qualitative methods like interviewing and assessing users' experience through testing.

2 — Data Science

Takes the lead on quantitative understanding, looking at users' behaviour through data insights.



3 — Behavioural Science

Incorporates knowledge of BSci principles, behavioural design, and experimentation into our product.

4 — Design

Experiments with new product design features and tests change 'in the field' with Cogo's app users.

/ Recap of the research process

In exploring opportunities for improving people's carbon literacy, our research team's first steps were to understand the problem and the barriers to the desired behaviours.

Our behavioural science researchers conducted problem analyses and literature reviews to see what the latest research said on the topic before coming up with behavioural design recommendations so the design team could address the problems highlighted.

The design team then generated the first designs using these recommendations. The first iterations were put through user testing to see how real people react to and interpret the designs.

A behavioural science experiment with 1,003 UK participants was then conducted in collaboration with CogCo to validate the findings.

We presented the participants with a series of online banking application screens displaying different transactions, along with their cost and carbon intensity.

After showing our participants these screens, we tested their carbon knowledge; and their confidence and motivation in relation to reducing their own carbon footprint. With these responses, we calculated an overall carbon literacy score for each individual.

And we explored the relationship between people's level of carbon literacy and the likelihood that they would want to calculate their carbon footprint.

Drop our research team a message if you'd like to receive more information or if you're interested in collaborating on market research.

If you're looking for deeper insights into how banks can do more to help their customers with their carbon management, get in touch with our team.