RATIONALITY & COMPETITION
CRC TRR 190

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Davide Domenico Pace (LMU Munich)
Joël J. van der Weele (University of Amsterdam, Tinbergen Institute)

Discussion Paper No. 590

November 05, 2026

Collaborative Research Center Transregio 190 | www.rationality-and-competition.de
Ludwig-Maximilians-Universität München | Humboldt-Universität zu Berlin
Spokesperson: Prof. Dr. Klaus M. Schmidt, Ludwig Maximilian University of Munich, 80539 Munich, Germany
info@rationality-and-competition.de

From Consumers to Voters:

Information Targeting in Climate Policy*

Davide Domenico Pace† Joël J. van der Weele‡

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Abstract

Information about climate change is a commonly used tool to help consumers and voters make decisions that better align with their climate concerns. Most research efforts have focused on consumers, often in the form of carbon labelling. We review recent evidence from large-sample field experiments on the impact of carbon labels on real-life consumption, and find that most effects are null or small. Moreover, carbon labels mostly work by making climate change salient, so effects are often transient. Instead, a younger literature strives to help voters understand systemic policies, building on the finding that voters often misperceive their impact and distributional effects. We review this growing literature, and we discuss the risk that information targeting consumers crowds out support for systemic policies. In light of the promising early findings, we propose that research on information-based strategies shift emphasis from consumers to voters, and focus on giving the latter a better understanding of the available options.

Keywords: Climate change, consumer behaviour, carbon labelling, climate policy, voters' understanding
JEL codes: D72, D83, D91, H23, Q54

*We thank Jan Willem Bolderdijk, Cameron Brick, Thomas Douenne, Natalie Lee, and Christoph Semken for useful comments and Nicolas Orlik for excellent research assistance. Support by Deutsche Forschungsgemeinschaft through CRC TRR 190 (project number 280092119) is gratefully acknowledged.

†Ludwig Maximilian University Munich. Email: davide.pace@econ.lmu.de
‡University of Amsterdam and Tinbergen Institute. Email: j.j.vanderweele@uva.nl

1 Introduction

Stopping climate change requires people to change their behaviour. The obstacle to behavioural change is not a lack of concern. Large majorities across twenty countries recognise that climate change is a serious problem, and indicate that they are ready to make monetary sacrifices to stop it [1–3]. Yet emissions from consumption remain too high to limit climate change, and policies like carbon taxation often meet with popular resistance. The question for social scientists is how to close the gap between what people want and what they do. Information is the classic instrument for closing such a gap, and it can be aimed at two different targets: people as consumers, at the checkout counter, or people as voters, at the ballot box.

Most of the research effort on information strategies has gone into informing consumers. Carbon labels are popular. At least since 2011, researchers have called for leveraging them to reduce emissions, given the political difficulty of implementing more systemic policies such as carbon taxes [4], and social scientists have since discussed, designed, and evaluated labels for a diverse range of consumer products [5]. Policymakers have followed. The European Union's Empowering Consumers for the Green Transition directive restricts how companies may use such labels, the Danish government is developing a government-run climate label for food [6], and France's 2021 Loi Climat et Résilience mandated the development of a national environmental label for food products. Even in the US, there have been attempts to implement carbon labels [7]. In the words of former EU Commissioner Didier Reynders, "[C]onsumers are at the core of a global change. Their actions can make a significant difference. Consumers need to be empowered to make sustainable choices [...]" [8].

The hope behind these policies rests on a simple causal chain. Consumers are willing to make sacrifices to stop climate change [1, 9, 10]. At the same time, they do not realise that the most polluting products generate emissions orders of magnitude higher than the least polluting ones [11, 12]. Hence, the reasoning goes, if labels display how much more polluting some products are, consumers will align their choices with their green preferences. Until recently, the evidence for this chain was mostly limited to experiments with few participants, hypothetical choices, or measures of intentions [5]. However, the last few years have produced a growing number of large-sample experiments with real consumption decisions, concentrated in the food domain. Food is an ideal setting, because carbon labels on food, unlike labels on electronic appliances, carry no information about the cost of using a product, and therefore isolate the channel that runs through consumers' green preferences.

The new evidence is not encouraging. The experiments return many null results, and the effects that do appear are small, often transient, and concentrated in institutional settings with students. Where labels shift consumption choices, they do so by making climate change salient at the moment of choice rather than by correcting misperceptions about emissions. The mechanism matters, because it changes what labels can be expected

to achieve and how to justify their deployment. It also caps the returns to better design: an intervention that made labels more informative would still generate modest impacts.

The second strategy is to aim information at voters. Systemic policies such as carbon pricing are the most effective instruments available to fight climate change [13, 14]. Yet such policies often meet public resistance, mainly driven by concerns about effectiveness and fairness [2, 15–17], and misperceptions about these policy aspects are rife [15, 16]. For instance, people misunderstand the distributional consequences of carbon policies [18, 19], and fail to anticipate how their fellow citizens would adjust to a policy change [20–22]. Several reviews have called for causal evidence on whether such misperceptions can be corrected [16, 18].

In the last few years, we have seen increasing work in this area. Below, we discuss three lines of research: educational interventions that explain how a policy works and who benefits from it, designing policies that are easier to understand, and policy experimentation that allows voters to learn from experience. The reported effects are large. For instance, educational videos substantially raise support for carbon pricing across twenty countries [2], as do policies that make it clear who wins and who loses [23]. We also discuss why people as voters are a more promising target for information interventions than people as investors or in other societal roles.

After reviewing the evidence, we believe the field would benefit from a change in direction. The prospects for carbon labelling are disappointing, and the mechanism through which labels operate limits the potential of better designs. Labels may also carry a hidden cost, crowding out political support for the systemic policies that would generate the largest drop in carbon emissions. Meanwhile, the research on informing voters about systemic policies, while young, is promising. Most studies have been run by economists, who know how systemic policies work, but are not trained in how best to explain them to the general public. Other disciplines have a longer tradition in investigating how people learn about complex topics and form their political views. A combined effort by these disciplines may allow citizens to vote according to their climate preferences rather than according to their misunderstandings.

2 The Evidence on Carbon Labelling

A sizeable and rapidly growing literature now evaluates the impact of carbon labels on consumer behaviour. In our review, we focus on field experiments with large samples using real purchasing decisions in the food domain. Table 1 provides an overview of the most prominent studies, organised by research design.

The table reports a number of well-powered null results. Imai et al. [12] find no impact on meat purchasing decisions in a large incentivised experiment with a representative US sample of over 2,000 participants. Studies using online food-delivery apps also return null effects [24, 25] and so do two studies set in company canteens [26, 27]. The same holds in

a business-school canteen in France, where labels posted for twelve weeks did not reduce the carbon impact of over 120,000 meals [28]. Table 1 includes a number of additional null results.

Where effects are found, they tend to be modest. Brunner et al. [29] report a 3.6% reduction in CO_2e per meal at a Swedish university cafeteria. Lohmann et al. [30] document a 4.3% reduction across five University of Cambridge colleges. Lane et al. [31] find a 6% reduction in CO_2e per kilogram at a Scandinavian ferry canteen. Beyer et al. [32] document effects ranging from 3% to 9.2% in a German student cafeteria, depending on label design. Schulze-Tilling [33] finds a 2.8% reduction in CO_2e per meal across three canteens in Bonn. At HelloFresh, a large US meal-kit delivery company, Ho and Page [34] document a more modest 0.6% reduction in food-related emissions across over 230,000 customers.

These effects come with two caveats. First, a significant share of the studies reporting positive results take place in university cafeterias or canteens, and students are not representative of the general public: young and highly educated people consistently show greater concern about climate change than older or less-educated groups [35]. If students are more strongly motivated to act on environmental information, these effect sizes overstate what a general-population rollout of carbon labels could deliver. Second, several studies document attenuation over time [34, 36, 37], indicating that any reduction in emissions might be short-lived. The attenuation in Fosgaard et al. [37] is particularly striking: participants were a self-selected 0.3% of the 100,000 customers invited, those motivated enough to install and use the carbon tracking app. While carbon information reduced grocery emissions by 27% in the first month (partially by spending less overall), over the full 19 weeks the reduction shrank to 11% and was no longer statistically significant. Enlund et al. [38], who do not focus on food or groceries but on more general consumption patterns, find a comparable pattern among self-selected users of a carbon-footprint app.

In summary, the evidence reveals many null results. The effects that do exist are typically small, often transient, and concentrated in institutional settings with students. The weak impact of labels does not reflect a general ineffectiveness of interventions. In the same canteen where labels had no effect, an intervention that raised the price of high-carbon dishes and lowered the price of low-carbon ones reduced the carbon footprint of meals by 27% to 43%, depending on the carbon price [28].

The findings on labelling are corroborated by a comprehensive meta-analysis of a broader range of "nudges". Hardaker et al. [40] reanalyse the dataset of Nisa et al. [41] — a meta-analysis of 91 randomised studies on behavioural interventions to reduce environmental impact, covering 144 effect estimates and more than three million observations across behaviours including energy use, transportation, food, water, and recycling. Taken at face value, the studies yield an average effect that is small but statistically significant. However, after applying statistical methods that correct for publication bias, the average effect shrinks to essentially zero. Information-based strategies, such as carbon labels, show

Table 1: Overview of large-scale field evidence on carbon labelling

Study	**Setting**	**Sample Size**	**Effect on CO_2e/meal**
Panel A: Randomised controlled trials			
Elofsson et al. [36]	Grocery stores (Sweden)	476 store-days (17 stores)	+6% sales of climate-certified milk
Fosgaard et al. [37]	Grocery + tracker (Denmark)	6,346[a] participant-weeks (167 participants)	−27% CO_2e/week (month 1); Null (19 weeks)
Ho and Page [34]	Food delivery service (US)	>230,000 customers	−0.6% CO_2/week
Imai et al. [12]	Online butcher (US)	4,162 meat purchases	Null
Lohmann et al. [24]	Food delivery service (UK)	1,884 participants	Null
Lohmann et al. [25]	Food delivery service (UK)	3,052 participants	Null
Panel B: Difference-in-differences designs			
Handziuk and Lovo [28]	University canteen (France)	121,650 meals	Null
Lohmann et al. [30]	University colleges (UK)	81,401 meals	−4.3%
Lowrie and Lohmann [26]	Company canteens (UK)	4,068 meals	Null
Schulze-Tilling [33]	Student canteens (Germany)	124,830 meals	−2.8%
Panel C: Before/after estimation			
Beyer et al. [32]	Student cafeteria (Germany)	22,763 meals	[−3%; −9.2%]
Brunner et al. [29]	University cafeteria (Sweden)	20,373 meals	−3.6%
Bschaden et al. [27]	University canteens (Germany)	25,973 meals	−1.5%
Bschaden et al. [27]	Company canteens (Germany)	15,467 meals	Null
Bschaden et al. [27]	Restaurant (Germany)	1,190 meals	Null
Bschaden et al. [27]	Food truck (Germany)	6,063 meals	Null
Casati et al. [39]	Restaurant (Italy)	1,737 meals	+20% eco dish chosen
Lane et al. [31]	Company canteens (Sweden/Denmark)	5,358 meals	−6% CO_2e/kg

Note: Effect sizes are the % change in CO_2e/meal caused by carbon labelling, unless otherwise reported. "Null" denotes no statistically significant effect.

[a] Sample for the 19-week estimate; the month-1 estimate uses 3,841 participant-weeks from the same 167 participants.

a particularly limited impact ($d = -0.001$).

While the findings on label effectiveness are discouraging, they are not yet fully conclusive. The vast majority of studies to date have tested variations of "traffic light" label formats, which use colour-coded schemes (typically green, amber, and red) to indicate the relative carbon severity of a food choice, sometimes combined with numerical CO_2e figures. Alternative labelling strategies that communicate climate impact in more tangible or emotionally resonant terms remain largely untested in field settings. For instance, Semken [42] runs a two-part information intervention. It first tells participants that the climate impact of their choices does not depend on how much other people do. It then communicates the climate impact of a tonne of CO_2 in concrete physical terms, such as thousands of litres of glacier ice whose melting is avoided per tonne of CO_2, or additional hours of aggregate life expectancy. This double intervention significantly increases perceived self-efficacy, intentions to reduce emissions, and real donations to environmental causes. Future research should explore whether the intervention can be adapted to a labelling format, and whether it can be effective in real-life settings.

3 Mechanisms and their Implications

Recent experiments also investigate the mechanisms through which carbon labels operate. The standard rationale is that labels help consumers learn the absolute carbon impact of different products, allowing them to make better choices according to their preferences — on this view, labels "empower consumers" to participate in the green transition. Alternatively, labels may work because they make climate change salient at the moment of choice, prompting consumers to act on information they already have. If this second mechanism is the correct one, it is no longer clear whether labels help consumers make better choices, or instead push them to adjust their behaviour in ways they would have preferred to avoid. Distinguishing between the mechanisms matters both for designing the most effective labels and for understanding which normative frameworks justify their deployment.

The evidence goes against the first mechanism. Imagine a sample of consumers who underestimate the carbon impact of beef. One group receives information about the emissions associated with flying and beer, while the other group also receives information about the emissions associated with beef. Both groups receive some information, so climate change is salient in both cases. The only difference between the groups is that the second now has more precise beliefs about the emissions of beef. If the first mechanism is correct, the second group should reduce its beef consumption compared to the first. Yet it does not. The group that sees the beef information becomes more pessimistic about beef emissions, remains more pessimistic two weeks later, and even becomes more pessimistic about the emissions of poultry. However, it does not decrease its demand for beef [12]. Similarly, the effect of carbon labels in the HelloFresh study does not correlate with customers' baseline misperception levels [34]. Overall, while beliefs respond to the

information, behaviour does not. This disconnect is inconsistent with the idea that labels work by correcting misperceptions about emissions.

Further evidence against the belief-correction mechanism comes from studies about the demand for CO_2 offsets. If people cared about the size of the emissions they generate or avoid, their demand for carbon offsets should increase with the amount of captured CO_2. This is not the case. People are willing to pay for offsets, but the amount they are willing to pay flattens quickly as the amount of offset emissions grows [12, 43, 44]. Moreover, the probability that customers of an online supermarket pay for carbon offsets is entirely unresponsive to the amount of carbon their purchase actually offsets [45]. Together, these findings suggest that people care about doing something for the climate, but not about how large a difference that action makes. This pattern is consistent with a combination of "warm glow" preferences [46] — people feel good when they contribute to a public good — and scope insensitivity — people do not differentiate between contributions of different magnitudes. If people do not respond to the size of emissions, correcting their misperceptions about emission magnitudes will do little. A label specifying 2.3 kg CO_2e per meal cannot motivate behaviour through information when consumers are not responsive to the quantity being communicated in the first place.

There is instead direct evidence in favour of the salience channel. In the canteen experiment of Schulze-Tilling [33], carbon labels reduce CO_2e per meal by approximately 2.8%. Crucially, the effect is roughly the same whether students see the full label with precise CO_2 figures or are simply asked to guess the emissions associated with each dish on the menu. The label works not because it corrects false beliefs, but because it prompts people to think about climate change when making their food choice [see also 47]. Since people already have a good idea of how products rank in terms of pollution [11, 12], making climate change salient is enough to shift them away from the most polluting options, even if they underestimate how much in emissions they are saving. Imai et al. [12] confirm this conclusion: correcting beliefs has no effect, but any information provision, regardless of content, has a small general effect, consistent with a salience mechanism.

These findings have implications for how we can expect labels to work. The salience mechanism indicates that the effectiveness of labels depends on their ability to capture attention at the point of purchase. Their effects should then fade over time, as consumers get used to them and they become part of the background. This fading is indeed what some studies find [34, 37, 38]. To counteract it, future research might explore whether the effects of labels can be sustained by combining them with other interventions that keep climate change salient: meters or counters that display how much is consumed [48], or banners at the entrance of supermarkets that display a different consequence of climate change every week. If salience is the operative mechanism, labels are not necessarily the best way to make consumers think about climate change. They might still play a complementary role, however, as they could help consumers navigate the vast heterogeneity of emission impact within a product category [49].

Finally, if labels work via salience, their justification changes. They do not help consumers learn about emissions; at best, they remind consumers of preferences they neglect at the moment of choice. Such reminders can help environmentally concerned consumers act on their concerns, but they can also provoke backlash among others [34, 50, 51]. Insofar as labels aim to reduce emissions among consumers who do not care about them, their rationale is paternalistic. A formal answer to the question of whether carbon labels improve consumers' welfare requires rich data: individual-level measures of consumption and beliefs both before and after the labels are introduced [33, 52]. These data requirements are rarely satisfied by the studies we surveyed. Further work is needed to fully characterise the normative ideals under which carbon labels are justified.

4 Improving Voters' Understanding of Climate Policy

As detailed in the introduction, a large literature has investigated support for environmental policies, and shows how it suffers from voter misperceptions. People doubt that carbon pricing reduces emissions [20], and they underestimate the rebates they receive [19, 21]. More generally, people neglect how others will adapt to a policy, a mistake that leads them to support bad proposals [22].

Economists have recently tried several approaches to address these misperceptions. The first is to provide information about how policies work. Some studies use educational videos to target people's broad understanding of systemic policies such as carbon pricing, emissions standards, and meat taxes. These videos successfully moved support for these policies [2, 53–55]. Other interventions target more specific misperceptions. In surveys, personalised information about the financial consequences of carbon pricing changes citizens' beliefs in France [19], Switzerland and Canada [21], but policy preferences only in the first two countries. In a large-scale field experiment, Carattini et al. [56] provide information via Facebook just before a ballot initiative to implement a carbon tax in Washington State. Both an explainer about the earmarking of carbon revenues and one about the effectiveness of the policy led to an increase in stated support for the tax, and the earmark treatment led to a statistically significant shift in actual votes for the tax. In contrast, in a lab experiment, written explanations of Pigouvian taxes had limited impact on understanding and, consequently, on policy support [57].

A second approach is to redesign environmental policies to make their benefits and effectiveness more apparent to voters. Several surveys show how support for carbon pricing increases if the revenues it generates are earmarked for environmental projects compared to adding the revenues to the government budget — a common approach of many early real-life carbon tax proposals — or using them for carbon dividends, that is, monetary transfers to citizens [2, 56, 58, 59]. A possible reason behind the high support for environmental earmarking is that people can see that the policy will help the environment even if they do not understand that consumption will drop once the carbon price is introduced. Clarity of the policy consequences can also explain why support for a carbon tax

with dividend goes up if the dividend takes the form of a "climate premium": an upfront payment, equal for everyone, that matches the expected per-person cost of the policy [20]. The climate premium is designed to make the transfers people receive from the policy salient, and to address people's preferences for certainty and immediate rewards [60, 61].

More recently, economists have tweaked other aspects of environmental policies. Vora [23] finds that people have difficulty estimating and aggregating multiple distributional effects of taxation policy. He tests support for a simplified "carbon penalty and reward" where above-average polluters directly compensate below-average polluters. While the payments and incentives are equivalent to a carbon tax with uniform dividends, stated support for the "carbon penalty and reward" is 30 percentage points higher, especially among respondents who struggled to understand the policy consequences of a carbon tax. While implementing such a scheme in practice presents logistical challenges, the results show how reducing cognitive frictions may increase support for environmental policies.

Another design tweak is to promise monetary compensation in case the policy objectives are not met [62, 63]. These compensations are paid out from revenue generated by the policy, and reassure voters that they will not lose out under the policy change, making approval robust to unwarranted pessimism about its effectiveness. At the same time, the compensations are only paid if the policies fail, and hence they do not increase the cost of well-designed ones.

The final approach involves policy experimentation: when people experience a policy, it may affect their support for it [64]. Pilot programs that allow people to live under a policy regime for a well-defined period could thus help voters develop a more informed opinion. Voters are open to experimentation [65], and there is some evidence that experiencing a carbon tax increases support for it [66]. Beyond carbon pricing, support for congestion pricing increases in the year following its introduction [67]. However, the evidence is still limited, and more research is needed to understand how to design pilot programs that maximise learning about climate policies.

The literature reviewed in this section has several limitations. First, most studies use surveys or highly stylised experiments, and are in need of validation from the field. To our knowledge, there are only a few large-scale experiments that study how information interventions change how people vote [68, 69] and only Carattini et al. [56] focuses on environmental policies. Thus, the evidence is not nearly of the same quality as in the case of carbon labelling, and allows only tentative policy recommendations.

Second, most studies originate in economics. Economists are experts in the design and impact of systemic policies like taxation, bans, and emission trading and quota systems, but they are less well equipped to understand how to communicate these policies to the public. Indeed, while research has identified examples of successful interventions, there is a need for a coherent framework to understand what works and why [54, 70]. Without such a framework, it is impossible to optimise the design of educational interventions.

This will require collaborations of economists with experts in psychology, pedagogy, sociology, and communication studies, who have long studied climate communication and (dis)information (see Spampatti et al. [71] for a recent example). Integrating their insights could be the key to developing an empirically validated framework for educational interventions that help the public understand how systemic policies work.

5 Discussion

Consumers, voters, and other roles This perspective focuses on people as consumers and as voters. Voters appear to be the most promising target for future research, because they both suffer from misperceptions about policy and appear to be responsive to information. People also appear more willing to act on their concerns as voters than as consumers. In 2008, 63.5% of Californian voters approved a ban on eggs from caged hens, although more than 90% of the eggs bought in California came from such hens. This "vote–buy gap" survives in controlled conditions. In an incentivised experiment, participants first bought a snack and then voted on a binding ban; a majority of those who had bought cookies made with caged eggs voted to ban them[72]. A canteen study points the same way: while carbon labels did not affect consumption in the canteen, canteen users nevertheless backed binding policies, with over 90% favouring either carbon-based pricing or a ban on red meat over labels or doing nothing [28].

Of course people play other roles in society that are relevant to climate change [73]. For instance, one may consider investors, who can preferentially buy stocks and bonds of greener firms with the hope of increasing the cost of capital of more polluting ones. However, we are not aware of large misperceptions among investors. Recent reporting requirements from the European Union concerning ESG funds did not change investment decisions, possibly because information about fund sustainability was already available and easily accessible [74]. More fundamentally, the same mechanisms that limit the effectiveness of carbon labels also restrict the scope for information about sustainable investing: individuals value green investment opportunities [75], but their valuation appears unresponsive to the size of the impact [76]. Rodemeier and Semken [77] review the state of the literature on sustainable investment and discuss the "rather sobering" evidence about its environmental impacts.

Other roles highlighted in the literature involve people acting as role models or as members of organisations or institutions [73]. While these roles might be important for climate impact, we are not aware of systematic misperceptions that social scientists might target. Moreover, the wide variety of roles does not present a clear target for scalable information interventions.

Substitutes or Complements? Could the two information strategies, one directed to consumers and the other to voters, be pursued at the same time? At first glance, it looks like they could. They target different decisions, at the checkout counter vs the ballot

box. Moreover, information campaigns are popular because they are relatively cheap to implement [78], suggesting that budget constraints are not a concern.

However, the two types of information strategies compete for another scarce resource: people's attention [79]. The risk is that interventions that push people to think about their responsibility as consumers eat into the mental bandwidth they could instead have used to discriminate between good and bad climate policies. Moreover, information campaigns that emphasise individual responsibility may falsely persuade voters that more systemic interventions are unnecessary — what Chater and Loewenstein [80] call the "i-frame versus s-frame" problem. Focusing attention on consumers' behaviour could then crowd out support for the very systemic policies that voter education targets. In psychology, this crowding out is often referred to as a "negative spillover" [81].

The evidence for crowding out comes from experiments that vary how prominent individual action is. A study with 12,000 participants compares support for carbon pricing between people who have to indicate how they have adjusted their behaviour to reduce their energy consumption and people who do not [82]. The first group is significantly less supportive of the proposed carbon tax. Related evidence indicates that asking people to recycle reduces support for environmental policy [83]. Similarly, when survey participants are asked to evaluate the effectiveness of individual behaviour in mitigating climate change, they become less likely to think that the responsibility for stopping global warming lies with governments rather than individuals [84]. Finally, support for carbon pricing drops when people are offered a policy menu that includes green nudges as a — non-exclusive — option [85].

Crowding out is not a universal finding. In an experiment with more than 8,000 Swiss and UK participants, Heeb et al. [86] find that the opportunity to invest in a green fund produces a small but significant increase in donations to promote climate reforms. Hence, targeting people as investors rather than consumers might not endanger support for systemic climate policies.

Taken together, these findings caution against treating labelling and voter education as freely combinable. If labels shift attention and responsibility to the individual consumer, they may erode support for systemic policy solutions. Labels are cheap, so even small effects might be used to justify them. However, if labels also erode policy support, the balance might well be negative.

We stress that the crowding-out evidence is not yet conclusive as it rests on a small number of survey experiments, none of which tests carbon labels directly, and on field evidence from a different domain [87]. Whether labels shift policy preferences is an open and urgent question.

6 Conclusions

High-quality evidence from large-sample field experiments reveals that carbon labels have limited impact on consumer behaviour. The effects that do exist are typically small, often transient, and mostly obtained in institutional settings with students. While we have highlighted some promising avenues for future research, we are also mindful that improvements in label design are unlikely to yield vast improvements in effectiveness: an intervention that made labels twice as effective would still leave their absolute impact modest, given the current baseline. The evidence also indicates that carbon labels work by making climate change salient at the moment of choice, rather than by correcting consumer misperceptions about the emissions they generate. Future research on carbon labels should take this mechanism into account and focus on how climate change salience can be sustained over time in the places where people purchase and consume.

We believe that the field could benefit from a change in direction. Two decades of research have been spent on informing consumers, while far less effort has gone into the harder and more consequential problem of addressing misperceptions of climate policies, for instance about who pays and who benefits. The early returns there appear to be large, and much work remains to be done. Economists have made a start, but the research is at a trial-and-error stage. Their expertise should be complemented by expertise from psychologists, sociologists, and education researchers — all disciplines with a long tradition of studying how people learn, retain information, and form political opinions. The goal should be to develop a portable, empirically validated framework for how to effectively communicate climate policies to voters.

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