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Nudge the rich! The case for targeting the top 10% in behavioural climate policy

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In interventions for the common good, such as in the climate context, the choice of a target group does not directly determine the beneficiaries of the intervention. Instead, efficacy, acceptability, and fairness emerge as core considerations in targeting interventions. This paper examines targeting the top 10% by income and assets in climate interventions in light of the above considerations. Addressing the climate crisis requires significant changes in the consumption patterns of those who consume most. We argue that the behavioural public policy community should do more to specifically address the consumption patterns of the rich.

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Introduction

In the context of marketing, it is a truism that a well-defined target group is paramount to the successful steering of consumption. Meanwhile, targeting remains rarely explicitly discussed within behavioural public policy. In this paper, we argue that for climate interventions, the top 10% locally in terms of assets and income is an ideal target group from the perspectives of efficacy, acceptability, and fairness. While this choice of target demographic can be warranted for multiple policy aims, we focus our discussion on climate interventions.

Multiple evidence-based approaches to behaviour change exist, ranging from behavioural economics to contextual behavioural science and beyond. Behavioural interventions can therefore harness multiple approaches. The nudge approach (Thaler and Sunstein, 2008) emphasises the shaping of built and programmed choice architectures, but often extends the concept of choice architecture to any contextual factor that influences choice, including, e.g., social norms (Bicchieri, 2022). Boosts (Grüne-Yanoff and Hertwig, 2016) capitalise on the role of information in shaping decisions. Based on insights from contextual behavioural science, Stapleton and colleagues (2022) outline six further evidence-based approaches to behaviour change. Briefly, these comprise establishing credibility, effective incentivizing, improving consumers' self-efficacy, facilitating habit change, addressing the risk of 'counterpliance', and, finally, adopting a prosocial approach for individual behaviour change by facilitating connections between like-minded individuals. While this paper is focused on nudges, our argument extends across behavioural interventions beyond nudges.

In what follows, we discuss the need to clearly determine target groups for behavioural interventions, especially in the climate context. We argue that the richest 10% locally in terms of assets and/or income is an ideal target group for behavioural climate interventions. We defend the selection of this target demographic from the perspectives of efficacy as well as fairness, considering factors including potential for reductions, influence beyond personal consumption, climate justice, and externalities. In what follows, we sometimes refer to this demographic simply as "the 10%" or "the top decile" for brevity.

The climate crisis requires a mixed-methods approach to governance where taxation and regulation are supplemented by behavioural methods (Nielsen et al., 2021, Schubert, 2017, Chancel et al., 2023). We claim neither that policy targeting the rich should exclusively (or even primarily) be behavioural policy, nor that behavioural policy should exclusively target the rich. Instead, we argue that, in light of the outsized influence of this group for the climate crisis, the sparseness of interventions specifically targeting this demographic is unjustified, and more ought to be done to target the rich. Insofar as behavioural insights are deployed to complement other measures in combating the climate crisis, measures targeting the rich should be included.

Determining target demographics for behavioural interventions

Nudges and other behavioural public policy instruments aim to non-coercively alter citizen behaviour to promote individual welfare or the common good. These interventions often embody a one-size-fits-all approach, where the intervention is intended as universal (Mills, 2022). However, few, if any, behavioural interventions are universally applicable. Instead, while well-designed interventions are scalable, they are applicable only across people whose lifestyles and social-structural conditions are similar in relevant ways. For example, 'cafeteria nudges' where features of food display in a buffet setting influence food consumption (Rozin et al., 2011) only stand to impact the behaviour of those

who regularly eat at cafeterias, and nudges towards the use of public local transport over private vehicles (Franssens et al., 2021) are restricted to relatively urban populations within the reach of a well-functioning public transport system. Furthermore, applicability is constrained not just by context, but also by demographics and interpersonal differences. These differences result in different responses to behavioural interventions (Sunstein, 2013). This raises the question whether overgenerality compromises nudge efficacy, as a given intervention may also give rise to contrary effects in segments of the (maximally extensive) demographic.

A welcome recent development in the literature suggests that personalisation could be an answer to the limitations of the one-size-fits-all approach. Yeung (2017) discusses the possibility that big data would be used for tailored forms of influence she calls *hypernudges*, employing technology that is already in use within personalisation algorithms used for marketing purposes. In her view, the personalised nature of hypernudges is a threat to autonomy and therefore an ethical concern. Mills (2022) suggests that while personalised nudges require access to data, they need not require big data. Helpfully, Mills distinguishes between two forms of personalisation: personalisation of the choice people are nudged towards, and personalisation of the way in which the nudge is delivered. For example, personalisation in the context of green nudges could involve nudging some towards cycling and others towards electric vehicles; or it could involve a boost directing some towards electric vehicles with a message emphasising climate benefits and others with a message emphasising the horsepower of these vehicles (Sandman et al., 2024).

In marketing research, the advent of personalisation as a one-customer strategy increasingly dominates the e-commerce space (Alves Gomes and Meisen, 2023), but traditional mass marketing with its broader target groups remains relevant for offline behaviour. In marketing, segmentation was initially focused on demographics such as age, gender, and income. With the advent of quantitative and qualitative consumer research, it was recognised that non-demographic traits, such as individual preferences and values, outperformed demographics as a driver of customer choice. However, both demographic and non-demographic markers are merely instruments for "identifying segments that were potentially receptive to a particular brand and product category" (Yankelovich and Meer, 2006).

We can extrapolate from the importance of segmentation in marketing that clearly defining a target group and understanding its motivations and structural barriers for behaviour change would greatly improve behavioural interventions' chances of success. Often, a target group is assumed or implied, rather than explicitly defined. Since no intervention is in fact universal, in 'one-size-fits-all' approaches where no target demographic is explicitly defined, one is nonetheless implied. Yet interventions whose target groups are not defined with receptivity in mind should yield limited results. This hypothesis gets support from the research of de Ridder and colleagues (2022), who argue that receptivity is also key for nudges. They find that:

People are not affected by a nudge when it promotes behaviour that is not in line with their preferences or when they already have very strong preferences that are in line with the nudge. In the first case, people will ignore the nudge and select an alternative option; in the second case, people will perform the promoted behaviour regardless of the presence of a nudge.

(de Ridder et al., 2022)

This insight raises the question how nudges could be targeted so that they have the best chance of effectively reaching a receptive audience. Considering nudges, boosts, and other behavioural interventions as analogous to and drawing from social marketing and communications, it is surprising that the mid-range solution of a clearly defined target group has not received more attention as a possible response to the overgenerality problem.

Multiple considerations ought to be addressed in the choice of a target demographic. Often, targeting is influenced by convenience, feasibility, or by the preferences of stakeholders such as research funders. There is, however, an ethical impetus to determine the target population based on the aims of the intervention. The first source of such an impetus is in the imperative to pursue effective policy rather than deploy interventions that have low prospects of creating significant change. In addition to the content of the intervention, a well-defined target demographic is an important driver of impact.

Additionally, choice of target demographic is relevant for the fairness and acceptability of the nudge. Interventions can be classified not just by their content and target, but also by their *beneficiary*, a distinction that carries ethical implications. Classifying nudges and other behavioural instruments by their beneficiary has been suggested by M'hamdi et al. (2017), who distinguish between *self-regarding* and *other-regarding* nudges. In their analysis, *self-regarding* nudges are ones where those whose behaviour changes are also the primary beneficiaries of that change, such as in nudges towards healthy diets. *Other-regarding* nudges are ones where the primary beneficiary is someone else, such as in the case of organ donation. Siipi and Koi (2021) add a third category, that of *all-regarding* nudges, which refers to interventions where the benefit falls on an aggregate of numerous beneficiaries. In these cases, the benefit may fall, e.g., on all citizens of a specific place, such as in the 'don't mess with Texas' anti-littering campaign. In the case of climate nudges, the scope of beneficiaries is maximally extensive and may include animals, plants, and ecosystems as well as future generations in addition to current people (Siipi and Koi, 2021), while the individuals whose behaviour changes receive little personal benefit.

Classification by beneficiary is relevant from the points of view of fairness and efficiency. For self-regarding nudges, the targets are also the primary beneficiaries. For self-regarding nudges, then, the choice of target demographic does not only determine whose behaviour the intervention seeks to change, but also determines who will benefit.

Socioeconomic status is a central determinant of lifestyle and consumption choices. Accordingly, the need to acknowledge and prevent possible adverse effects of nudges on low-income citizens is well-established: for example, nudges that are "easy and cheap to avoid" (Thaler and Sunstein, 2008, 6) for median-income citizens may yet carry costs that are significant for those in the lowest income segments. Additionally, particularly in the public health context, this has raised concerns that by targeting mainstream consumption, self-regarding nudges would fail to benefit the lowest income segments, contributing to the health inequality gap (Roberts and Fowler, 2017; Roberts, 2018).

For other-regarding and all-regarding nudges, the target group of the intervention does not directly determine the beneficiary of the intervention. This enables choice architects to determine the target group on grounds of efficacy, acceptability, and fairness. In terms of *efficacy*, choice architects should ask whose behaviour change is predicted to have impact towards the desired benefit – and whose behaviour can be changed. In terms of *fairness*, the question becomes whose behaviour ought to change. Finally, in terms of *acceptability*, choice architects should consider which demographic segments are amenable to being nudged. The last

two questions are especially important if following the nudges causes economic, social, psychological or other costs to the targets. While these considerations are also present for self-regarding nudges, in self-regarding nudges the benefit incurred by the nudge is typically thought to counterbalance or outweigh associated costs.

When the intervention's target group has been determined based on efficacy, acceptability and fairness, an intervention can be designed that aligns with the values and preferences of that target group to ensure receptivity. When multiple target groups are implicated, multiple, targeted interventions can be designed to address demographics with different preferences. Following Mills (2022), in these interventions, targeting a specific population segment can take the form of either nudging towards a specific behaviour that the segment is taken to be receptive towards, shaping the delivery of the nudge to appeal to the segment, or both.

Multiple factors contribute to individual preferences and therefore to receptivity to behavioural interventions. Above, we noted that the approach of marketing research has expanded beyond basic demographics. However, this does not entail that basic demographics would have lost their value. Instead, demographics such as income continue to be important drivers of preferences and behaviour. In what follows, we will focus on wealth and income as such a factor, to build the case for developing green nudges that specifically target the local top 10% in terms of assets and income.

Wealth and income as determinants of emissions and behaviour

Since most research on behavioural interventions targets populations in the US, UK, and EU, this research predominantly targets people who are well-off by global comparison. However, few nudges specifically target people who are rich according to *local* income standards.

'The rich', in our usage, refers to the top 10% of the local population in terms of assets, income, or a combination of the two, following the definition proposed by Rowlingson and McKay (2012). 2021 data from the US suggests the top 10% in terms of income are those earning \$167,639/€154,231 or more a year (Economic Policy Institute, 2022); in the UK, the annual income would be £59,200/€69,095 or above (HM Revenue and Customs, 2024).

As Rowlingson and McKay (2012) argue, the local top 10% "has the resources to establish private lifestyles and modes of consumption that set them apart from more 'mainstream' society" (Rowlingson and McKay 2012: p. 74), resulting in differences that are relevant from a choice architecture perspective. Supposed 'one-size-fits-all' interventions targeting the most widespread behaviours are often unlikely to significantly affect the behaviour of the rich, because the most well-off segments of local populations are characterised by their access to significantly different consumption and lifestyle choices than the rest of the population (Rowlingson and McKay 2012).

Beyond the 10%, the ultra-rich are a group with outsized economic and political influence (Kenner, 2019). Rowlingson and McKay (2012) argue that the top 1% has a distinct lifestyle from the rest of the top 10%, while the top 0,05% forms the most elite group by comparison to national income; as a result, the ultra-rich falls somewhere in the vicinity of top 0,05% to 0,5%. However, since the ultra-rich is a characteristically transnational group, comparisons to national income bands ought to be taken as indicative rather than absolute.

The most well-off segments of society can be characterised either by wealth (Atkinson 2006, Capehart 2017), income

(Franzini et al., 2016), or by more qualitative measures. Notably, exclusive lifestyle alone is enough to distinguish the rich in such a way that they comprise a distinctive social group. The local top 10% by income and/or assets classification is applied here because it tracks a qualitative shift in patterns of behaviour and consumption (Rowlingson and McKay 2012, Moorcroft et al., 2025), making it well-suited for ballparking the relevant segment in the context of behavioural insights. Focusing on the local top 10% also allows us to draw on prior research on the consumption patterns of the rich, which typically focus on the top decile (see, e.g., Rowlingson and McKay 2012, Tian et al., 2024, Moorcroft et al., 2025). This notion does not, however, imply a singular global elite. Rather, it suggests that while the rich are a heterogeneous group in many respects, social effects, such as values, norms, and social influence, as well as their downstream effects on consumption and behaviour, diffuse within this group and diverge from the rest of the population.

Carbon inequality refers to the unequal distribution of greenhouse gas emissions among individuals, countries, or groups, reflecting disparities in their contributions to climate change and their respective abilities to mitigate and adapt to its effects. Global carbon inequality is growing, a trend that, according to the Oxfam and SEI analysis, is chiefly driven by increases in economic inequality *within* countries (Kartha et al., 2020). While in 1990 62% of global carbon inequality resulted from inequality between countries, in 2019 64% of it was due to the within-country inequality (Chancel et al., 2023, 31). 2021 data from the International Energy Agency demonstrates that the carbon footprints of the local top 10% are about 16 times larger than those of the poorest 10% in the EU and US; in India and China, the ratio is 32 to 35 times larger than the emissions of the bottom 10% (IEA, 2023).

In addition to the *direct* effect of the lifestyles of the rich on emissions, the rich have an *indirect* impact on the climate crisis by influencing emissions beyond those they personally generate. This is because well-off individuals are typically more influential than less well-off individuals: they have political, economic, and social power and, thus, their choices can influence the choices of others, as well as policy at large (Nielsen et al., 2021). This outsized influence takes multiple forms. While some of the outsized influence is restricted to the ultra-rich, many forms of influence extend across the top 10%.

Most blatantly, the rich have the resources to financially support societal causes of their choosing, and private funding of election campaigns has long been discussed as a grave threat to democracy (see, e.g., Cagé, 2020). While the dynamics of wealth and political influence are subject to national and regional variation, the 10% are overrepresented in local leadership roles in towns and municipalities, while the ultra-rich are likewise overrepresented in national and transnational political leadership (see, e.g., Carnes and Lupu, 2023; Krčmaric et al., 2024).

While climate consumption is often conceived of in terms of personal consumption, such as recreation and diet, the outsized influence of the rich also emerges from their professional roles and economic assets. Nielsen et al. (2021) recognise five roles in which people with high socio-economic status (SES) have a pronounced opportunity to affect greenhouse gas emission: as citizens, consumers, role models, organisational participants, and investors. Moreover, professional roles can include positions that involve a great deal of potential influence (Kenner, 2019). High-SES individuals can also wield influence over organisations involved in divestment and reinvestment – such as universities, church groups, and pension funds – indicating a need to specifically target high-income investors for promoting climate-compatible investing (Nielsen et al., 2021).

The rich also sit at the tables of social power and decision-making in subtler ways. Income and wealth enable access to educational, professional, and recreational opportunities where networks are wrought, and influence is built. High-SES individuals wield significant influence over climate discourse and action through their networks, financial support, and societal status. While they can promote low-emission technologies and behaviours, they may also reinforce unsustainable practices and shape mitigation efforts to their advantage (Nielsen et al., 2021).

Furthermore, social groups interact, and the wealthiest segments of local populations have an outsized impact not just on their personal emissions but also on the shaping of social norms, aspirations, and conceptions of the good life (Nielsen et al., 2021). In terms of lifestyle and consumption patterns, it is precisely the rich that set an example and tone to what the majority of the population, especially the middle classes, aspire and idolise. Put more rigorously, in addition to identifying with their social group, people often have aspirational identities where they feel an affinity with social groups they look up to, the key mechanism of which is distinction between these groups as proposed by Bourdieu (1984). Behaviour change amongst the rich may therefore help shift broader social norms by means of the aspirational status of this reference group, shifting culturally shared perceptions of what behaviours are seen as desirable. By first targeting the behaviours of the social group with the most influence on what is seen as desirable, broader cultural change could be facilitated.

While the rich have outsized impact on social norms, this should not be overly simplified into a caricature of trickle-down green consumption. Instead, while the rich shape aspirations of what a good life looks like, their specific modes of consumption are beyond the reach of most. The push towards greener consumption afforded by shifting social norms is in itself insufficient if easy, affordable and attractive options for green consumption are absent.

Overall, the global trend is towards increasing economic inequality within and between countries, and towards local income differences driving an increasing share of differences in greenhouse gas emissions. Curtailing this trend requires a multi-pronged approach that includes measures that specifically address the lifestyles and consumption patterns of the rich.

Targeting the rich

The outsized emissions of the top 10% imply the possibility of significant reductions to these emissions – *if* the target group's behaviour is successfully altered. However, selecting a target group based on *potential* reductions does not necessarily imply that the intervention will be effective. To translate the outsized potential for reduction in emissions into actual changes, we need evidence-based insight into how to effectively alter the target group's behaviour as well as their unwillingness to go against the nudges.

That climate policy overall must target populations by income group is recognised, e.g., in the 2023 Climate Inequality Report (Chancel et al., 2023). In their analysis, the effort “required to achieve the same level of emission reduction might be significantly lower for high-emitting groups, which creates an incentive for policies that target this group” (ibid: 17). According to the report, while the main driver of climate change mitigation and adaptation should be in systemic changes such as corporate taxes, policy targeting the consumption patterns of the rich is also required. They mention, e.g., strict regulation on polluting purchases such as airline tickets and SUVs, wealth taxes, and caps on personal carbon footprints. Since the aim of regulation, taxes, and carbon caps is to alter the individual behaviour and consumption

patterns of the rich, behavioural interventions, if effective, can contribute to the same aim, though they should not replace regulation.

However, there currently is little research into behavioural interventions targeting the rich. The first cause for this is more general: the richest segments of a population are notoriously difficult to study (Rowlingson, 2008). Secondly, in the context of behavioural interventions specifically, target groups are often not selected based on optimal efficiency. Instead, researchers and practitioners balance the ambition to create effective interventions against time, funder, and stakeholder pressures.

Even when target populations are deliberately selected for efficacy, researchers often opt not to target the rich due to worries about small sample sizes, difficulty and inconvenience of accessing the target group, and/or scalability. These concerns are well founded if targeting a very small population segment, such as the ultra-rich. Against this backdrop, the top 10% however emerges as a feasible target group with both outsized emissions and a large range of economically feasible alternate consumption possibilities.

Accordingly, the behavioural public policy community should take initiative in researching the relative efficacy and feasibility of different policy instruments targeting the rich. To change the behaviour of the top polluters, we need measures informed by behavioural science and by the psychosocial and contextual conditions of the target group. For example, while the ability to finance a switch to climate-friendlier means of transport is not a bottleneck of behaviour change for the rich, social norms and perceived or anticipated peer attitudes may hinder such changes, given that modes of transport are so tightly connected to perceptions of social and economic status (Higham et al., 2013). Consequently, it is important to develop interventions that target barriers to climate-friendlier behaviour emerging from the sociocultural context, such as self-image and social norms (Stapleton et al., 2022, Bicchieri, 2022, Zorell, 2020). Particularly in groups that have access to a range of consumption options, self-image and social signalling are key drivers of consumption that 'soft' behavioural policy can directly address.

Meta-analyses on the impact of nudge interventions have shown variable efficacy (e.g., Hummel and Maedche, 2019, Nisa et al., 2019). Appropriately accounting for the role of target demographic's culture, values, and resulting preferences could assist in the development of effective behavioural interventions. Rather than a singular concept of susceptibility to nudges, the population groups which an intervention is likely to effectively influence vary relative to the specific characteristics of the intervention in question. This issue is discussed by Congiu and Moscati (2021) and by de Ridder et al. (2022), who find that pre-existing preferences are a key determinant of the effectiveness of nudges. In particular, if the promoted behaviour clashes with the target group's preferences, we can expect little effect.

As mentioned above, nudges can be tailored to meet the target group's preferences in two ways: by tailoring nudge contents and by tailoring nudge delivery (Mills, 2022). This entails ensuring the target behaviour is one the target group neither resists nor already (sufficiently) engages in, and ensuring that nudge delivery appeals to the preferences of the target group.

In the context of transport, for example, nudging towards climate-friendlier status signalling alternatives, or nudges that frame low-emissions modes of transport as status signalling, could address the group's preferences. Transport is a key driver of the top income decile's emissions, and the success of framing electric vehicles as status items indicates that it is an area malleable to nudges that deploy status- and in-group membership-based signalling. Horsepower often replaces environmental concern as a driver of the choice of e-vehicle versus petrol vehicle

(Sandman et al., 2024), and a similar framing could be used to drive other environmentally friendly transport choices.

This is also an effective area of intervention, as prior measures towards e-vehicle adoption, including non-behavioural ones such as tax incentives, have impacted the emissions of the rich. For example, in their evaluation of Norway's CO₂-differentiated vehicle registration tax, Yan and Eskeland (2018) found that although the policy reduced average vehicle emissions by shifting purchases toward lower-emission models, the resulting emission reductions were disproportionately concentrated among higher-income households, who predominantly purchase the large, high-emission vehicles such as SUVs most affected by the tax.

In air travel, nudges could be tailored to the rich by content. The rich are reluctant to reduce their personal air travel, in part because their personal networks —family and friends— are often spread across different regions, and maintaining these meaningful connections remains a priority. This is in contrast to lower income brackets where geographically dispersed friend and family networks are uncommon (Moorcroft et al., 2025). However, the rich may have less resistance towards decreases in business air travel. Here, the roles of the rich as organisational decision-makers rise to the forefront (Moorcroft et al., 2025). Rather than targeting individual employees' choices, these interventions could be more effectively pushed on an organisational level, nudging organisational decision-makers to shift corporate policies and norms surrounding business air travel.

It's worth pointing out that the rich are not a homogeneous group, and wealth cannot be defined solely by financial assets. Within the top 10% there are various social and cultural distinctions that influence individual lifestyles and behaviour. Different backgrounds, values, and priorities shape their consumption habits, lifestyle and decision-making. Regardless, there are generalities that apply to the values, preferences, and behaviour of this demographic that make it a viable target of intervention. Given that group preferences are sensitive to the sociocultural characteristics of that group, including its economic status, only by targeting the rich and specifically appealing to their preferences can we expect to effectively curtail emissions caused by the rich. To do this via behavioural policy, more research into the behavioural plasticity of the consumption patterns of the rich is needed.

Comparing the effectiveness of climate nudges with other interventions, such as carbon taxes, is difficult as these measures are typically implemented on different scales. For example, a relatively high carbon tax has effectively reduced greenhouse gas emissions in Sweden due to the common use of district heating systems (Sterner, 2020). While taxes typically are nation-wide measures, nudges typically do not have a nation-wide reach. Hence, even as some nudges may more effectively reduce certain forms of high-emission behaviour, nation-wide solutions are still likely to reduce emissions more comprehensively. For satisfactory efficacy, both types of interventions should therefore be applied.

Likewise, while we argue that we should nudge the rich, this does not entail that we should not apply behavioural insights across other income brackets. Rather, the climate crisis requires changes in consumption across all income brackets, though the scope of effective and feasible changes will vary with demographics. As climate nudges are developed, instead of a one-size-fits-all approach, we should follow the lead of marketing professionals and instead create a set of interventions, each tailored to a target demographic.

While the combination of climate nudges and taxation shows theoretical promise (Carlsson et al., 2021), the scholarly community has raised concerns about the efficacy of nudges as climate measures. A meta-analysis by Nisa et al. (2019) indicates that interventions on behaviour have only a very small effect on

climate change mitigation, and there is little evidence if these effects persist after the interventions are finished. Moreover, a review by Drews and van den Bergh (2022) indicates that studies show only a modest effect of climate nudging on emission reductions. They conclude that “policy makers are probably well advised that the main role of nudging is complementing conventional policy instruments” (Drews and van den Bergh, 2022, 280).

We suggest that the failure of nudges to create significant and lasting changes in emissions is, in part, due to the poorly defined target groups: if target group preferences are not effectively recognised and addressed, the intervention has limited effect. By targeting the rich as a high-emissions population, climate interventions’ efficacy could improve. However, even then, behavioural instruments should not be used in lieu of other climate measures but rather in conjunction with them.

Is nudging the rich fair? Climate justice and the costs of climate change mitigation

Since emissions correlate with wealth and income (Chancel et al., 2023), insofar as climate measures target certain groups, targeting the rich has potential for large reductions. The rich have the necessary material resources to adapt to changes in lifestyle and consumption, as well as to simply to cover the costs of managing climate change and its adverse effects (Page, 2012). In this section, we argue that in addition to these practical rationale for nudging the rich, climate policy, including nudges, should target the rich on grounds of climate justice.

As mentioned above, nudges can be divided into self-regarding, other-regarding, and all-regarding nudges based on their beneficiary (Siipi and Koi, 2021). Climate nudges are all-regarding, even though they may sometimes also benefit the targets. More often, however, climate nudges are costly to their targets. These costs may be economic: green energy and green technology, for example, are typically more expensive than their non-green alternatives. Off-setting emissions also carries an economic cost. The costs of green nudges can also be non-economic and consist of giving up comforts such as air travel, excessive living space, and other unnecessary consumption. This reflects the more general fact that climate change adaptation and mitigation, whether on the systemic level or individual level, requires resources and generates costs. Lifestyle and consumption changes can also have social costs, such as peer disapproval, or psychological costs related to any difficulty in altering everyday behaviour.

Applying cost-benefit analysis to climate actions can be tricky due to the high number of variables and uncertainties involved (Gardiner, 2011; Ledger and Klöck, 2023). It is however widely accepted that the economic and other costs of climate change adaptation and mitigation are modest compared to the gravity of the climate crisis (Chancel et al., 2023). Nevertheless, we should ensure that any costs fall fairly on the parties that ought to bear those costs (Page, 2012).

In the context of climate justice, three alternative principles have been presented regarding just distribution of the costs of climate actions. These principles are applicable both on a systemic level and on the level of citizen behaviour (Caney, 2010a; García-Portela, 2023). Even though it is often assumed that states are central duty bearers in climate actions, individual choices are central to their success (Heyward, 2021).

On the level of individual citizens’ behaviour, the three principles concern two kinds of duties: duties to cut back activities which cause climate change and duties to devote resources to activities which either mitigate climate change or support adaptation to it (Caney, 2010a; Heyward, 2021). As noted above, since the rich consume more, they also have more potential for

decreasing their consumption. They also have more resources available for climate change mitigation. But is it fair to specifically target the rich in climate policy? In what follows, we’ll describe the three principles of climate justice and illustrate that despite their differences, all three indicate that climate policy should primarily target the rich.

The first principle is called “polluter pays”. The polluter pays principle is backward-looking and holds that costs should be borne in proportion to the emissions of the party in question (Shue, 2010; Singer, 2002, Caney, 2010a; García-Portela, 2023). In the literature, this principle is considered to place the costs on developed nations as they are mostly responsible for the harmful emissions. According to Singer, “If we believe that people should contribute to fixing something in proportion to their responsibility for breaking it, then the developed nations owe it to the rest of the world to fix the problem with the atmosphere”. (Singer, 2002: 33–34).

Singer’s conclusions reflect the fact that in the 1990s, wealth disparities between countries were the main driver of differences in emissions. However, the situation has since changed. The Oxfam and SEI report (2020) indicates that wealth disparities *within* countries are now the main driver of differences in emissions. Thus, emissions are currently driven both by wealth disparities between countries and by within-country economic inequality. The polluter pays principle, therefore, indicates that the costs of climate change mitigation should be borne by the rich regardless of country of residence, and by high-income over low-income countries.

Despite income tracing emissions on the population level, on an individual level, there is no perfect correlation between high emissions and economic well-being. Some (though very few) economically well-off individuals have low-emissions lifestyles. Moreover, some economically disadvantaged people are high emitters. Making the latter pay according to their emissions would risk considerable financial hardship. Thus, the polluter pays principle should be adjusted to exclude those whom it would push beneath a reasonable standard of living (Caney, 2010a).

The above issues, however, do not arise in the context of climate nudges targeting the rich. First, by targeting the rich, we avoid any cost to low-income high emitters. Second, since nudges target behaviour change, any rich individuals with sustainable lifestyles will be unaffected as they already act in accordance with the desired behaviour. Third, behavioural policy is not a vehicle of funding the green transition, and therefore calculating precise shares of climate responsibility is unnecessary in the context of behavioural policy. Recalling the two climate duties – duties to cut back high-emissions activities, and duties to contribute resources to climate change mitigation – this feature is a double-sided sword. On one hand, since nudges typically are not costly to the target population, deploying nudges does not detract from the use of other measures, such as carbon taxes, designed to fund mitigation efforts from the pockets of high emitters. On the other hand, unlike, for example, carbon taxes on specific goods, it does not address both duties at once. Instead, adequately funding climate mitigation measures, whether according to the “polluter pays” principle or the other principles discussed below, requires also deploying more coercive measures than nudges.

The second climate justice principle is “beneficiary pays”. According to it, those who have benefited most from actions that harmed the climate, or from climate change itself, are the ones who should bear the cost of climate actions (Caney, 2010b; Heyward, 2021). Like the polluter pays principle, the beneficiary pays principle is backward-looking, but differs from it in that it instructs the costs of climate change mitigation and adaptation to fall differently, excluding those parties that have caused emissions but have not benefited from the climate crisis or from the actions

that have caused it, and including those parties who have benefited from these even if the party in question has not causally contributed to the climate crisis. The beneficiary pays principle avoids the intergenerational objection to the polluter pays principle, as later generations continue to benefit from the wealth generated by high-emissions activities such as large-scale coal burning. (García-Portela, 2023; Couto, 2018).

While the absolute, direct beneficiaries of the climate crisis are those parties that have gained, e.g., economic benefits from high-emissions activities, such as by benefiting from being born into a country whose wealth has been generated through high-emissions activities, there is also a broader class of parties that reap relative benefits. This is because many goods have positional aspects, meaning that they are more valuable when others have less of that good (Brighouse and Swift, 2006). For example, education, health, and wealth have positional aspects insofar as they incur a competitive advantage over people who have less of these goods.

Adversities resulting from the climate crisis cause economic losses, displacement, loss of human life, as well as losses in health and educational possibilities that fall predominantly on the Southern hemisphere and on low-income people, whereas the rich are by and large protected from these direct harms by their better financial means (Chancel et al., 2023). As a result, the climate crisis accelerates both global and local economic inequality, improving the positional advantage of all who are safe from these losses. For example, hurricanes and other natural disasters cause disproportionate losses to low-SES segments of the population, owing to differences in housing, evacuation capability, and credit (see, e.g., Smiley et al., 2022, Billings et al., 2022). This exacerbates local economic inequality, bolstering the competitive advantage of the rich.

The third suggested principle of climate justice is “ability to pay”. This forward-looking principle straightforwardly asserts that everybody who can contribute to the costs of climate actions should contribute as much as they can. Moreover, everybody should cut down their emissions as much as they can. (Caney, 2010b; Shue, 2010; Heyward, 2021; Page, 2012).

On this account, given that the top 10% are able to pay more than lower income brackets are, the top 10% should shoulder more of the burden of the green transition than lower income brackets. Moreover, the rich are able to alter their lifestyle without considerable loss, and therefore they should (Caney, 2010a).

The toolkit approach should not be focussed overly narrowly on a specific behaviour. Consider, for example, a carbon tax on high-emissions vehicles, and nudging the rich to not buy those vehicles. In this combination of policies, the nudge would, in effect, help the rich avoid the extra cost, which would violate the ‘beneficiary pays’ and ‘ability to pay’ principles. In effect, if the measures are effective, we would have curtailed emissions with no cost to the rich.

The upshot is not that this combination of efforts would be unwarranted, but instead that it bolsters the case that nudges could complement, rather than replace, more aggressive climate taxation measures. For example, a carbon tax based on income or assets, rather than on the consumption of specific goods, has been suggested (Starr et al., 2023); we will further discuss packaging nudges with taxation in the following section. While carbon taxes on high-emitting goods are an example of a ‘polluter pays’ approach, adding a climate tax not to specific goods but to overall household income and/or assets among the local 10% would align with the ‘beneficiary pays’ and ‘ability to pay’ principles – as well as tracking ‘polluter pays,’ given that spending power strongly correlates with overall emissions.

Generally speaking, none of the three principles supports the view that climate nudges for the rich could be the *only* way to engage them into climate actions. Instead, what each of the

three views highlights is that climate policy should not forget the rich, but should instead start with the rich: with using the resources of the rich to fund the green transition (e.g., via taxation), and with steering the rich to alter their lifestyles towards more sustainable ones. As part of a broader climate policy toolkit, climate nudges may help steer lifestyles towards the better. The upshot is that climate justice requires changes in the lifestyles of the rich, which supports selecting the rich as targets for green nudges.

Some object that no individual – rich or poor – has an actual duty or obligation to contribute to addressing the climate crisis. Rather than argue against this controversial view in the context of this paper (for debate, see MacLean, 2019, Broome, 2019), we suggest focusing discussion on social groups. The rich, as a social group, maintain, enforce, and endorse behaviours and social norms that enable the overconsumption that is the cause of the climate crisis (Wiedmann et al., 2020). The rich, as a social group, benefit from the climate crisis directly and indirectly. And the rich, as a social group, are able to absorb the costs incurred by transitioning to climate friendlier behaviours. Therefore, the rich, as a social group, ought to bear most of the cost of climate actions.

Finally, it is worth noting that *not* adequately responding to the climate crisis also creates costs. These costs in economic losses, displacement, and loss of human life are currently predominantly borne by those with the *least* means. If (according to some) the rich have no moral impetus to shoulder climate change-related costs, neither do the least well off, and therefore measures are needed to decrease costs currently falling on parties that ought not bear them. Since any cost from transitioning to greener lifestyles will be diminutive in comparison to adversities like displacement and loss of life, the green transition overall incurs fewer unjustified costs.

Does behavioural public policy have a place in addressing the consumption patterns of the rich?

To tackle the high carbon footprints of the wealthy and effectively combat climate change, a variety of strategies have been proposed, ranging from subtle behavioural nudges to ambitious wealth caps. For example, Oswald et al. (2023) suggest imposing higher taxes on luxury goods such as private jets, yachts, and large SUVs, all of which are known for their high emissions, to incentivize more sustainable choices among affluent consumers. Similarly, Gössling and Humpe (2024) propose additional fees on carbon-intensive activities, like docking and landing charges for yachts and private jets, to create economic disincentives for such high-emission behaviours.

Buch-Hansen and Koch (2019) offer an alternative approach, advocating for wealth or income caps to directly restrict emissions generated by the wealthiest individuals. A similar approach is the deployment of progressive climate taxes on income and assets rather than specific goods (Starr et al., 2023). The rationale behind these approaches is rooted in the strong association between wealth and ecological footprint; as high-income consumers maintain larger, more resource-intensive lifestyles, it becomes challenging to reduce their environmental impact to a sustainable level through voluntary or market-based measures alone. By capping wealth or income or through progressive climate taxation, these strategies seek to mitigate the disproportionate environmental impact linked to the consumption resources and patterns of the most affluent (Buch-Hansen and Koch, 2019). A further climate-related argument for wealth redistribution is that it limits the wealthy’s ability to set unsustainable, high-consumption lifestyles as aspirational norms (Frank, 2020).

On the ‘softer’ side, nudging can complement these regulatory measures by subtly encouraging sustainable behaviour (Santos Silva, 2022). As Chroufa and Chtourou (Chroufa and Chtourou, 2024) suggest, nudges could, for example, encourage wealthier individuals to adopt greener investment choices by framing sustainable investments as prestigious or socially desirable. By positioning sustainable investments as symbols of prestige, nudges could tap into status-driven motivations, making environmentally friendly choices not only an economic but also a socially appealing decision. As previously mentioned, high-SES individuals can have either a positive or negative impact on climate emissions through their influence as role models (Nielsen et al., 2021). As a positive example, the choices of the wealthy and high-status individuals have played a critical role in shaping the perceived desirability and status-symbol value of electric vehicles (Ashmore et al., 2018).

According to a European cross-country study by Umit et al. (2019), wealthier individuals tend to adopt energy-efficient technologies more readily than other groups, since these technologies are more affordable to them and pose minimal impact on their lifestyle. However, they are less likely to reduce their energy use through curtailment, leading to increased energy consumption despite using efficient technologies (Umit et al., 2019). Altogether, the attitudes of wealthy individuals towards climate change mitigation measures differ in some respects from other income groups, but they are not unequivocally more for or against green policies; their attitudes depend on the specific measures suggested (Moorcroft et al., 2025).

Similarly, whether the rich are willing to adopt more climate-friendly behaviours varies significantly depending on the specific action. For instance, according to Nielsen and colleagues, the wealthiest 10% in Denmark, the US, Nigeria, and India are more inclined to buy electric vehicles and reduce their red meat consumption compared to other income groups. However, in Denmark and the US, the wealthiest 10% are less willing than others to reduce the number of flights they take (Nielsen et al., 2024). This poses a challenge for emission reduction efforts, as the majority of the carbon footprint of the wealthy stems from air travel (Otto et al., 2019).

However, few concrete climate policies have specifically targeted wealthy individuals. While measures like Norway’s emission-based vehicle taxes (Carpenter and Antich, 2022) or flight ticket taxes are more likely to affect affluent consumers than others, policies directly aimed at this group remain limited. This points to a critical gap in the research, design, and implementation of nudges.

Recent evidence from the UK underscores the potential of this approach. Wealthy individuals in the UK perceive their ability to influence others to reduce climate impact as significantly greater than that of non-wealthy individuals and see themselves as having a stronger capacity to affect local decision-making (Moorcroft et al., 2025). This finding suggests that nudges directed at the wealthy not only have the potential to foster climate-friendly behaviours among high-income groups but also have an accumulative effect, potentially extending these behaviours to wider social circles.

Yet the fact that the top 10% occupy positions of influence also raises the question whether targeting the rich is politically realistic. Would the rich agree to an intervention guiding them towards a behaviour that they would not engage in otherwise? However, there are two grounds for optimism here. First, on studies on the acceptability of green nudges, acceptability appears driven by factors other than income, such as environmental attitudes and nudge delivery (Sivonen et al., 2025; Grelle et al., 2024). Second, recent evidence from the UK suggests that the rich often are reluctant to enact changes on their own, and would

prefer broader-level interventions to be in place (Moorcroft et al., 2025). Overall, the rich may perceive nudges as a form of self-regulation (Van Gestel et al., 2021) that could help them address the ‘green gap’ in their own behaviour, rather than as opposed to self-determination.

By contrast, political opposition towards carbon taxes is well-documented. One driver of that opposition is the expected negative effect of carbon taxes on economic well-being, as attested by the ‘gilets jaunes’ demonstrations against rises in fuel prices in France. Solutions such as revenue recycling have been suggested to ‘sweeten the deal’ and make carbon taxes more palatable (Beiser-McGrath and Bernauer, 2019). High-income groups, who are overall supportive of climate policies, decrease their support when faced with the effect of carbon taxes on their finances (Beiser-McGrath and Bernauer, 2024). We can expect that any measure with a negative pocketbook impact, whether a carbon tax on specific goods, a wealth cap, or an income and assets-based progressive climate tax, would encounter similar resistance among the rich. However, progressive measures as opposed to carbon taxes on specific goods would likely garner more support from the 90% as they would have limited or no impact on their personal finances.

Many green consumption behaviours are economically beneficial to high-SES target groups: for example, while electric vehicles and heat pumps carry a high up-front cost, high-SES citizens are able to absorb that cost and will benefit from savings in the long run. This raises the interesting possibility that behavioural methods could be combined with carbon taxes to make the latter more palatable to the rich by conveying the overall effect of the policy package on their finances. For example, a progressive carbon tax could be combined with nudges towards consumption that provides long-term savings, mitigating the effect of the intervention on the target demographic’s pocketbook. Policy packaging has been a promising means of improving the acceptability of costly policies (Beiser-McGrath and Bernauer, 2024): for example, information campaigns and other ancillary measures helped increase acceptability in a Swiss study (Wicki, Huber and Bernauer, 2020). Therefore, while theoretical, packaging nudges with taxation-based measures could help decrease the rich’s resistance to taxation-based climate change mitigation measures.

In sum, a multi-pronged approach that combines regulation with behavioural interventions addresses both the economic and sociocultural factors underpinning high-carbon consumption. Taxes and caps can directly limit environmental impact, while nudges could – alongside other climate measures – help to reshape the social incentives around consumption, potentially fostering a long-term cultural shift toward sustainable behaviour among high-income groups. Overall, while more research is needed on how effective behavioural policy could be in addressing the consumption patterns of the rich, on balance there is reason to believe that targeting the local 10% in behavioural interventions is a promising approach.

Externalities and fairness

In designing behavioural interventions, it is imperative to consider externalities, i.e., additional effects of the intervention beyond the primary target effect. While a nudge may be self-regarding, other-regarding or all-regarding in terms of the beneficiary of its primary target effect, its other effects – whether harmful or beneficial – may be differently distributed.

While measures aimed at mitigating climate change are all-regarding in terms of their primary target effect, the externalities of climate actions may be inequitably distributed. For instance, choice defaults, a commonly used public policy tool, have

distributional consequences that are not well-understood. Ghesla et al. (2020) found that while default nudges are effective in reducing greenhouse gas emissions, they result in low-income households paying more for electricity than they would prefer, contributing to social inequalities. These externalities can have substantial downstream effects not just on the welfare of low-income households, but also on national politics. In the Netherlands, where only radical right parties opposed a tax on household natural gas, “renters with individualised utilities bills became about six percentage points more likely to vote for the radical right” (Voeten, 2024, p. 396), an effect that was only significant in households with below-median incomes.

Policy packaging is one way to increase acceptability of climate policies (Wicki et al., 2020; Beiser-McGrath and Bernauer, 2019). This can entail a package of soft, ancillary policy with costly policies such as carbon taxes (Wicki et al., 2020) or packaging climate policy with broader socio-economic reform, such as affordable housing, as a means of improving climate policy’s public support and political feasibility (Bergquist et al., 2020). However, ethical assessment should not be limited to whether the intervention can be made palatable to citizens, but instead should directly address the possible effects of the policy on social inequalities.

Ethical assessment of interventions often focuses on identifying and avoiding or compensating for harmful externalities. This tracks what in political philosophy is called the harm principle – the notion that state intervention is warranted in case of harm to third parties, whether harm is analysed in terms of their economic or other interests or in terms of personal autonomy (see Claassen, 2016 for discussion). Climate nudges targeting the rich do not only avoid the problem of incurring costs that the target group cannot afford. Instead, they often incur benefits. However, particularly in the case of nudging the rich, beneficial externalities also warrant ethical analysis. This is because these benefits can have *distributional* effects, which in turn may be harmful. Accurately analysing these externalities requires identifying not one but multiple effects at play (Chawla, 2023). Both costs to low-income segments and benefits to the rich contribute to the current trend towards a widening gap between the rich and the poor, a gap that has been identified as one of the drivers of the climate crisis (Kartha et al., 2020) and societal instability (Motesharrei et al., 2014). Therefore, benefits to the rich incur harmful effects if they contribute to within-country economic inequality.

These distributional effects of climate policy ought to be assessed and addressed, not merely accepted. First, a thorough quantification of the effects of an intervention enables the assessment of whether the specific intervention under consideration has distributional effects. Second, the policy in question should be part of a package of policy solutions that directly addresses economic inequalities (Beiser-McGrath and Bernauer, 2019, 2024; Wicki et al., 2020; Bergquist et al., 2020; Voeten, 2024). Distributional effects can be compensated for in the high end of the economic continuum, such as with taxation, or they can be compensated for in the low end of that continuum, with programmes designed to improve the welfare of low-income households (Beiser-McGrath and Bernauer, 2019; Bergquist et al., 2020).

The question of externalities is in no way specific to nudges, but also pertains to other policy instruments and can inform the selection of appropriate climate policies overall. Within behavioural public policy, there is a widespread consensus that nudges are not a standalone instrument but should be deployed in the context of a broader policy programme. When the target group of the nudge is the rich, distributional effects ought to be addressed as part of this programme to ensure that the programme overall does not contribute to the widening economic gap.

Conclusion

There has been relatively little discussion on the appropriate selection of target groups for behavioural interventions. We have here argued that, in the case of climate nudges, there is a strong case for targeting the top 10% in terms of income and assets, given that this is a demographic with plenty of potential for reducing their emissions. This target demographic may also have an outsized impact on emissions beyond their personal consumption given the outsized influence it wields.

This points to a critical gap in the research and implementation of behavioural interventions, where the sparsity of interventions directly targeting this segment of the population ought to be rectified.

Our discussion has focussed on the climate context. However, many of the above arguments in favour of targeting the rich in behavioural interventions extend to other all-regarding interventions.

In responding to matters of urgency like the climate crisis, the efficacy of any given intervention is of paramount ethical importance (Siipi and Koi, 2021). The low efficacy of behavioural interventions has been widely recognised. We hypothesise that the low efficacy is in part driven by the fact that many supposedly ‘one-size-fits-all’ interventions fail to determine clearly defined target groups for interventions.

There is a widespread concern that the climate crisis ought not to be responded to via steering individual consumption, but instead requires systemic responses (Gardiner, 2011; Kortetmäki and Huttunen, 2023). Analogous concerns have recently also been raised within the context of behavioural policy (Chater and Loewenstein, 2023). However, the individual and the systemic levels interact; in particular, the individual choices of the rich stand to influence systemic factors such as societal arrangements due to their outsized influence compared to the less well-off.

We claim neither that nudges should exclusively target the rich, nor that the rich should be steered exclusively with nudges; instead, we stand with the widespread consensus that (1) behavioural interventions ought to be coupled with other steering methods, including systemic changes and that (2) whether any intervention ought to be adopted hinges on the aims and context of the intervention. In the context of climate policy, one should be cautious about recommending any single policy, as the gravity of the climate crisis requires a broad toolkit of interventions, both systemic and behavioural, that would help bring consumption and emissions within planetary bounds. Climate nudges targeting the rich can be a helpful tool in shifting the consumption patterns of the rich, but they should not replace regulation, taxation, and other system-level instruments. They ought not be adopted in contexts where doing so would crowd out system-level policy.

In conclusion, addressing the climate crisis requires significant changes in the consumption patterns of those who consume most. In the context of climate policy, if we are to nudge, then we should start by nudging the rich.

Data availability

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

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Author contributions

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Competing interests

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Ethical approval

This article does not contain any studies with human participants, and therefore, ethical approval is not applicable.

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This article does not contain any studies with human participants, and therefore, informed consent is not applicable.

Additional information

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