Carbon Pricing is not Unjust

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# Abstract

The aim of this perspective is to argue that carbon pricing is not unjust. Two important dimensions of justice are distributive and procedural (sometimes called “participatory”) justice. In terms of distributive justice, I argue that carbon pricing can be made procedurally just through revenue recycling and that we should expect that even neutral reductions in emissions would generate progressive benefits, both internationally and regionally. In terms of procedural justice, I argue that carbon pricing is in principle compatible with any procedure; however, we also have a particular morally justifiable procedure, the Citizens’ Assembly, which has been implemented in Ireland on this precise question and has generated broad agreement on carbon pricing. I suggest that this morally matters because such Assemblies are like “ideal advisors” which offer morally important advice. Finally, I offer an independent objection to some ambitious alternatives to carbon pricing like Green New Deal-type frameworks, frameworks which aim to simultaneously tackle multiple social challenges. The objection is that these will take too long to work in a climate context, both to develop and to iterate.

# Introduction

A major source of tension in society about climate policy revolves around whether to support or adopt climate pricing policies. Climate pricing includes both carbon taxes (“pricing instruments”), where a fixed cost is added for each ton of carbon dioxide emitted, and cap-and-trade systems (“quantity instruments”), where a fixed volume of emissions (a “cap”) is subjected to allowances that can be bought and sold (“traded”).

In ideal contexts, pricing and quantity instruments perform the same function. If the price is optimal, it will lead to an optimal number of emissions (i.e. emissions such that the social benefit exceeds the social (climate) cost). If the cap is optimal, it will lead to an optimal price on allowances, since firms will be willing to pay for allowances up to the point at which it is no longer profitable to emit. If designed carefully, both involve payments to the government (carbon taxes directly and cap-and-trade systems if the allowances are auctioned off), and the resultant government revenue can be used for a range of purposes. Although we are not in ideal contexts, and there are differences between these instruments in practice, their differences are less important with respect to the issues of justice I am interested in here.[[1]](#footnote-1)

While there are a variety of moral issues that relate to carbon pricing policies, I will focus on one that has received a large amount of attention: is carbon pricing unjust? Campaigners and civil society groups, especially those involved in environmental and climate justice spaces, have rejected carbon pricing as unjust. This claim deserves some discussion and, in this perspective, I discuss a few potential dimensions of justice that could be relevant to this claim. My goal is to show that, for the most important dimensions of justice, carbon pricing is not unjust as a policy instrument for addressing climate change. This is not to say that carbon pricing addresses climate change alone—it is best thought of as part of a portfolio of climate policies which could be supplemented with things like behavioral nudges (Gravert & Shreedhar, 2022) and investments in climate innovations (Jebari, et al., 2021).

I focus on two forms or dimensions of justice: distributive justice and procedural justice (sometimes called “participatory justice”). Distributive justice has to do with what we owe to each other in contexts with limited goods or resources. Procedural justice has to do with how decisions are made and whether they are representative, especially of particularly vulnerable groups. For instance, procedural justice can involve discussions of democratic legitimacy. There are other dimensions of justice, but those others are much more contested—and many of them are also less relevant or determinate in the sense that it is less clear how they apply in this context or how distinctive the issues they raise are.[[2]](#footnote-2)

# Dimensions of Justice and Carbon Pricing

Before considering the justice of carbon pricing, it is worth trying to understand some of what the campaigners objecting to carbon pricing are saying. To illustrate, we can begin with the Green New Deal, which has attracted a lot of support amongst campaigners in the United States (and can be contrasted with policies like carbon pricing). While not a policy proposal (or even a set of policy proposals), the Green New Deal (as discussed in United States House Resolution 109) sets forth an ambitious policy *framework* or set of goals, including guaranteed wages, high-quality healthcare, adequate housing and access to a clean environment (H.R. 109 - 116th Congress, 2019). In a book arguing for a Green New Deal-type framework, Naomi Klein writes that:

given how far down [the road to climate crisis] we are, there is no point pretending that [options] are going to be easy. It’s going to take a lot more than a carbon tax or cap-and-trade. It’s going to take an all-out war on pollution and poverty and racism and colonialism and despair all at the same time. (Klein N. , 2019, pp. 50-51).

This type of cri de coeur exemplifies the goals of some critics of carbon pricing; they prefer to support framework proposals that ambitiously tackle a variety of social ills which they believe are inextricable from climate harms.[[3]](#footnote-3)

Since, like all other policies, carbon pricing will not adequately address climate change in isolation, the question is would carbon pricing increase the likelihood of just outcomes in terms of various forms of justice, whether distributive and procedural (or racial and gender and…)? More precisely, would carbon pricing increase this likelihood compared to the status quo or compared to a robust, Green New Deal-style, policy framework?

It is true that, if we endorse the goals of the Green New Deal-style framework and if it were to be successfully adopted and enacted, it would have much greater direct effects on society and address far more forms of injustice. However, there are two caveats. In this section, I offer a first caveat: that carbon pricing can also, albeit indirectly, promote several dimensions of injustice, such as distributive and racial justice, potentially laying the groundwork for greater gains, so the comparative advantage of Green New Deal-style frameworks is not as great as they may initially appear (§2.1). Furthermore, I will defend the claim that carbon pricing is consistent with procedural justice—indeed, we have some reason to believe that procedurally just, democratic processes would positively *support* carbon pricing policies (§2.2). In the following section, I offer a second caveat: that the evaluation of policy options should reflect their fit to the problems they are meant to solve (§3). I argue that the timescale of large-scale social change is a poor fit to address the climate challenge.

## Distributive Justice

It is certainly the case the fairness and distributive justice matter for the acceptance of carbon pricing policies (Bergquist, Nilsson, Haring, & Jagers, 2022) (Maestre-Andrés, Drews, & van den Bergh, 2019). If so, it matters whether or not carbon pricing can promote distributive justice. I will argue that it can, if revenue recycling is used to offset the regressivity of the initial incidence of carbon prices. Many intuitively believe that the initial incidence of carbon prices are unfair or will be regressive, i.e. will disproportionately fall on those with lower incomes (Tank, 2020), but this intuition fails to take into account the capacity to redistribute revenues from carbon pricing (Mintz-Woo, 2021).

We can start with the initial incidence of carbon prices, meaning the effect of the carbon prices alone and how regressive or progressive (whether this effect is borne disproportionately by the less or more well-off). That the *initial* incidence is regressive is broadly true in *developed* economies, but is not internationally true (e.g. in countries where only the wealthy can afford private cars, increases in oil prices will affect the wealthy but miss affecting those less well-off, generating an overall progressive effect).

Whether a policy is overall regressive or progressive is agreed to be of importance across the spectrum of distributive justice theorists. In short, this is because most justice theorists believe that current levels of inequality are unjust. Furthermore, distributive justice theorists, ranging from utilitarian and prioritarian to sufficientarian and egalitarian, endorse the importance of reducing material inequalities, albeit for different reasons. Utilitarians believe that redistribution from the wealthiest to the poorest would more effectively generate utility or welfare. Prioritarians agree but believe, moreover, that we should weight the utility or welfare of those with less even more strongly than the welfare benefits of redistribution imply—justifying even greater redistribution. Sufficientarians are concerned about those with low levels of resources who fall below some basic or minimal threshold, which justifies redistribution towards those in poverty since poverty on most accounts brings people below that basic or minimal threshold. Finally, egalitarians believe that it is intrinsically valuable for resources to be equally distributed. For all of these theorists, therefore, distributive justice would be served by redistribution from those with the most to those with the least.

However, when we turn to the overall effect of carbon pricing, including both the initial incidence and the effects of revenue recycling, it may be progressive or *increasing* of distributive justice, since the revenues can be distributed to offset any regressivity from the initial incidence. For instance, Budolfson et al. (2021) find that aggressive mitigation spurred by a high carbon tax could lead to meeting the 2°C target goal—while reducing global inequality and reducing global poverty by employing a basic equal per capita rebate. In other words, even if the initial incidence of a carbon price is negative—and the revenue recycling is not intentionally progressive (equal per capita distributions are not responsive to current heterogeneity)—the net impact can be significantly progressive (this work reinforces messages from Boyce et al. (2023) amongst others).

It is important to keep in mind that this progressive impact is a morally important *indirect* effect of carbon pricing; the primary goal of carbon pricing policy is to disincentivize emissions which are not sufficiently valuable.[[4]](#footnote-4) But even given that this is merely an indirect effect, it is notable that carbon pricing could promote distributive justice if the revenues are recycled properly.

This point is fairly abstract, so it is worth demonstrating with a simple numerical example:

Suppose you are much richer than I am and spend $10,000/month. I only spend $1,000/month. A carbon tax is introduced and, because the initial incidence of a carbon tax is regressive, it hits me harder. Let us say that you end up being taxed effectively at 5% so you spend $500/month on this carbon tax. However, we assumed that the initial incidence is regressive since, for instance, more of my monthly spending is on products like gas. Suppose I end up being taxed 10% or $100/month. Now let us suppose the government simply divides up all the revenue and, using equal per capita distribution (i.e., without reference to anyone's wealth or contribution size), provides both of us with [$500/month + $100/month]/ 2 people = $300/month/person. You end up net $200 down (–$500 + $300/month) but I end up $200 up (–$100 + $300/month). In other words, even though the initial incidence of the tax we assumed to be regressive and even though we rebated the tax revenue in a non-progressive (simply flat) way, the net result is still a progressive transfer from the richer to the poorer! (Mintz-Woo, 2022)

Note that Budolfson et al.’s (2021) modelling suggests that carbon pricing policies is also consistent with meeting an ambitious target, like the 2°C target. This addresses the concern that some campaigners have, one which Boyce (2022) calls the ‘false solution’ objection: that carbon prices cannot make a meaningful difference in emissions.[[5]](#footnote-5)

Not only are carbon prices compatible with promoting distributive justice, they may also be useful in promoting gender and racial justice. The reason is straightforward: climatic impacts are likely to disproportionately affect vulnerable groups (e.g. women and minorities); more relevant in this discussion, if it was not the case, then climate change would not introduce any special gender or racial justice challenges. This is true globally, where the Global South faces disproportionate climate harms compared to the Global North, and also regionally, where vulnerable groups tend to be more exposed and less able to adapt. Supposing that individuals in an economy respond to economic incentives, carbon pricing would reduce emissions—and, ultimately, climatic impacts. Policies that address climate impacts in neither intentionally progressive nor regressive ways could be expected to have roughly proportional benefits to vulnerable groups (at least in climate terms, since greenhouse gases are well-mixed in the atmosphere). Since the burdens of climate harms are regressive, proportional benefits would be progressive.

This argument applies to co-harms, like local co-pollutants as well—indeed, probably even more strongly. Since vulnerable groups (especially racial minorities in the United States) are disproportionately exposed to local pollution (e.g. PM2.5 and NOx) from pollution point sources like factories and power plants, reduction in emissions activities which reduce these co-pollutants would have even more than proportional benefits to these groups (for simplicity, we can say that there would be progressive co-benefits). Even if the reduction of co-pollutants is regressive, it would *still* have progressive co-benefits as long as the regressivity of the reductions is less than the regressivity of the initial disproportionate exposure.[[6]](#footnote-6)

Some have argued that this is overly optimistic, and that we should expect that reductions in emissions activities would not have neutral effects, but highly regressive effects. Boyce et al. (2023), for instance, point to research which suggests that, under cap-and-trade systems in California, a couple of facilities which generated the largest increases in emissions had high proportions of racial minority groups. However, as with most instances, there were a variety of different regulations (as Boyce et al. admit), so disentangling the impacts of one policy is challenging, especially given the limited number of cases and the fact that considering the facilities with the greatest increases may give a distorted view of the overall effects. More broadly, the short-term effects are likely to be noisier than the long-term trend, especially if carbon prices increase over time (as they are expected to do in California). Regardless, Boyce et al. (2023) are certainly correct that this justifies monitoring air quality near racial minority groups in order to determine how regressive or progressive these effects are, even if it is somewhat soon to be drawing conclusions about the impacts of pricing policies on co-pollutants.

I conclude that there is a strong case to make that carbon pricing would not set back distributive justice in terms of disproportionate impacts on socioeconomic and vulnerable groups, both in terms of gender and race. The main reason is that climate change can be expected to threaten (independently) vulnerable groups more seriously, so even proportional reductions would be progressive.

## Procedural Justice

When considering procedural justice (or “participatory justice” as it is sometimes called), the case is even more straightforward that carbon pricing is not unjust. The reason is that “carbon pricing” is simply the name for a set of policy instruments, not a way of *choosing* policy instruments. In other words, these instruments are compatible with or could be chosen as a result of a variety of policy decision-making procedures. But I will make a stronger case; we have some evidence that carbon pricing would be adopted by groups which were deliberating in a procedurally just, democratic way. This evidence comes from the Irish Citizens’ Assembly of 2016 (The Citizens' Assembly, 2018).

Many campaigning groups are advocating for greater direct or deliberative democratic fora on climate issues. For instance, one of the activist group Extinction Rebellion’s key demands is to create a Citizens’ Assembly on climate and ecological justice in the United Kingdom (Gunningham, 2019). Members of the umbrella group Rapid Transition Alliance (representing over a hundred international activist groups) have also advocated for a Citizens’ Assembly (Foley, 2019). In Canada, the Indigenous activist Leap Manifesto calls for “town hall meetings” where local communities can determine how a transition would affect their future (The "This Changes Everything" Team, 2015).[[7]](#footnote-7) Similar examples can be found worldwide.

There is a good philosophical justification for policy-evaluating procedures like Citizens’ Assemblies, a justification which follows what moral philosophers call “ideal observer theory”. The basic idea is that what we should do is not (necessarily) what we think we should do now or with our current information—what we should do is what we *would* want to do if we were apprised of the relevant facts and mechanisms relevant to our situation. The analogy is with an imaginary or hypothetical ideal observer who had your values or goals but knew more (or everything!) about the context of your action; what *she* would prescribe for you is what *you* should do. For instance, I might really want to eat some more lemon sorbet, but if I truly understood the impacts of eating it, I would not want to do it. Similarly, my ideal observer would not recommend that I keep eating that sweet, sweet sorbet. In the political realm, the question is not what we currently think is good policy, since few of us know what the current policies in any area *are*, let alone understand what they *should* be.

In a Citizens’ Assembly, a group of randomly selected, but socially stratified (i.e. trying to match population distribution in terms of age, gender, religion, ethnic background, citizenship status, etc.) members are brought together and paid for their time to answer some specific policy question such as “Which voting system is better?” Not every question is appropriate for such an assembly—“What should we do to make society better?” is too broad while “How should we design a power plant?” is too technical. These members then can ask various experts to give information (not policy suggestions or evaluations) which might be relevant. Sometimes, there is a set of experts chosen but, sometimes, the members are given options amongst some set of experts; in the best cases, the members can also request experts that they want. The members go through several iterated processes of listening, deliberating, arguing, and voting on a range of issues relevant to their policy question.

Why is this morally relevant? Although most of us do not have the time to learn the details of various policy options, a Citizens’ Assembly can give us good evidence of which options, if we *were* to deliberate together, we might end up endorsing. Like an ideal observer, a Citizens’ Assembly is a well-informed and well-argued group that has (roughly) representative characteristics of the society from which they come. The key point is that the members exchange ideas and arguments, not just positions. This kind of working together is very different than simply polling various positions, where citizens are asked what their opinions on various policy options are even when these opinions are neither informed nor carefully thought through. If ideal observer theory, or some theory like it, is true, then what we *should* do or endorse is what an informed body like a Citizens’ Assembly *would* do or endorse.

So not only do some influential campaigning groups advocate for the formation of such groups, there is a good moral reason to take these groups seriously. And we have an example of such a national Citizens’ Assembly specifically in the context of climate policy.

This example is the Irish Citizens’ Assembly (100 members), which met in 2017 to discuss how Ireland might become an international leader in climate action, generated stunning and overwhelming agreement on a variety of measures. Most pertinent to the current topic, though, is that 89% of the members “recommended that there should be a tax on greenhouse gas emissions from agriculture [with] resulting revenue […] reinvested to support climate friendly agricultural practices” and 80% of members voting that they (themselves) “would be willing to pay higher taxes on carbon intensive activities” (The Citizens' Assembly, 2018). Obviously, not every country would vote as an Irish assembly would, and even within Ireland we do not know whether a repeat assembly held on the same question with different participants would generate the same answers. However, Citizens’ Assemblies are expensive, and the methodology is convincing, so we should not take this deliberative democratic exercise lightly.

What can we conclude from this? Not only is carbon pricing *in principle* compatible with more direct or more deliberative democratic procedures[[8]](#footnote-8), we have evidence that it is *in fact* supported by such activities. These procedures are also philosophically justifiable using the moral framework of ideal observer theory. The supermajoritarian support for carbon pricing in the Irish Citizens’ Assembly is evidence that, when regular citizens are apprised of relevant information and able to devote time to thinking through and discussing related issues, carbon pricing is a policy that many would come to support. Those of us who have spent less time understanding and debating the policy mechanisms should consider the possibility that we would also come to endorse such policies in similar circumstances.

# Fundamental Change Takes Time

Having argued that carbon pricing is neither distributively nor procedurally unjust, it is worth considering what a carbon pricing critic might say. Such a critic might argue that, even if it were granted that carbon pricing did not set back distributive and other dimensions of justice, not setting back justice is aiming too low. Instead of just considering how we can incrementally become more just and merely avoiding unjust policies (call this “justice-constrained” policy choice), we should aim for justice-maximizing policy frameworks (call this “justice-determinative” policy choice). I will respond that such criticism is reasonable in some policy domains, but it is not appropriate when discussing climate policy, due to the immediacy of this issue.

The idea is that this critic might object that what we have done so far is just check whether carbon pricing sets back the progress of certain kinds of justice. This kind of justice-constrained policy choice reflects slogans like “no justice, no peace”, or the idea that if a policy is not (sufficiently) just, it should be taken off the table. But this would be insufficiently ambitious for this critic. Perhaps she would endorse a view like Naomi Klein’s that we need nothing short of a framework that is a comprehensive “all-out war” on a variety of injustices. Perhaps she would point out that a broader tent of activists might be more politically coherent and powerful. The kind of justice-determinative policy choice she would advocate is high risk, high reward, where the only acceptable policy frameworks are those which increase the likelihood of reaching optimally overall just outcomes. This strategy reflects slogans like “system change, not climate change”, where the goal is to endorse frameworks that move societies towards outcomes which reflect a variety of forms of justice (e.g. gender justice, racial justice, economic justice).

I believe that many campaigners are motivated by this kind of maximalist vision of justice. Indeed, I would grant that it might be instrumentally valuable in a policy ecosystem to have justice-maximizing positions in discussion in order to expand the Overton window. It is certainly the case that a technocratic policy instrument like carbon pricing might seem like an unsatisfying or visionless alternative in this context (even if only as part of a policy portfolio). However, I think a more substantive response can be offered.

That response is that, while this kind of maximalist approach might be appropriate for domains or challenges for which there is time to coordinate and iterate policy frameworks, this is not the case with climate change.[[9]](#footnote-9) After all, both climate campaigners and climate experts agree that climate change requires urgent action (terms like “climate crisis” and “climate emergency” express this urgency for activists whereas scientists such as those behind the special report on 1.5 degrees tell us that climate models suggest we need to be rapidly decelerating emissions by 2030 with an aim to be at approximately net zero by 2050 to be compatible with 1.5 degrees) (Kemp, et al., 2022) (Ripple, et al., 2021) (Steel, DesRoches, & Mintz-Woo, 2022) (IPCC, 2018). We also know that climate outcomes have the potential to be disastrous—indeed, they are already causing massive harms which are disproportionately borne by the global South (the recent 2022 flooding in Bangladesh being especially catastrophic). So, climate policy is one of the few policy domains where we are at a hinge point; delayed action is, to a first approximation, inefficacious action.

This sets the stage for an objection I call “(fundamental) change takes time” (Mintz-Woo, 2021). The objection is that, in the context of climate change, trying to make fundamental changes to society requires time both (a) to agree on which changes to make and how and (b) even once that agreement is made, to iterate and refine the implementation of those changes. I conclude that, at least in the climate context, these frameworks advocating overall just outcomes would be too slow—or at least slower than various incremental policies *without* such grand overarching goals.

Consider the two points in turn. First, a more fundamental and comprehensive social change involves more decision-points; thus, it allows more space for more disagreement amongst advocates. Building consensus on a range of contested issues is intuitively slower than reaching agreement on a single narrower issue, even amongst those who are on the “same side” or have the “same opponents”. This is easy to overlook when a group is united against the status quo, whether on narrow (polluted neighborhoods) or broad (capitalism) grounds. It is much easier to unite in opposition than to unite in favor, and it is easier to converge in favor of something narrow and simple than something broad and complex. This difficulty takes time, and in the context of climate change, I would suggest that we do not have the time for complex policy frameworks which are aimed at addressing many social ills. Note that I am not claiming that carbon pricing alone addresses climate change; this issue may well require a portfolio of climate policies working in conjunction, each contributing marginally to incentivizing green action and some reinforcing others. However, the point is that the goals of reducing emissions and adapting to climate impacts are complicated enough without requiring that policies simultaneously address other social ills.[[10]](#footnote-10)

Second, even if a campaign group manages to coordinate a particular framework that addresses a variety of social ills, more time is needed to refine and iterate it. By this, I mean two things. First, they need to make the case to the public that this is a valuable framework, which might take longer if it is a more complex and ambitious framework. Second, and this is crucial, if they have public support and buy-in, they also need to implement it and more complex policies are less likely to succeed or be implementable immediately. Carbon prices would affect some sectors of the economy significantly. However, more broad plans that are also trying to address racial and gender justice or that are trying to limit capitalism are likely to require even more tinkering. There are, for instance, all kinds of ways that social changes can go wrong, all kinds of edge cases that might become salient that would not have been recognized beforehand, and all kinds of conflicts that could arise. All of these various considerations would likely take time to recognize, diagnose, and respond to.

Since a framework which tries to address a variety of social ills will (try to) change many social facts, there are more of these issues that might arise, leading to a process of adjustment and iteration. That is not straightforwardly a bad thing; we should want our policies to be sensitive to their implementation and to be adjusted on the basis of tensions that arise. However, this process is likely to slow the implementation of the framework and generate various kinds of objection and backlash.

In short, when an ambitious framework is proposed, we should expect that it is slower to develop and slower to enact than narrow (simpler) policies. While such frameworks may do more overall good (once they are developed and enacted), that is a trade-off that should be taken seriously. In the context of climate change, this is especially worrying since action to address climate change must be soon if it is to be effectual. This is why I call this the “(fundamental) change takes time” objection.

# Conclusion

One of the intuitions that leads some to take carbon pricing to be unjust is that they think carbon pricing is unfair. But I would suggest the opposite. What is unfair is letting people pollute for free. It’s unfair partially because society has to pay instead (Singer & Mintz-Woo, 2020), but it’s also unfair because the people who generate the most emissions are already disproportionately wealthy.

So, in this context, what I have argued in this perspective—that carbon pricing is not unjust—is less surprising. Both in distributive and procedural justice terms, carbon pricing can be justified. That’s not enough to say that it is always the best policy. It is enough to say that it has more strengths than are commonly recognized, that it should not be dismissed, and that it has a legitimate spot within the portfolio of climate policy responses. My hope is that the kind of carbon pricing policy operational in British Columbia could be exported to other jurisdictions, but for the purposes of this perspective my goals were simply to demonstrate that justice as a consideration should not be an impediment to spreading such policies.

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1. Aside from these issues of justice, there are some other morally important differences between these types of carbon prices—as well as differences with regulatory command-and-control instruments—which are beyond the scope of this perspective. I canvass a variety of them elsewhere (Mintz-Woo, 2022) and some other moral justifications of carbon pricing are based on rights to energy and duties not to harm (Gajevic Sayegh, 2019). [↑](#footnote-ref-1)
2. For instance, political discussions often employ the term “social justice”, but social justice includes both distributive justice—in terms of attending to and lessening socio-economic vulnerability—and procedural justice—in terms of making sure that civil society and ordinary people are able to affect the policies and decisions that they may have a stake in. In my view, the term “social justice” does not identify a new form of justice but implicitly combines a variety of justice dimensions, thus making it more difficult to focus on any of them. [↑](#footnote-ref-2)
3. However, even here, it is important to note that there may be more agreement than is apparent; for instance, contra Klein, proponents of carbon pricing do not think that it will only take carbon pricing policies to address climate change (Gravert & Shreedhar, 2022) so Klein might be objecting to a strawman opponent. [↑](#footnote-ref-3)
4. It is worth mentioning an often-misunderstood point. Some campaigners point to massive estimates in carbon subsidies (e.g. the IMF found, for 2021, an estimated global USD $5.9 trillion in fossil fuel subsidies) and ask why we need a carbon tax when “there is more than enough money lying around in the public purse” (Aronoff, 2019). The issue is that, in everyday language, a “subsidy” is when the government actively pays to reduce costs for producers or consumers. However, estimates like the IMF’s comprise both explicit and implicit subsidies. Explicit subsidies are ones which are the active payments we might expect, but implicit subsidies are simply passive *failures* to properly price. Not only is this so, but the implicit subsidies also form the vast bulk of these estimates (e.g. in the IMF case, the explicit subsidies are approximately 8% of the total and implicit are approximately 92%). “Removing” implicit subsidies just *is* carbon pricing—and it is a significant commitment to carbon pricing! In short, although not everyone understands this, it is logically inconsistent to be against removing (explicit and implicit) subsidies and to be against carbon pricing. [↑](#footnote-ref-4)
5. Although the primary purpose of this paper is to address justice considerations, it is worth pointing to some of the relevant empirical literature. On the one hand, there are concerns about how much carbon pricing has affected behavior empirically (Mildenberger, Lachapelle, Harrison, & Stadelmann-Steffen, 2022), although the data are noisy and current carbon prices are quite low. Overall, the literature suggests that the existing (overwhelmingly low) carbon prices have had significant, albeit modest, effects thus far (Best, Burke, & Jotzo, 2020) (Green, 2021). On the other hand, in favor of carbon pricing, some particular cases, such as the carbon tax in British Columbia, suggest that a well-designed carbon tax can be broad-based and reduce emissions relative to pre-tax pathways (Murray & Rivers, 2015) without loss of jobs (Yamazaki, 2017). In this case, at least, there is an impressive template for success. [↑](#footnote-ref-5)
6. While I am not aware of research that tries to determine how regressive and progressive these effects are—or what their net effect is—this would be a valuable route for future work. [↑](#footnote-ref-6)
7. In contexts where campaigners advocate for greater (general) citizen say as opposed to a narrow selected group (as with Citizens’ Assemblies), I actually think that this might not serve the goals of racial and climate justice campaigners for two reasons. First, greater citizen say in the United States has led to more veto points and local opposition to building, which slows or stops building that might be valuable, such as is the case with green infrastructure (Klein E. , 2020). Second, there is a moral argument, which is that if there is greater say amongst residents about what gets built, the opportunity to object will be disproportionately be taken up by those with political and economic power, namely, the elite (and elderly) who have the time and resources to make their voices heard (Feldman and Turner (2010) consider this concern but ultimately dismiss it; I think their dismissal is too quick). In other words, more general ability to voice objections in many cases could be expected to disproportionately increase power for those who already have it since those who self-select into making their voices heard are unlikely to be representative. Note that this does not apply to Citizens’ Assemblies because the distribution of members is made to be (roughly) representative of the population along the lines of socioeconomic characteristics. [↑](#footnote-ref-7)
8. Or indeed, *less* direct or *less* deliberative democratic procedures. [↑](#footnote-ref-8)
9. I say “might be appropriate” because I am agnostic about whether this is true in general; what I do believe is that, in the current case, the downsides of a maximalist approach are decisive. [↑](#footnote-ref-9)
10. I differ here from Boyce et al. (2023)in that I see some political costs to carving out particular benefits for racially or socioeconomically vulnerable groups. In particular, those kinds of carve-outs might be objectionable to other groups and considered to reflect favoritism or special pleading. I would prefer the benefits to accrue to these vulnerable groups without explicit dispensation, and I believe that neutral policies would actually be disproportionately beneficial to vulnerable groups in effect, even if not in explicit intent. [↑](#footnote-ref-10)