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CLIMATE JUSTICE PRINCIPLES

SUMMARY

The effects of anthropogenic climate change are unfolding globally, affecting us all. This can be exemplified by the deadly floods that ravaged Pakistan in 2022, causing a major climate catastrophe. In light of the international nature of the crisis, an inclusive account of climate justice that does right by emerging economies is imperative. In the face of the worsening impacts of climate change, the EU introduced the European Green Deal, which sets forward the goal of reaching climate neutrality by 2050. It seeks to enact a just transition by setting the optimal socio-economic conditions whereby people are equipped to adjust to the impacts of the shift towards a climate-neutral economy. After reviewing principles of climate justice which can help

allocate the costs and benefits of climate policy, the policy brief suggests a luck-prioritarian account of climate justice as the most normatively plausible way to ensure social inclusivity and furtherance of the general well-being of the least well-off, while factoring in the responsibility of individuals.

Such an account of climate justice provides a plausible avenue for responding to the "triple injustice" outlined in the United for Climate Justice declaration authored by FEPS and partners under the chairpersonship of Teresa Ribera, Minister for the Ecological Transition in Spain. Indeed, it provides an international framework of justice, as well as an intra-national framework for individual-level and intergenerational climate justice. This policy brief provides policymakers with tools for a more systematic application of principles of climate justice. The normative principles outlined above provide a starting point for mainstreaming climate justice in other policy fields, such as health, gender and digital, where a move away from siloed policymaking is proving urgent.



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Introduction

Deadly floods are ravaging Pakistan, and the scientific consensus is that they are largely imputable to anthropogenic climate-change. However, Pakistan's cumulative emissions are relatively low compared to those of the EU, meaning Pakistanis are suffering from an issue mostly caused by others. This example of climate injustice is one amongst many. It is slowly dawning on policymakers that climate catastrophe is not just a problem for the future, but is already unfolding here and now.

In the face of the worsening impacts of climate change, the EU introduced the European Green Deal, which sets forward the ambitious goal of reaching climate neutrality by 2050, and has the stated aim of enacting a Just Transition, whereby people are equipped "to address the social, and economic [...] impacts of the transition towards a climate-neutral economy".3 This requires social inclusivity and furtherance of the general well-being of the least well-off. However, in the face of the current energy and cost of living crises the European Green Deal's package of key legislative files, named Fit for 55, is facing increased scrutiny regarding their ability to implement measures that respect imperatives of redistributive justice and that shelter the disadvantaged.4

Even before the current crisis, the yellow vests movement that was sparked in France by a failure to acknowledge the interlinkages between climate and social policy demonstrates the rising challenges faced by decision-makers across the EU. The progressive consensus is that there is no climate action without social justice or social justice without climate action. To this, we can add that there is not much use to climate action without emerging economies on board, and having emerging economies on board entails careful regard for climate justice.⁵

The economist Thomas Piketty recently went as far as to say "it is impossible to fight against climate change without a radical redistribution of wealth, within countries, as well as internationally".6

This policy brief addresses these issues by drawing on the political philosophy of climate justice. While empirical approaches undoubtedly have a key role to play in understanding and addressing climate change, political philosophy offers unique insights into the justice and injustice of alternative policy interventions. We first provide an overview of some key concepts concerning climate justice and distinguish the question of who should bear the costs of climate change (the who question) from the question of how much climate change mitigation is required (the how much question). Six major principles for distributing the burdens of climate change are then set out, with some of the grounds for these principles indicated along with some of their limitations. We move on to consider approaches that can answer both the who and how much questions. Some problems with the influential cost-benefit approach are highlighted, while two fundamental principles, luck egalitarianism and prioritarianism, are defended. Finally, some implications for climate policy are presented.

Concepts and questions

Policy responses to climate change come under three broad headings. *Mitigation* describes measures taken to reduce the amount of atmospheric greenhouse gases that drive climate change. The principal form of mitigation is reduction in the amount of greenhouse gas emissions; carbon sinks and carbon removal are alternative forms of mitigation. *Adaptation* describes changes to societies that are designed to reduce the impact of climate change

upon them. This includes flood defences, cooler buildings, increased food and water security, as well as wider social changes such as migration and poverty reduction. *Compensation* refers to attempts to make amends for the loss and damage inflicted by climate change. This nascent and relatively controversial response is principally envisaged as a transfer of resources from the Global North, which is seen as largely responsible for climate change, to the Global South, which is its main victim.

Both the philosophical literature and practitioners have understandably focused on climate justice principles for nations, as they have the greatest power to reduce emissions – for instance through the United Nations Framework Convention on Climate Change (UNFCCC) process. While we will largely follow this convention in presenting the principles, it should be recognised that a fully just distribution of climate burdens would require not just that each nation bears a fair share, but that each *individual* does.

Underlying the nation/individual distinction is the distinction between *practical principles*, which are proposed to guide policymakers, and *fundamental principles*, which provide the theoretical basis for the practical principles. Principles of climate justice are generally intended as practical principles and are frequently invoked during UNFCCC conferences and other negotiations. Practical principles will therefore be a major focus. But the validity of these principles depends on their alignment with fundamental principles, which are more general and do not refer specifically to climate-related goods such as emission entitlements.

The first question of climate justice is 'who should bear the costs of climate change'? For short we will call this the who question. Most principles of climate justice are concerned with this question, allocating the mitigation, adap-

tation and compensation burdens of climate change. Though a particular focus of these principles has been the allocation of emission rights, there are in most cases no reasons why they could not be applied to other forms of mitigation, or to adaptation or compensation.

A second question of climate justice is 'how much mitigation is required'? We will call this the how much question. Though it is undoubtedly an important question, it is often taken as settled by political philosophers writing on climate change, as they simply agree with the scientific consensus on the need for radically reduced emissions. One issue that complicates the how much question is that, contra the assumption of traditional integrated assessment models, climate-related damages cannot be expressed with a linear damage function, but are non-linear and characterised by tipping points and complex feedback loops with economic and political activity. The scope for disagreement about just how much reduction in emissions is required makes normative principles useful in offering guidance. One argument would be that radical uncertainty should result in a precautionary approach which skews the how much question towards greater levels of mitigation.7

The how much question is typically treated as quite distinct from the who question, to be answered by different principles.8 Nevertheless, as we will later show, some approaches to climate justice address both questions simultaneously.

Principles for distributing the burdens of climate change

We now consider the who question in detail, considering six leading principles for distributing the costs of climate change. The first three are historical, taking account of prior events, while the final three are ahistorical.

Polluter pays

The polluter pays principle, also known as 'contribution to the problem' or 'historical accountability', says that those with high historical emissions should bear a larger share of the costs of climate change. Shue suggests two grounds for the principle. It can be seen as economically efficient, as it "internalizes externalities" — ie, makes agents pay the costs implied by their pollution, and thereby incentivises them to reduce their emissions. And it can be seen as equitable, as it is unfair for agents to unilaterally impose costs on others.

A possible limitation of the polluter pays principle is that the dangers of greenhouse gas emissions were not widely understood until some point in the late 20th century. While the costs of recent emissions might fairly be allocated to the emitter, it may seem unfair to allocate the costs of earlier emissions to them. 10 One response is to claim that "it is an established principle of the legal system of almost every country that ignorance does not exempt one from liability for damage caused".11 Yet this established principle requires that a law is broken for liability to follow, which is dubious for earlier emissions, at least. Making countries liable for costs they were reasonably unaware of could be seen as unfairly subordinating their interests. 12 A further limitation with similar implications is that it may seem unfair to make current generations accountable for previous generations' emissions just because they happen to live in the same country.

As these are only limitations to the polluter pays principle, they could simply be accepted, and historical accountability applied only to post-1990 emissions, say. ¹³ But this radically transforms the effect of the principle. The idea of countries paying the costs of climate change in proportion to their contribution is an intuitively appealing

one not least because it seems to suggest that richer countries would pay the lion's share. Yet if pre-1990 emissions are excused, the burden shifts towards low- and middle-income countries. For instance, total cumulative CO2 emissions are 416.72bn for the US and 235.56bn for China, but cumulative CO2 emissions between 1990 and 2020 are 167.52bn for the US and 203.20bn for China.14 This indicates that, while the US would pay a much larger share of costs under an unlimited polluter pays principle, China would pay more under a post-1990 polluter pays principle. This effect will, furthermore, intensify as developed countries continue to cut their emissions while low- and middle-income countries increase theirs. It may seem unreasonable to require developing countries to pay a high and ever-increasing share of the costs of climate change.

Beneficiary pays

In light of these limitations, some have proposed extending the polluter pays principle to encompass the *benefits* of polluting activity.¹⁵ Yet the rationale for such a position seems quite different to that of polluter pays, as it neither internalises externalities nor makes agents pay for their unfair cost imposition. It is, then, helpful to consider it is an independent 'beneficiary pays' principle. It says that states should bear the costs of climate change in proportion to the benefits they have derived from greenhouse gas-emitting activity.¹⁶

The intuitive idea is that it is unfair to profit from harm to others. Crucially, it does not matter whether the harm was inflicted wrongfully, or even whether it resulted from any deliberate act. For instance, corrective justice requires that one returns a mistaken bank transfer though one is not in any way responsible for it.¹⁷ Hence beneficiary pays does not suffer the limitations of pol-

luter pays. It can cover pollution prior to 1990 including that of previous generations, as it is not claimed that current people are liable for this pollution. It is only claimed that they should not benefit from it, and it seems quite clear that current people in developed societies have benefited from prior emissions.

A key limitation of the beneficiary pays principle is the 'disaggregation problem'. ¹⁸ It appears impossible to distinguish the benefits that are derived from climate change-inducing activity from those that are not. A simple operationalisation of the principle is to treat all current wealth as derived from climate harms, and therefore available for mitigation, adaptation and compensation. ¹⁹ In that case, its practical effect may be hard to distinguish from that of the ability to pay principle (see below).

Grandfathering

A third historical principle of climate justice maintains that those with high historical emissions thereby gain entitlements to high future emissions. The general idea of this 'grandfathering' is to allow agents to continue practices that they would not now be allowed to initiate. Grandfathering is widespread, for instance exempting older vehicles, roads and buildings from standards that apply to new ones.

Grandfathering is almost the opposite of polluter pays – it says emitting increases rather than decreases entitlements! While the polluter pays principle has been widely accepted among environmental political philosophers, they have dismissed grandfathering as obviously unjust.²⁰ Yet it can be argued that there is a place for grandfathering within a just emissions regime. It seems almost unimaginable, for instance, that countries with relatively high annual per capita CO2 emissions such as Czechia (9 tonnes) or

Germany (7.9 tonnes) could immediately cut their emissions to the global average of 4.5 tonnes, as this would bring about power outages, loss of industry and employment, and significant human suffering. By contrast, there seems no trouble in expecting Hungary (4.7 tonnes) or France (4.5 tonnes) to emit at this level as they are virtually there already and it will cost them nothing - indeed, despite their relatively decarbonised economies, they can be expected to make further cuts.21 The basic idea of grandfathering, that those with high historical emissions have a greater right to emit, does seem to have some validity. It is of little surprise, then, that actual emission control frameworks, from the Kyoto Protocol to the EU Emissions Trading System, have included significant grandfathering elements.

Grandfathering can be understood theoretically as claiming that high emitters benefit more from each unit of emissions, from a given baseline, than do low emitters.22 For instance, if we were to treat the baseline as 4.5 tonnes per capita, Czechia or Germany would clearly benefit much more from an extra tonne of emissions than Hungary or France would, as it would be essential to the Czech and German economies, while Hungary or France would barely use it. While this theoretical basis seems sound, it is, like other principles, subject to limitations. First, while prior emissions increase future entitlements, future entitlements cannot be as high as prior emissions, as this would be inconsistent with the need to reduce global emissions. According to the most plausible version of the view, 'moderate grandfathering', high emitters can emit more than low emitters, but not as much as they previously emitted.23 Second, as emissions decrease over time, so too do the emission entitlements derived from them. As countries approach net zero emissions, their grandfathering entitlement diminishes to zero. It is therefore in practice a transitional principle, though if low- and middle-income countries are to be included, this transition will take many decades.

Guaranteed minimum

The first ahistorical principle to be considered here is the guaranteed minimum principle. It requires that everyone is guaranteed enough for a decent life, at least where some have far more than enough.²⁴ This draws a distinction between subsistence emissions, to which everyone is entitled, and luxury emissions, which can be given up if required. ²⁵ The guaranteed minimum principle can be seen as endorsing a form of 'sufficientarianism', a fundamental principle requiring that all individuals receive a sufficient amount of goods.²⁶

The guaranteed minimum principle is widely endorsed among political philosophers.²⁷ It is, however, decidedly limited in its ambition, requiring only that everyone is provided with enough goods (including, prior to full decarbonisation, emission entitlements) for a decent life. While this might be a necessary condition for justice, it is not sufficient for it. We might well ask why people are only entitled to enough for a decent life, especially if this might mean that they have a less-than-equal share of goods.

Emissions egalitarianism

A more ambitious principle proposes that everyone worldwide has an identical entitlement to make use of the atmosphere's absorptive capacity. It accordingly says that emission entitlements should be distributed equally on an individual basis. Interpreted as a way of distributing emissions between countries, it proposes equal per capita emission entitlements. As Jamieson puts it, "[i]t is hard to see why being American or Australian gives someone a right to more emissions, or why being Brazilian or Chinese gives someone less of a right".²⁸

An initial problem with this view is that it seems to encourage 'pro-natalism', as an increase in population would increase a country's just share of emissions. A simple solution is to index entitlements to a baseline year such as 1990.29 But this could be seen as being at odds with the intuitive core of the view, as it is then the case that being American gives a greater entitlement than being Brazilian after all, as Brazil's higher population growth rate since 1990 results in a lower current per capita emission share.30 More generally, several writers have cast doubt on the idea that emissions egalitarianism serves any fundamental principle of justice, noting for instance that it cannot be derived from either sufficientarianism or 'standard' egalitarian views, which require equality of goods as a whole rather than equality of some particular good (like emission entitlements).31

Ability to pay

The final well-known principle distributes the burdens of climate change in proportion to the agent's ability to pay.32 According to this view, a rich country like the United States would bear a larger share of the costs of climate change than a middle-income country like China, which would in turn bear a larger share of costs than a low-income country like Madagascar. This principle can be seen as similar to the guaranteed minimum principle in that it is concerned with absolute (non-comparative) levels of advantage, but it differs from that principle in that it does not guarantee any particular level of advantage. Rather than specifying a threshold and giving strong priority to those below it, it generally gives the worse off priority over the better off, even if both parties are well off or badly off. It is not theoretically aligned with sufficientarianism but can instead be seen as an applied form of the fundamental principle of 'prioritarianism', which says that benefits matter more, the worse off the recipient.³³

One objection to the ability to pay principle is that, by allocating costs to the wealthy, it will have the effect of disincentivising productivity. In reply, Shue notes that providing incentives is a different issue from fairness. While this is true, an extended version of the objection presents incentives as themselves an issue of fairness. If a country pays less the worse off it is, and the measure of its advantage is relative to its population size (eg, GDP per capita), it will pay less if it increases its population. Thus, ability to pay appears to incentivise pro-natalism, as with one version of emissions egalitarianism. Such an effect is surely unfair to the victims of climate change.

Cost-benefit analysis and its shortcomings

Discussions of answers to the who question generally try to eschew commitments to more fundamental principles as well as commitments to views on the how much question. Yet we have seen that there is difficulty in keeping these concerns to one side. Fundamental principles such as sufficientarianism, prioritarianism and 'standard' egalitarianism inevitably bleed into a discussion of practical climate justice principles. It is likewise difficult to come to a considered judgment on practical principles without considering their possible connections with the level of mitigation, as was evidenced by the incentives to increase populations given by some otherwise appealing principles. In this section, we start to combine the usual focus on distributing climate change costs with an explicit treatment of fundamental principles and the selection of an appropriate level of mitigation. We do so by considering the influential cost-benefit model. This model's failings will point us towards a more promising answer to the who and how much questions.

A cost-benefit model is designed to allow comparisons of the various paths of investment and consumption that are available to economies from the perspective of the favoured 'social welfare function, this being a set of preferences over outcomes. The comparison is enabled by the conversion of all economic activity into a common unit, usually expressed in dollars or other monetary terms. However, although the comparison is expressed monetarily, goods are not only included where they have a market value. Climate change economists standardly include environmental goods which do not presently have a market value and use their conclusions to propose ways of correcting for existing inefficiencies in the extended market that encompasses the major sources of value for people. In particular, they aim to combat harmful environmental externalities that some individuals can impose on others. Often the favoured measures are 'soft', in that they affect the economic incentive structure through, for example, carbon taxes, although these may be complemented with harder caps on CO2 emissions.

The cost-benefit model has significant attractions, not least that, while it is typically used to address the how much question, it also implies an answer to the who question – for if we are to mitigate at the level recommended by the social welfare function, it seems that we should also distribute the costs of climate change as recommended by that function. The model can also be seen as being underpinned by the fundamental theory of utilitarianism, as it treats welfare as the appropriate focus of distribution (welfarism), and aims to maximise it (maximisation). There are, however, three weaknesses

of note in the cost-benefit approach, as exemplified in the influential DICE model of Nobel laureate William Nordhaus.³⁵ These will inform our account of climate justice.

First, although the common unit is strictly speaking only expressed in dollars, and could equally well be 'corn', as Nordhaus suggests,36 in practice, real-world market value has a disproportionate influence on the composition of economic welfare. Nordhaus's definition of economic welfare is as consumption (Q(t)), and consumption is defined as the net output of goods and services, net of climate change abatement and damages, in trillions of US dollars.37 Where items have a market value, that is taken as its appropriate economic welfare value, and departures from market value only occur for items that presently have no market value (or a poorly defined one). But true human welfare has only a very weak connection to market value even in the case of items that are widely traded. For instance, a widget that is only in demand among Bangladeshis will command a much lower market value than a slightly different widget that is only in demand among Americans. But both will have a similar or identical (derivative) value in terms of human welfare if we specify that the two sorts of widgets do the same equally beneficial thing whether the beneficiary is Bangladeshi or American. This is the first reason why cost-benefit analysis does not after all serve the fundamental theory of utilitarianism, which would treat the welfare of Bangladeshis and Americans as of equal value.

Second, climate change economists such as Nordhaus unacceptably discount the value of gains and losses for future generations. Time discounting of an *instrumental* sort is at least sometimes justifiable. If we can better achieve our goal (maximisation of utility, for instance) by investing resources now rather than holding them back for the future, it is clear that one unit

of resources now is worth more than one unit in the future. But discounting at the fundamental level, typically by assuming pure time preference, and so treating one unit of utility now as intrinsically more valuable than one unit in the future, is morally implausible.³⁸ This is the second respect in which cost-benefit analysis diverges from the fundamental utilitarian principle.

Few have openly advocated the position that it is morally fitting for people who happen to arrive earlier on the scene (for example, current generations) to have greater weight in our considerations than those who arrive later. Yet this is implied by the positive pure time preference of most leading climate change economists. Indeed, the UK government's Stern Review39 was criticised for its "nonconventional assumptions that go so strongly against mainstream economics", and especially its "extreme stance" of a near-zero discount rate. 40 The selection of discount rate is highly impactful and largely accounts for Nordhaus's suggestion that limiting global warming to 3.5°C would be optimal, rather than the Paris Agreement's limit of 2°C with 1.5°C to be actively sought. More recent economic work has suggested that the discount rate in DICE should be lowered, with the result that a 2°C limit is likely to be optimal.41 But such work still assumes a positive discount rate, implying that the interests of future people count for less, which is morally indefensible. With the correct zero discount rate, the limit would be lowered further. A further qualification emerges when considering that an optimisation framework might be a questionable method when dealing with fundamental uncertainties and non-linear phenomena.

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Climate change economists usually treat it as given that, once they have discounted economic welfare appropriately, the goal is simply to maximise it. But while utilitarianism is right that the amount of welfare matters, it does not recognise that the distribution of welfare also matters. We might, for example, be able to bring about two outcomes containing identical amounts of welfare, but in one case some people are suffering from poverty while in the other the worst off have a satisfactory level of welfare. Or in one of the outcomes it may be that those who have made less praiseworthy choices (for instance, those with avoidably large carbon footprints) are faring much better than those who have made more praiseworthy choices (those with small carbon footprints, say). Surely we should not be indifferent between poverty and an absence of poverty, or between (environmental) saints suffering and sinners suffering. But this is what utilitarians and the economists who follow their welfare-maximising implicitly assume.

Luck prioritarianism

We have found three drawbacks to cost-benefit analysis, concerning the measurement of well-being, the discount rate, and the lack of sensitivity to distribution (between the better and worse off, and between those who have

made better and worse choices). Little more needs to be said here about the first two, as it is straightforward to replace a positive pure time preference with a zero pure time preference, and others have further developed the measurement of well-being. We will rather focus on two fundamental principles that can provide the sensitivity to distribution that is lacking in utilitarian cost-benefit analysis. We will also explain how these fundamental principles can be seen as underpinning the practical climate justice principles we surveyed earlier.

We have already briefly introduced prioritarianism, the first of the two fundamental principles to be considered here. Prioritarianism says that all utility counts, as utilitarianism does, but prioritarianism adds that utility counts for more, the worse off the recipient. That is, rather than maximising the sum of welfare, it maximises the sum of transformed welfare, where the welfare of the worse off counts for more.

Operationalisation of prioritarianism requires the selection of a weighting function to determine the degree of priority for the worse off. The Atkinson social welfare function family has certain theoretical advantages.⁴³ A simple function in this family that can be used for illustrative purposes says that the value of a distribution is the sum of the square roots of individual utilities that it contains, $\sqrt{(u_1)} + ... + \sqrt{(u_n)}$.

Prioritarianism inherits the advantage of utilitarianism and cost-benefit analysis of being able to answer the how much question and the who question. The appropriate degree of mitigation is that which provides the most value – ie, the highest sum of transformed utilities. And the appropriate allocation of the costs arising from climate change is, likewise, that which provides the most value (the highest sum of transformed utility).⁴⁴

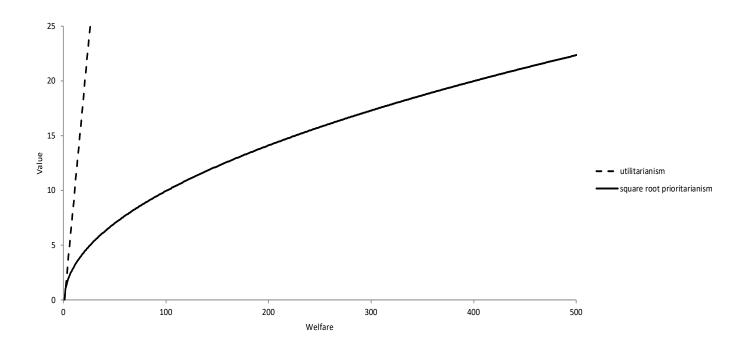


Figure 1. Utilitarianism and prioritarianism

As it uses transformed welfare, giving more weight to the welfare of the worse off, prioritarianism takes into account one important aspect of distribution that utilitarianism and cost-benefit analysis do not. But it does not cover the other aspect of distribution that we mentioned, which concerns the differences in choices that people make. Intuitively it may seem that those individuals that make more praiseworthy choices, for example by leading lower-emitting lifestyles, are due more on that account. This is accounted for in contemporary political philosophy by 'luck egalitarianism'.45 Its basic idea is that inequality is permissible only where it corresponds to differential exercises of individual responsibility rather than being the result of individual luck. This is our second fundamental principle of climate justice.46

Luck egalitarianism can be introduced into a prioritarian social welfare function as a fur-

ther transformation of welfare. For instance, a square root social welfare function can be converted to the responsibility sensitive $w(r_1)\sqrt{(u_1)} + ... + w(r_n)\sqrt{(u_n)}$, where $w(r_i)$ is a weighting that increases with the individual's responsibility, r_i .⁴⁷ This view says that distribution gets better, the more welfare it contains, the more welfare there is for the worse off, and the more welfare goes to those who have made good choices. As it combines luck egalitarianism and prioritarianism it can be referred to as 'luck prioritarianism'.⁴⁸

It will now be helpful to briefly revisit the six principles covered earlier, showing how the concerns underpinning them are captured by luck prioritarianism.

An obvious connection is with ability to pay, which is essentially a version of prioritarianism that is problematically restricted in two re-

spects: first, it is unconcerned with the overall amount of benefit, so may have harmful incentive effects; second, it applies to the who question only rather than to both questions. Prioritarianism removes these restrictions and therefore seems a clear improvement.

Another clear connection concerns emissions egalitarianism and luck egalitarianism. Luck egalitarianism can appeal to the equal claim that each individual has on the atmosphere as emissions egalitarianism can, but modifies this claim in three compelling respects: first, different individuals have different emission needs (eg, due to local climate or public transport provision), for which they often cannot be held responsible, warranting adjustment to entitlements; second, different individuals make different choices (eg, to emit more or less), warranting further adjustment to entitlements; and third, emissions should not be distributed in isolation from other goods of concern to egalitarians.

The guaranteed minimum can be seen as serving both luck egalitarian and prioritarian goals, as a guarantee to the essentials for a decent life provides a practical way of supporting the welfare levels of the worse off, and of ensuring that no one is very much worse off as a matter of luck. The limited ambition of the guaranteed minimum that we noted is corrected by luck egalitarianism and prioritarianism, which handle distribution above the threshold.

The polluter pays principle came in two forms: a full historical responsibility principle that would burden current generations with the costs of polluting choices that were not known to be polluting, or even that were undertaken by deceased generations; and a more curtailed responsibility principle that would hold current generations responsible only for their own choices. The former principle seems indefensible, while the latter broadly corresponds to luck egalitarianism,

though as luck egalitarianism's focus is not restricted to pollution it would not recommend that costs be allocated to polluters who are badly off through no fault or choice of their own.

The beneficiary pays principle can be seen at the theoretical level as corresponding to part of luck egalitarianism because individuals that benefit from climate change-inducing activity have benefited from good luck, the advantages of which are up for redistribution under a luck egalitarian scheme.⁴⁹ At a more practical level, the beneficiary pays principle collapses into ability to pay, as essentially all benefits are derived from climate change. As ability to pay is, in turn, a form of prioritarianism the connection between the beneficiary pays principle and prioritarianism is clear.

Finally, grandfathering can be seen as serving both prioritarian and luck egalitarian goals as protecting people against sudden negative economic changes prevents the creation of both absolute disadvantage and unchosen disadvantage. How is it that both grandfathering and the polluter pays principle can serve luck egalitarianism, where they seem to be opposites, one rewarding prior emissions with future entitlements, the other penalising prior emissions with decreased entitlements? On closer inspection, they are quite compatible as they refer to different prior emissions. Grandfathering increases entitlements in a high emitting country, as it is likely that individual welfare in a high emitting country is more reliant on emissions than is individual welfare in a lower emitting country. Crucially, individuals in a high emitting country are typically not responsible for the high emissions (eg, an average individual is not responsible for the fact their country uses a large amount of fossils fuels), which is rather imputable to past collective decision-making and current decisions taken by those in power. By contrast, an individual is responsible for their particular

choices about emissions, and it is these prior emissions that decrease future entitlements in line with the polluter pays principle. Luck egalitarianism captures both considerations.

In short, then, we maintain that the fundamental principles of prioritarianism and luck egalitarianism, which can be combined as luck prioritarianism, provide a plausible account of climate justice.



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Policy Applications

This section addresses applications of the presented principles to climate policy before turning to their broader use and transversal relevance. An issue that emerges from the start is that key practical principles of climate justice used in policymaking often fail to align with fundamental principles. This prevents decision-makers from arriving at coherent strategies for distributing the costs and benefits of climate change.

The polluter pays principle is perhaps the most used in international diplomacy, although its systematic implementation would not necessarily produce fair outcomes. It is often brandished as an excuse to stall a transition towards cleaner energy sources, with disregard for the

fundamental principles that need to be operationalised to ensure individuals are responsible for their choices, and the worst-off are sheltered from harm. COP27, the first COP located in Africa, became a forum to lambast wealthy nations for failing to deliver on the \$100bn per year of climate finance promised to developing nations in 2009. And while such criticism is legitimate, justifying it by the use of an impractical and unfair polluter pays principle would be misguided.

The pledge of climate funds is important, not because current generations should bear the sins of their ancestors, but because it is a necessary redistributive tool, which has the potential to help adaptation occur where it is most needed and urgent. As pointed out above, the polluter pays principle can be of practical use in specific circumstances and levels. While we have shown it has limits regarding longer time scales, through the geographic and cultural fluctuations of historical entities, it does seem to have a purpose in assigning responsibility when it comes to context-specific, local, and short timescales, therefore aligning with a luck egalitarian view. Levels of analysis are key. Some principles that prove less normatively convincing on an international level can hold relevance on an intra-state level.

Applying the polluter pays principle domestically as a legal or policy instrument to curb emissions of high-polluting companies in the private sector could go a long way in ensuring a green transition. Here again, the caveat is the availability of an appropriate policy and economic environment where divesting from polluting practices is possible and where thresholds of bearable costs for different segments of society have been ascertained. Part of fostering a conducive environment to transition could be a European Job guarantee programme focused on green jobs and the necessary training tools for upskilling and reskilling the workforce.⁵¹



The polluter pays principle is perhaps the most used in international diplomacy, although its systematic implementation would not necessarily produce fair outcomes.



Here an example can perhaps elucidate the need for such a principle. In the third guarter of 2022, both Shell and TotalEnergies realised more than twice the profits they made in the same quarter of 2021, largely due to the energy crisis and the war in Ukraine.52 According to ClientEarth, Shell's products and activities were responsible for around 1.6% of the global carbon budget in 2020.53 In such a case it is clear that a polluter pays principle could help justify stricter regulations for heavily polluting firms, at the very least on a context-specific level, where responsibility is more easily ascribed. Where there is an opportunity and a capacity for change, it can very well be argued that a polluter pays principle, or a beneficiary pays principle, should apply. Such a context-specific and short timescale application of the polluter pays principle side-steps the issue of assigning historical responsibility described previously. It also provides an additional incentive for a fast transition by aligning with the fundamental approach of luck prioritarianism. Policy tools that impose a cost on emitting like a tax or cap and trade are potential economic embodiments of the polluter pays principle, with more drastic measures including further enforcement of a cap through fines, prohibitions, and careful monitoring.54

Another example can illustrate the problem of delinking practical climate justice principles from the fundamental account of luck prioritarianism. The inclusion of grandfathering as a guiding principle in phases 1 and 2 of the EU ETS has contributed to driving emissions down by about 35% of covered installations between 2005 and 2019 without leading to market collapse. However, criticism is mounting regarding the windfall profits and subsidies received by the fossil fuel industry as part of the EU ETS, and rightly so.55 This problem continued once the principle of grandfathering was replaced with an auctioning mechanism in phase 3 and called for the introduction of the Market Stability Reserve (MSR), which began operating in January 2019 to provide stability for the EU ETS by addressing the surplus of allowances and resilience to major shocks by adjusting the supply of allowances to be auctioned.56

During his intervention on the 20th of September at the United Nations General Assembly António Guterres called all developed economies to tax the windfall profits of the fossil fuel industries. His suggestion to redirect funds to compensate for loss and damage suffered in other countries and to people struggling in the face of high energy and food prices fits with the luck prioritarian view of redistributive justice. In this case, failing to uphold luck prioritarianism in the application of auctioning and moderate grandfathering mechanisms causes climate injustice.

While the guaranteed minimum approach is insufficient to fulfil a broader sense of justice, it appears that it can be used at the very least as a minimal baseline for just transition policies. In the face of the current cost of living crisis and energy price crunch, governments and the EU opting for policies that ensure a decent level of well-being for everyone is the only plausible approach to avoid civil unrest in societies increas-

ingly polarised by socio-economic inequality.57

Regarding policy application, it must be borne in mind that "enough emissions for a decent life" is context-dependent. Even if we abstract sociocultural variables, in a country with a heavily polluting energy mix, an individual will need far more emission entitlements to fulfil a fixed well-being baseline. It is imperative to bear such a caveat in mind when legislating on the pan-European cost of living crisis. A guaranteed minimum approach could still be a useful transitional principle until the link between emission entitlements and well-being decouple through decarbonisation more broadly. It remains to be seen whether the redistributive capacities of the EU and member states, notably with the Social Climate Fund, will be sufficient to maintain an already fragile social cohesion, although falling short of justice.

For the same reason, emission egalitarianism as a stand-alone guide for policy action would be unjust in practice as it fails to take into account context-dependent variables that link individual shares of emissions to well-being. Nonetheless, it plays a determining discursive role in making a case for revaluating the need for climate justice on a truly global scale.

For an ability to pay principle of climate justice to be operationalised in policy practice, we need to look further, towards the fundamental approach of luck prioritarianism. Ability to pay should not continue to be reduced to aggregate output given the imperfect link between monetary gain and well-being. Rather, to be able to apply the ability to pay principle in a way that respects luck prioritarianism there needs to be a shift away from GDP measures in mainstream economics, and towards deeper indicators of well-being. The availability of detailed data would be key to the allocation of costs and benefits and serve in avoiding distributional injus-

tices.⁵⁸ In so doing, the ability to pay principle can be applied in a sense that demands equal relative sacrifices in well-being from individuals. If such indicators were to be elaborated satisfactorily, the policy application of the ability to pay would be asking the well-off to pay more, the less well-off to pay less, and the worst-off to pay nothing or even benefit from redistribution. The finer-grained lens of a luck prioritarian approach makes it possible to avoid unequal treatment, bear individual responsibility in mind, and shelter those hard done by. A luck prioritarian account of climate justice implies different timelines for net zero. With the 2050 goal set by the European Commission, this would entail exponentially increasing reductions for high emitters which could be made possible through redistributive policies.

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The application of practical principles will produce different outcomes at different levels of governance and can only be considered adequate when their application aligns with fundamental climate justice principles.

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A prioritarian social welfare function could serve policymakers in weighing one possible outcome against another while aligning with the account of climate justice outlined above. The discount rate used in a social welfare function indicates the present value placed on costs and benefits that might occur at a later date.⁵⁹ Discounting is justified by growth – ie, future generations

having more absolute goods available. However, given climate change and other planetary crises, this justification might become empirically more and more questionable. Respecting intergenerational justice demands an extremely low discount rate if not one equal to zero. The high discount rate used by mainstream economists is premised on a belief in infinite economic growth and technological progress that signifies that, with advances in technology, action later will be less costly than action now.60 The gamma value in a prioritarian social welfare function determines the level of priority of the worst off. A case can therefore be made for a high Atkinson gamma value (>5) which gives high priority to the worst off and therefore favours reduction in inequality.61 This can be instrumentally justified by positing that a reduction in inequality diminishes one of the main risks faced by climate policy in democracies, which is popular dissent and backlash. From a discursive point of view, giving high priority to the least well-off would be consistent with the injunction of "leaving no one behind" asserted by the European Commission and would ensure rhetoric becomes reality.62

In brief, we have shown the need to avoid applying practical principles of climate justice individually or ad-hoc in policymaking. Policymakers need to rethink their application of such principles in view of fundamental climate justice principles. The application of practical principles will produce different outcomes at different levels of governance and can only be considered adequate when their application aligns with fundamental climate justice principles.

The push towards climate mainstreaming across policy areas can be significantly helped through the use of a coherent and fair account of climate justice. A luck-prioritarian approach applied to sustainable digital policy, for instance, would tend towards favouring digital policies that reduce inequalities. Such an approach

would appreciate the disruptive change of digital transitions and factor in the new distributional needs arising from such change in order to build more resilient societies.⁶⁴ By considering the most vulnerable in society, models based on the normative principles of luck prioritarianism could also prove sensitive to structural gender dynamics, and health, that is, if data is further developed in order for policymaking to take well-being rather than income into account.65 Data, and data-sharing regulations, would be especially important for differentiating personal responsibility from exogenous factors in a way that safeguards privacy and avoids putting the onus on the individual alone. Contextual variables like access to public transport, and other geographic specificities to lifestyle choices, would need to be factored in.

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The push towards climate mainstreaming across policy areas can be significantly helped through the use of a coherent and fair account of climate justice.



Taking account of socio-economic scenarios issuing from different climate policies proves to be the most cogent strategy for decision making given their impact is contingent on such socio-economic variables. 66 The normative principles outlined above provide an initial starting point for evaluating different socio-economic scenarios both ex-ante and ex-post, but are also general enough to be relevant in the mainstreaming of climate priorities in other policy fields, such as health, gender, and digital, where

a move away from siloed policymaking is becoming pressing.

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Conclusion and way forward

In conclusion, this policy brief provides policymakers with tools for a more systematic application of the principles of climate justice. While this paper does not cover the costs of climate damages in detail it outlines useful normative principles for the allocation of the costs (and benefits) of mitigation, adaptation and compensation. A luck prioritarian account of climate justice is both normatively plausible and applicable to climate policy. Its policy application would benefit from mainstreaming well-being indicators in order to apply social welfare functions in the most apposite way. However, by drawing on fundamental moral principles, such an account of climate justice is not only applicable to climate policy but can be more widely understood as a tool for socio-economic policymaking - which due to the climate crisis has become thoroughly intertwined with climate policy. With a move to overcome silos in policymaking, there is an increasing need for holistic and widely applicable moral principles. A luck prioritarian approach assigns individual responsibility where it is due while prioritising the least well-off and could be the necessary missing link to go beyond reductive cost-benefit analyses. Such an account of climate justice provides a plausible avenue for responding to the "triple injustice" outlined in the United for Climate Justice declaration authored by FEPS and partners under the chairpersonship of Teresa Ribera, Minister for the Ecological Transition in Spain. Indeed, it provides an international framework of justice, as well as an intra-national framework for individual level and intergenerational climate justice. 67

A luck prioritarian account of climate justice is both normatively plausible and applicable to climate policy.

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Endnotes

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