

# CLIMATE CHANGE ADVISORY COUNCIL REPORT

## Irish Carbon Budgets: Some Moral Considerations

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### ARTICLE HISTORY

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### ABSTRACT

This report discusses several assumptions built into the Climate Change Advisory Council's Paris Test from a justice or moral philosophical point of view, in order to assist understanding how moral philosophers would consider Irish carbon budgets. After introducing a philosophical methodology, it considers climate temperature targets, reference years, and equity principles of two types: those based in distributional justice and those based on burden-sharing. The report finds that the assumptions adopted from the Paris Test, while broadly being defensible and consistent with positions defended in the philosophical literature, are conservative in the sense of being favourable to Ireland. It concludes that carbon budgets generated from these assumptions are not morally indefensible, but should be thought of morally as upper bounds, and that inclusion of more equity and justice considerations would likely revise them down.

### KEYWORDS

carbon budgets, climate change, Climate Change Advisory Council, climate ethics, climate justice, Convergent Evaluation, Environmental Protection Agency, Ireland, normative assessment

## Key Takeaways

- This is a moral evaluation of the Climate Change Advisory Council's Paris Test assumptions (i.e., as employed in the first round of carbon budgets); morality is not meant to be dispositive, but is meant to be a meaningful contribution to helping guide choice and adoption of carbon budgets
- Methodology: Explicate some key moral assumptions and evaluate them, adopting the published philosophy and climate ethics literature as indicating the range of defensible philosophical positions ("Convergent Evaluation")
- Assumptions considered in this evaluation are: the global climate targets, the carbon budget reference year, and equity principles (comprising both distributional justice approaches and and burden-sharing principles)
- Assumptions are considered *philosophically plausible* if they reflect a mainstream climate ethics position; *philosophically robust* if they can be supported by multiple positions; *philosophically objectionable or questionable* if there is no mainstream support for that assumption

- Overall conclusion: most (with the exception of late reference year) assumptions adopted in the Paris Test are at least philosophically plausible; however, many of them are not philosophically robust, since alternative assumptions would decrease carbon budgets or require greater ambition
- From a moral point of view, carbon budgets for Ireland resulting from the Paris Test should be considered as upper bounds, since adjustments to assumptions would lead to more constrained budgets

## 1. Introduction

This report is about what would be a fair or just contribution to global emissions reductions from Ireland in terms of a national carbon budget. Carbon budgeting involves irreducibly moral and normative assumptions (Broome 2020; Dooley et al. 2021; Moellendorf 2014, p. 11ff).<sup>1</sup> In order to distribute the burdens and benefits of action, adoption of some assumptions is needed. While natural and social sciences can indicate which pathways are compatible with various kinds of policy and behavioural assumptions, they are not capable of answering which pathways *should* be adopted from a moral point of view.

Such questions are partially the province of moral philosophers. Indeed, moral philosophers have discussed these issues at length (for a recent survey of the ethics of global carbon budgets, cf. Schulan, Tank, and Baatz 2023). I divide the main two families of approaches to answering these questions are given in terms of (1) distributional justice and (2) equity or fair burden-sharing principles (roughly speaking, distributional justice is concerned with “forward-looking” distributions today independent of how these distributions came to be; equity or burden-sharing principles are sensitive to “backward-looking” or causal histories of emissions). Both of these are discussed in this report.

This report examines, from a moral or philosophical perspective, the Climate Change Advisory Council’s (CCAC) Paris Test (PT) for Ireland’s contributions to global warming (Price, McMullin, and O’Dochartaigh 2023). This test was especially relevant to the first round of carbon budgets developed by the CCAC. This involves identifying some morally important assumptions and then evaluating them from a moral point of view, which here is roughly the set of especially influential positions from the published philosophical literature (a method I call “Convergent Evaluation”).<sup>2</sup>

The conclusions of this report are not meant to be dispositive; a moral or philosophical perspective, while important, is not always enough to decide what should be done all things considered. In other words, if some course of action is found to be unjust or immoral, that is a very strong consideration against that action, but there may be legal, practical, or political reasons which outweigh that consideration in an overall judgment. In this manner, this report is meant to be a contribution to that overall judgment from a moral or justice-focused point of view.

Before beginning, there is one helpful point to set the stage. Gardiner (2011) introduced the idea of “moral corruption” in the context of climate change, which is

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<sup>1</sup>For simplicity, I use “moral” and “ethical” synonymously, with “normative” being, strictly speaking, a superset of the moral and including actions recommended by any standard, whether that standard is, for instance, moral, legal or political. “Justice”, in this context, picks out a subset of moral considerations governing ways that we owe things to each other, especially as embodied in public or social institutions. Justice considerations have a strong traditional connection to human rights and related deontological concepts (e.g. Robinson and Shine 2018)

<sup>2</sup>Much of the relevant philosophical literature is referred to under the heading “climate ethics”.

the idea that, since climate change is morally, practically, and theoretically complex, we should be wary of self-serving justifications and arguments. In other words, the indeterminacy of the context can easily license inaction or hidden motivations. While that does not tell us *which* justifications are false, it does behoove us to be especially cautious with respect to the conclusions we draw. I try to conduct this report in the spirit of this warning.

In terms of structure, this report begins with a section on methodology (§2), which relies on considering various theories and principles defended in the philosophical literature as potentially true moral theories, with more robust conclusions being more defensible.

The first set of assumptions concern the temperature targets (§3). In this section, I explain that the Paris Agreement targets and associated probabilities from the Paris Test are commonly endorsed by climate ethicists, including those from a variety of philosophical viewpoints.

The second set of assumptions concern the carbon budget reference year or baseline (§4). In this section, I explain how reference years implicitly grandfather in previous emissions and how later reference years are philosophically objectionable due to this reliance on grandfathering.

The third set of assumptions come in two types, but are often discussed together in climate policy under the heading of “equity principles” (§5). Roughly speaking, the first set of assumptions involves current (“forward-looking”, independent of causal histories) distributions and is discussed by philosophers under the rubric of “distributional justice”. The second set of assumptions mostly involve appeal to causal histories (they are “backward-looking”) and are sensitive to emissions histories and the historical actors. The implicit pattern used in the Paris Test, an emissions egalitarianism, is a recognised form of distributional justice in the philosophical literature. However, the main conclusion of this section is that most if not all of the alternative equity principles or justice considerations would entail more demanding burdens for Ireland. Thus, while emissions egalitarianism is a philosophically respectable position, it is still conservative in the sense that adopting more or different equity principles would likely decrease the carbon budget allocated to Ireland.

Finally, the conclusion (§6) section summarises the overall moral considerations adduced in this report. With the notable exception of the late reference years, the morally relevant assumptions made by the Paris Test are consistent with some positions taken in the climate ethics literature. However, they are often conservative, in the sense that alternative positions defended in the literature would be more stringent in Ireland. I draw two conclusions. Firstly, there is some philosophical support for most assumptions made in the Paris Test, but that resultant Irish carbon budgets should be viewed as upper bounds. The reason is that they are not very robust to alternative moral positions. Secondly, we have a variety of equity (justice and burden sharing) considerations which point in favour of greater ambition rather than less.

## **2. Philosophical Methodology: Convergent Evaluation**

The methodology of this report is, first, to explicate some key moral assumptions embedded in the the CCAC’s carbon budget methodology [i.e., the Paris Test as recently evaluated and updated by Price et al. (2023)] and, second, to see how those assumptions fit the relevant philosophical literature. This is done by taking a range of influential published philosophical theories to indicate reasonable or defensible philo-

sophical positions. The goal is to determine how well the embedded assumptions in the Paris Test fit the range of positions advocated in the mainstream climate ethics community (or, more generally, the philosophical community). I call this method “Convergent Evaluation”, since it involves the question of how much convergence there is in the normative evaluation of the policy from a philosophical point of view.

When a moral assumption can be supported by a variety of philosophical positions, that assumption can be thought of as *philosophically plausible*, with more support indicating greater *philosophical robustness*.<sup>3</sup> When it is outside of most or all of the range of positions, that assumption can be thought of as *philosophically objectionable or questionable*.

Versions of methodologies similar to Convergent Evaluation are evident in both historical antecedents (e.g., “overlapping consensus” (Rawls 1971)) and contemporary analogues (e.g., “the common ground restriction” (Hirose 2023)). The concept of overlapping consensus is that society should aim to adopt laws and policies based on the diverse political or normative values of social groups, so that they can jointly support these policies. The common ground restriction is the idea that policies are justified when more than one normative theory or principle can be used to support it in contexts where difficult ethical or moral issues have arisen.

Justifications for Convergent Evaluation can be made more fine-grained. Here are three reasons to adopt this methodology. First, since it begs the question, especially in public policy contexts for pluralistic societies, to adopt one position or one theory as *the* true or correct one, it is more *politically legitimate* to adopt judgments which can be justified on the basis of a range of philosophical theories. We can expect that a variety of positions is more likely to represent a cross-section of reasonable views in society, so on broadly representative or democratic grounds, that supports adopting such policies. Of course, simply because a view is defended by a philosopher, or even a large set of philosophers, does not guarantee its accuracy, but we can accept that view as more robust philosophically than if it had few or no defenders. This leads to the second reason.

The second reason is that Convergent Evaluation also has *epistemological advantages*, allowing us to be more confident in those judgments given their robustness to diverse normative positions. If we take the different moral theories or principles as being independent plausible candidates for a (or the) true moral theory, then we are more likely to adopt true judgments if those judgments are supported by a variety of theories, even if we are not certain about which of these theories is true.

Finally, the third reason is that Convergent Evaluation *reduces the emphasis on the expert’s or evaluator’s personal* normative positions. In trying to find intersubjective agreement amongst theorists and theories, this methodology avoids overreliance on purely subjective positions—in particular, subjective normative views of any given expert or evaluator.

While Convergent Evaluation allows for analysis based on the current philosophical literature and attempts to find intersubjective agreement, I will sometimes indicate my own positions, but at those points will be explicit that they are mine. The reason for this is that I believe part of my brief as part of the Carbon Budgets Working Group is to indicate my own considered expert moral judgment, even in cases where it may not be shared by a majority of colleagues. However, I believe the main role of my brief is to convey the views of my discipline.

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<sup>3</sup>The moral assumptions relevant to this report are those that affect the carbon budgets methodology, but are not settled by reference to other disciplines, e.g., psychological data, economic capacity or energy system constraints.

### 3. Climate targets

The first morally important assumption adopted by the Paris Test (Price, McMullin, and O’Dochartaigh 2023) is that the goal is to have “Paris-aligned targets” (McMullin et al. 2020). The basic idea is that Ireland’s carbon budget should be consistent with a global carbon budget which provides at least 66% likelihood of remaining below 2°C with an approximately 50% likelihood of remaining below 1.5°C. This is meant to reflect the plain textual meaning of committing to keep temperature rises below 2°C and pursuing efforts to keep temperatures to 1.5°C adopted in the Paris Agreement. Obviously, these estimated probabilities do not mean that those temperature commitments will certainly be achieved, but they do represent keeping the bulk of probabilities within the committed range.

A majority of prominent philosophers tend to endorse the PA’s temperature limits, although some suggest that those limits are insufficiently stringent, especially the philosophers who focus on the attendant likelihoods.

On the critical side, Stephen Gardiner suggests that if we were discussing a student’s progress (say, from the perspective of a parent), we would find those kinds of probabilities unsatisfying or even worrying. Analogously, he thinks, a 66% likelihood of keeping temperatures below a threshold is not a satisfactory level of risk, writing that “Accepting a 33–50% chance of failure hardly seems a robust commitment to protecting the future” (Gardiner 2023). (Instead, he suggests that we should insist on probabilities like 95% of keeping temperatures below a target.)

However, Gardiner is more critical than most moral philosophers in this discussion. Many other philosophers adopt, often with caveats, the Paris temperature limit (Moellendorf 2014, p.23ff) (Caney 2016, p.9f) (Caney 2022) (Jamieson 2014, p.227f) (McKinnon 2012, p.4f). These philosophers approvingly cite the PA’s temperature limits as having normative force, partly due to the fact that so many states have made commitments to them, although (a) often these philosophers indicate that these are minimal, not optimal, targets since greater mitigation would be morally superior, and (b) they rarely discuss the probabilities attached to the targets. The climate ethics literature can be summarised as justice requires, as a minimum, meeting the PA 2°C target.

Some philosophers also point out that higher limits are morally objectionable (Caney 2008, p.538). For instance, Steel, Mintz-Woo, and DesRoches (2024) point out that there is overwhelming moral reason to pursue mitigation in order to avoid pathways that could lead to 4°C by the end of the century. Their reasoning is that 4°C can reasonably be construed as incompatible with stable societal functioning, and all people who can expect to live (close) to the end of the century have an overwhelming interest in avoiding societal collapse (since all reasonable conceptions of the good life rely on social stability). They conclude that it is in the interests of many currently living people to avoid pathways compatible with these temperatures, justifying mitigation efforts that lessen the likelihood of such pathways (also cf. Steel, DesRoches, and Mintz-Woo 2022; McKinnon 2012).

Overall, the Paris Test’s *Paris-aligned temperature targets are philosophically robust*, as they are consistent with a variety of professed moral philosophy positions, even if they do not necessarily command unanimity. Significantly, they are consistent with a variety of professed moral philosophy positions, ranging from deontological and rights-based philosophical positions (represented by Moellendorf, McKinnon and Caney) to more virtue-based and consequentialist conceptions (represented by Gardiner and Jamieson) as well as precautionary approaches (represented by McKinnon

and Steel et al.). This agreement on the Paris-aligned targets constitutes a type of overlapping consensus providing appropriate justification for adopting them. This is true even if, paradoxically, exceeding Paris targets more easily facilitates neutrality (Wheatley 2024).

#### 4. Carbon budget reference year

The second important assumption is the carbon budget reference year. In Ireland, there are a variety of reference years considered, but a priori, 2018 and 2021 (e.g., reference years used in the third iteration of FaIR) are quite late. As O’Neill (2023) reports, peer countries have much earlier reference years, with the bulk being 1990. In principle, the target relative to 2018 or 2021 could be recalculated to other years, so this is partially an accounting point. But there is an important transparency issue, which is that most country reductions are relative to earlier years, so intercomparability is easier when adopting the same reference years.

Furthermore, McMullin et al. (2020, p.583) discusses 2015 as being the *latest* defensible date (with the justification that this was the year that international agreement to the Paris Agreement was made); McMullin et al. indicate that earlier dates are also certainly justifiable, and perhaps more justifiable (also cf. Wheatley 2024).

The relevant philosophical consideration here is that later reference years (implicitly) grandfather in earlier distributions of emissions as well as adopt baselines that favour recent high-emitting countries, since considering the burden from a relatively high-emission economy is different from a low-emission economy.

There is almost unanimous opposition in the philosophical literature to grandfathering.<sup>4</sup> Summarising the literature, Schulan, Tank, and Baatz (2023, p.6) explain that it is “typically rejected as unjust” and that, “Generally speaking, philosophers do not defend grandfathering.” The reason for this is twofold: (1) with respect to wealthy and high-emitting countries, it seems to compound the distributional injustices and reward historical lack of ambition; (2) with respect to poorer and low-emitting countries, it retards development and penalises them for historical circumstances (Moellendorf 2014). These are general claims, but they tend to characterise the impacts of adopting such a principle.

It is important to note that objections to grandfathering tend not to consider which dates *are* acceptable, since any baseline year will involve some grandfathering.

Regardless, overall, if a late date, whether 2015 or 2018, practically implies substantial grandfathering, that date lies well outside of the climate ethics consensus.<sup>5</sup> Climate ethicists tend to use baseline years like 1990. Furthermore, in terms of in-

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<sup>4</sup>Amongst the few exceptions, two stand out. First, Bovens (2011) argues that, if emissions are such that “enough and as good” (emissions capacities) are left for others (the “Lockean proviso”), then it is not a problem for some to profitably or productively emit. However, the existing, and plausibly historical, carbon budgets are sufficiently limited that Lockean proviso suggested is not met. When some are emitting in our current circumstances, that does *not* leave comfortable space in carbon budgets for others. Second, Meyer and Sanklecha (2014) argues that, when governments have policies that citizens can generate legitimately expectations on behalf of citizens (i.e., that those policies will continue), the fact that citizens build their lives around those expectations can be enough to justify strong constraints on changing these policies (also cf. Meyer and Sanklecha 2011). This “legitimate expectations” theory could be read as justifying continuing policies that facilitate current (high) emissions. However, as Culp (2011) points out, it is not clear that current emissions are compatible with justice, especially with intergenerational justice, so they may not get the initial benefit of the doubt. Regardless, Meyer does not explicitly defend grandfathering on the basis of this legitimate expectations theory.

<sup>5</sup>Note that I am not taking a stand on the practical challenges, such as short data time series, which may justify pragmatic reasons to adopt later dates, even if these pragmatic reasons conflict with moral ones.

ternational norms, these dates seem to be outliers when compared to peer countries (O’Neill 2023). This suggests that the assumption of *dates well after 1990 as reference years is philosophically objectionable or questionable*.

## 5. Equity principles

In policy contexts, terms like “equity principles” (and “fairness” and “justice”) are often used, but they are imprecise and subjective compared to the way philosophers approach these issues (Hirose 2023; Zimm et al. 2024).<sup>6</sup> If we do not have more fine-grained terminology, it is hard to diagnose *why* someone takes an outcome (say) to be fair and other disagrees.

Deontological and justice-focused philosophers (especially political theorists and political philosophers) have developed principles about distributing a scarce resource in terms of distributional justice—and general principles of just distribution are usually thought to govern carbon budgets as well (Caney 2009). This is because a total allowable carbon budget is a scarce resource which can be “distributed” in the appropriate way (e.g. through emissions allowances). These discussions happen in the philosophical literature under the heading of “distributional justice” or “distributive justice” (§5.1).

In contrast, climate ethicists have framed this issue in a different way, e.g. how to share the (aggregated, global) cost or burden of addressing climate change. In addressing this issue, three burden-sharing principles are influential (with one new principle I will also discuss), all indicating which group should bear this burden (for a survey of these principles and their motivations, cf. Mintz-Woo 2023). These discussions happen in the literature under the heading of “burden-sharing principles” or “principles of climate ethics/justice” (§5.2).

I discuss these in turn, linking them to what are called “equity principles” in policy discourses and to the assumption in the Paris Test. That assumption is an egalitarian distribution of emissions on a national basis, where (carbon) emissions are divided amongst nations based on their populations.<sup>7</sup> This falls most directly into a distributional justice theory where the distributional shape or pattern is an equal one.

### 5.1. *Distributional Justice*

Candidate theories of distributional justice have multiple components, typically a *scope* of justice, a *metric* (or currency) of justice, and a *pattern* (or shape) of justice (Zimm et al. 2024). The scope indicates who the theory applies to, for instance, regionally, nationally or globally, human or all sentient beings, etc. The metric of justice is the (morally relevant) quantity or substance subject to a distribution.<sup>8</sup> For instance, we might be interested in the distribution of consumption, welfare or rights. Finally, the

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<sup>6</sup>Sen, for example, points out that terms like “fairness” and “justice” do not evoke simple straightforward intuitions. His famous example is a parent trying to decide who amongst her three children (Anne, Bob and Carla) gets a flute (Sen 2009). Anne says she should because she can play it best (i.e., she gets the most utility or welfare), Bob says he should because he is poorest (i.e., we should prioritise benefiting the worst-off), and Carla says she should because she made the flute (i.e., desert or historical contribution). Any of these justifications may be called “fair” or “just” but without clearer specification, there will just be inchoate and inconsistent intuitions.

<sup>7</sup>In the Conclusion (§6), I note that the downscaling method in the Paris Test is not explicitly evaluated in this report. The reason for this is that philosophers have not discussed the ethical assumptions behind different forms of downscaling.

<sup>8</sup>Sometimes, the metric is not itself empirically verifiable, in which case an evaluator adopts various *indicators* which act as proxy for the metric, e.g. calories for health, emissions for welfare, consumption for utility. Of

pattern indicates how that metric is to be distributed. Some standard distributions include egalitarian (equally distributed), sufficientarian (given some morally important threshold, all or full weight is given to raising those below that threshold to the threshold), utilitarian (distribution according to overall welfare maximisation), and prioritarian (distribution according to distribution-sensitive welfare maximisation) patterns (Żebrowski et al. 2022; Zimm et al. 2024).

Very roughly speaking, we can think of distributional justice theories as governing the current (or, as philosopher say, “forward-looking”) way budgets are allocated. This contrasts with the next subsection (§5.2), where the intention is (mostly) to allocate responsibilities on the basis of causal or historical relationship to emissions (e.g., the polluter pays principle allocates responsibilities according to contribution to (historical and current) emissions, whereas the patterns below are largely insensitive to historical contributions).

In the context of (global) carbon budgets, the scope of justice is straightforward: the scope of justice is all humans or all countries (sometimes considered as single aggregated units, sometimes as regions or sets of citizens).<sup>9</sup>

In the context of the PT, the metric of justice is emissions (or emissions allowances), aggregated into a global carbon budget. Note that this is not a standard metric of justice, since it is not in itself morally valuable: emissions are valuable insofar as they conduce to increased consumption, welfare, or satisfaction of human needs. However, this issue can be set aside since the targets adopted in the Paris Agreement are meant to be responsive to some level of threat to one or more of these actually morally important things. That allows us to treat emissions as the metric.

This leaves only the pattern of justice: what distribution of emissions does justice allow for. The Paris Test adopts an egalitarian pattern, with emissions reductions relative to population size. In principle, equally sized populations would have equal carbon budgets. The main contention of this subsection is that, while egalitarianism is an influential distributional pattern (Singer 2002), it is only one amongst many—and several, if not all, of the other patterns would increase the responsibility of Ireland.

First, it is worth indicating that egalitarianism is closely associated with the equity principle of “contraction and convergence”, where globally emissions are meant to converge to equal per capita (annual) emissions. They do so by being reduced, for high-emitting countries (contraction), and being increased, for low-emitting countries (convergence).

Second, we have sufficientarian patterns (Meyer and Stelzer 2018), where there is some privileged moral threshold. In the context of climate change, this is often basic needs or some minimally decent standard of living, sometimes cashed out in terms of “subsistence emissions” (Shue 1993; Pözlner 2021). In the policy discourse, this is closely related to the Greenhouse Development Rights framework. Whatever the specific threshold, it is plausible that there are many countries where both the absolute and relative number of people below an international poverty threshold is greater than Ireland. If so, then the priority is allowing those countries to emit (or, more precisely, to allow those people below the threshold). In the climate policy literature, this pattern can be reflected by the invocation of “need” (Dooley et al. 2021). However, “need” is a

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course, one might also be interested in the distribution of consumption itself, in which case the indicator does not diverge from the metric of justice.

<sup>9</sup>While many moral philosophers, especially utilitarians, think we should include non-human sentient animals in the scope of justice, this is almost unheard of in climate policy. This may be another, small, way in which the Paris Test assumptions are favourable to Ireland: the harms to non-humans from climate change may be orders of magnitude of the harms to humans, such that a justifiable carbon budget would be more limited than if only anthropocentric impacts were included.



very imprecise equity principle, since besides indicating that we should raise people to some sufficient standard, it may also be reflected in prioritarian (or even utilitarian) patterns: those who need a resource more can be expected to generate more welfare or utility from that resource, especially if the social value of that welfare is a weighted sum of utility.

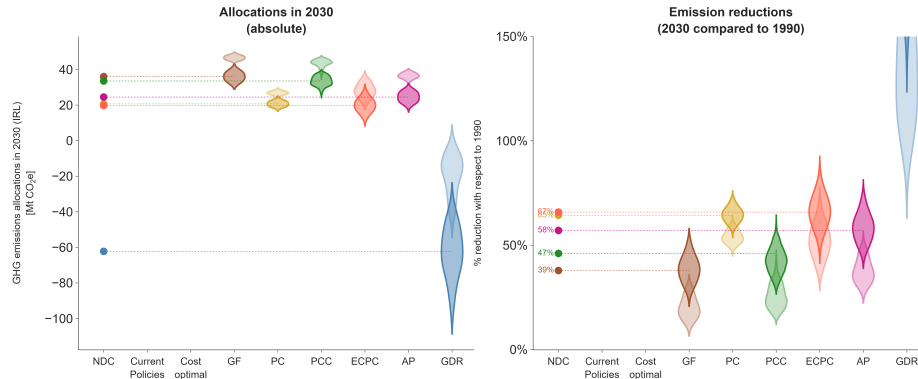
Third, we have utilitarian and prioritarian patterns (Adler and Treich 2015; Budolfson et al. 2021). Utilitarian patterns depend on the empirical facts: how can resources be distributed so as to maximise total utility or welfare? On the margin, for a unit of consumption or emissions, who has the highest marginal utility of consumption? This is roughly captured by using the term “efficiency” as in “where resource distribution would be most efficient”. Prioritarianism is like utilitarianism, except that there is a higher weighting on those with lower utility or welfare (schematically, prioritarians apply a concave transform to the utility or social welfare function, adding greater weight to those who already have lower utility) above and beyond simple efficiency. The result is that prioritarians maximise some weighted sum of utility. Again, if emissions are being allocated on the basis of greatest marginal utility (utilitarianism), those in the developing world with severe energy poverty are likely the priority over any or most in the developed world, including countries like Ireland. If we are more strongly prioritising those with least utility or welfare (prioritarianism), then the case for focusing on the developing world will be even stronger. If so, then the priority is allowing those countries to emit (or, more precisely, to allow those people in those countries to emit who have the greatest (weighted) marginal utility from additional emissions).

It is worth noting that some form of utilitarianism, usually some implicit form of welfare or preference utilitarianism driven by economic concerns, is often adopted in climate policy contexts without acknowledgment that it reflects a substantive moral position (Dooley et al. 2021). That is not to say that utilitarianism is false or unjustifiable, but it is a substantive moral position, and is not simply neutral or value-free as some may assume. Similarly, appeals to efficiency are appeals that have a substantive moral ground.

Overall, *egalitarian patterns are philosophically plausible* in distributional justice terms, but egalitarian distributions are not especially sensitive to need or efficiency, so *should be thought of as conservative assumptions* (in the sense that egalitarian patterns are favourable patterns for Ireland relative to other common patterns).

## 5.2. *Climate Ethics Principles*

In the climate ethics literature, the usual (unstated) assumption is that there is some global, aggregated burden or net cost for addressing climate change, and the question is who should bear that burden (Mintz-Woo 2023). The three predominant climate ethics principles (the *Polluter Pays* (PPP), *Beneficiary Pays* (BPP), and *Ability to Pay Principle(s)* (APP)) operate with this background assumption (Caney 2009; Gardiner 2004). PPP says that responsibility for the burden is related to (or proportional to) historical contribution to emissions. BPP says that responsibility for the burden is related to (or proportional to) who has the benefits from historical contributions today (or now). For instance, if the original polluters are dead, who ended up with the proceeds (e.g., heirs of bequests) of those emissions. Finally, APP says that, regardless of connection to historical emissions, remaining (“remedial”) responsibility lies with whomever is best placed to act (e.g., because they have the most resources today or because they have the most relevant capacity or knowhow). The alternative,



**Figure 1.** Source: Mark Dekker (PBL Netherlands), unpublished analysis of different equity principles for Ireland carbon budgets 2030 (personal correspondence)

fourth, principle which I endorse (the *Polluter Pays, Then Receives* (PPTR, or “Peter”) *Principle*) (Mintz-Woo and Leroux 2021), dispenses with the assumption of a single, global net burden. Instead of thinking of there being such a burden, I think of this as a problem of what kind of policy would internalise the externalities of climate change—which occur on a variety of spatiotemporal scales and have different valences and magnitudes.

Most of these four climate ethics principles (APP is the exception) are what philosophers call “backward-looking”, meaning that they allocate responsibility according to history and causal contribution. For instance, PPP allocates responsibility according to who polluted (or is polluting), whereas the sufficientarian pattern discussed in the previous section is insensitive to historical contribution. That is what makes this set of principles quite different from the previous distributional justice-focused framing.<sup>10</sup>

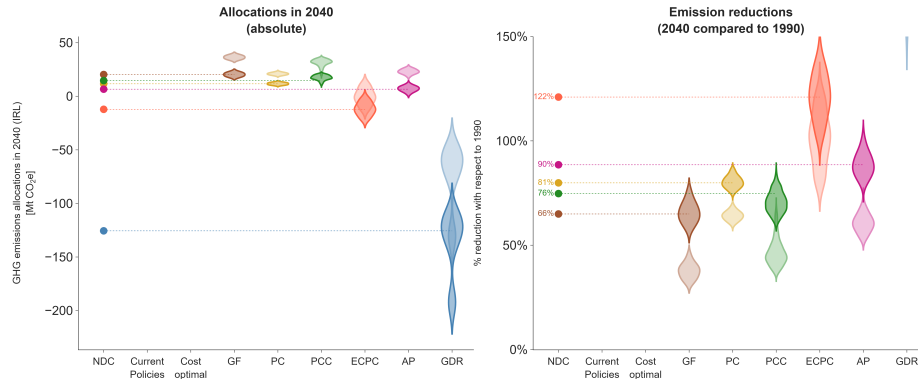
While any of these four principles may be justifiable on philosophical grounds, it is also true that they would likely support greater contributions from Ireland if they were adopted.<sup>11</sup>

First, the polluter pays principle (PPP) has a storied history in international law and policy, having been introduced into international policy by the OECD in 1974 (Caney 2005).<sup>12</sup> The intuition can be captured by phrases such as “You break it, you bought it” where environmental harms should be addressed by those who contributed to the risk of such harms (Gardiner 2011). In the climate policy literature, this principle often captured by the invocation of “(historical) responsibility” (Dooley et al. 2021). In this case, that is emissions. For Ireland, we should expect that, as a *historically high-emitting country per capita*, any weighting for historical pollution would lead to

<sup>10</sup>APP is an exception, as it is not backward-looking, but forward-looking (i.e., insensitive to history, just to current ability and capacity). It just says that whomever is best placed to act has the (remedial) responsibility to do so, once or if the polluters are not stepping up. This could be justified by utilitarian or prioritarian patterns of justice: those who have the most resources or can most easily or cheaply act should act because their burden-shouldering is more efficient than for other countries. However, this justification is not usually explicitly adopted and remedial responsibility is taken to be simply plausible or intuitive.

<sup>11</sup>Of interest, an unpublished and provisional analysis by Mark Dekker suggests substantial overlap of several principles for Ireland for 2030 (cf. Figure 1), but significantly greater divergence by 2040 (cf. Figure 2), with some type of ability to pay and greenhouse development rights (roughly equivalent to a sufficientarian position) demanding much higher cuts than equal per capita. More details available upon request.

<sup>12</sup>The theoretical basis for policies responding to externalities (such as PPP) was developed as Pigouvian taxation, which internalises externalities in order to align incentives to make socially optimal choices (Pigou 1920).



**Figure 2.** Source: Mark Dekker (PBL Netherlands), unpublished analysis of different equity principles for Ireland carbon budgets 2040 (personal correspondence)

*greater burdens on Ireland relative to ignoring historical contribution.*<sup>1314</sup>

There are several objections to the PPP in the climate ethics literature. First, the *dead polluter's objection* (Frisch 2012; García-Portela 2019; Meyer and Sanklecha 2011): if those who emitted are dead (or otherwise unable to bear burdens), then those burdens are not borne. Second, the *ignorance objection* (Roser and Seidel 2017; Zellentin 2015): if emitters were (or are) blamelessly ignorant of the consequences of their emissions, they should not be held responsible for those consequences. Although some argue that these can be addressed by considering nations instead of individuals as the loci of responsibility (Francis 2021), some climate ethicists endorse a back-up principle, the beneficiary pays principle.

Second, the beneficiary pays principle (BPP) holds that those who benefit materially from emitting should bear the burdens of those emissions' consequences (Atkins 2018; Butt 2014). Generally speaking, that would be whomever has the resources from the previous emissions now. For Ireland, it is *in recent years, historical emissions are relatively high per capita* (although there are complex questions about how incorporating emigration would change this). The question is, for the historical emissions, where did the benefits accrue? In general terms, Ireland has benefited from the Industrial Revolution, but the complexities of changing composition make it challenging to see what the BPP would imply. (As I note below, this is actually a problem for applying BPP in many other concrete circumstances, so Ireland is not alone here.)

However, there are also objections to BPP. First, when does one become a beneficiary morally? Is it when one accepts these benefits, or when one fails to give them up (Butt 2014; García-Portela 2023)? How or when does it matter whether one is aware of the provenance of them? Second, there is an *counterproductive incentives* objection (Mintz-Woo and Leroux 2021): if beneficiaries of climate change know they have to disgorge climate benefits, then there is no incentive for productive responses to climate change, whether in terms of technological contributions to mitigation or practical additions to adaptation (if benefits from climate change are all unjust, those who profit from selling mitigation and adaptation solutions should not keep their profits—removing any incentive for businesses to contribute to mitigation or adapta-

<sup>13</sup>The inverse of this, where grandfathering is allowed, has much lower mitigation requirements in Mark Dekker's analysis (cf. Figures 1 and 2).

<sup>14</sup>Comparisons with other countries on a per capita basis can be made at <https://ourworldindata.org/co2/country/ireland>.

tion). Finally, there is the immense practical challenge of *tracing benefits* through a complex economy with fungible funds (Page 2012). Even in the straightforward case of a company or country that sells fossil fuel energy, there are so many diffuse beneficiaries (both within the organisation or country, but even amongst second-order beneficiaries, like shareholders). Concerns like these have led some climate ethicists to endorse another back-up principle, the ability to pay principle.

Third, the ability to pay principle (APP) holds that, in contexts where holding emitters or beneficiaries accountable is sufficiently challenging or infeasible practically, we are left with questions of “remedial responsibility” (Miller 2009). Instead of relying on backward-looking (historical/causal) considerations, we should just consider the world as it is now and see who is best placed to act, either due to financial or technological capacity. Broadly speaking, that will track international wealth, but also might track things like local or regional knowledge (e.g., Spanish speaking countries might be better placed to help other Spanish speaking countries). In the climate policy literature, this principle often captured by the invocation of “capability” or “capacity” (Dooley et al. 2021). In the Irish case, things are straightforward: Ireland is (at least per capita) *a very wealthy country internationally, so has a high ability to pay. APP would thus recommend that Ireland shoulder a relatively greater burden* than if this principle were not adopted.<sup>15</sup>

There are also objections to APP. First, although philosophers generally accept that “ought” implies “can” (if you ought to do something, it must be the case that you can do it), but this APP principle inverts that into the much more controversial “can” implies “ought” (Roser and Seidel 2017). Second, and more fundamentally, cases where ability interact with historical causal contribution will generate counterintuitive judgments with this principle. For instance, some wealthy countries may have acted aggressively in terms of mitigation whereas poorer countries have not, but APP does not account for these distinctions. Consider a case where this tension is strengthened: some countries may have gain wealth through mitigation (e.g., renewable energy development) but then be held more responsible for this newfound wealth. This means that incentives can also be misaligned with this principle.

Finally, the principle that I endorse does not rely on the implicit assumption of a single, global net burden, viewing emissions as issuing in a large set of climate externalities with effects spread out on a variety of spatiotemporal scales (“a constellation of climate externalities with different associated demands of justice”) (Mintz-Woo and Leroux 2021; Leroux and Mintz-Woo 2023). The principle is called the “Polluter Pays, Then Receives” (PPTR) Principle, because the emissions are associated with a variety of climate effects: the vast majority are harms (negative externalities), but some are neutral and some are beneficial (positive externalities). The motivation is that policies should attempt to internalise all externalities in order to generate optimal incentives, not just the negative ones.

For instance, some sectors in some countries will benefit from a warming planet (e.g., wine growers in British Columbia, tourism in northern Europe). There is even some evidence that a couple countries as a whole will be net-winners, at least in the near-term under moderate climate change (Dellink, Lanzi, and Chateau 2019). This is not to gainsay the severe harms of climate change: some of these benefits come at the cost of others (e.g., wine growers in California, tourism in southern Europe) such that the overall effects of climate change are substantially negative, but the point is that there are some entities that can be expected to have net benefits. My contention is that

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<sup>15</sup>Again, this is supported by Mark Dekker’s analysis, especially in Figure 2.

an appropriate principle of climate ethics should be able to embrace this heterogeneity.

In the Irish case, *PPTR is likely to recommend actions close to PPP since the bulk of the climate externalities are negative, so to a first approximation the emitters are effectively paying as polluters (as with PPP)*. However, PPTR would introduce some additional complexity since if the emitters paid, it would be justified that they received in proportion to positive externalities generated. So although the motivation would differ from PPP and PPTR would introduce more complexity, the practical implications would be very similar: under PPTR, the *disproportionate historical (and current) emissions of Ireland would mean that Ireland should shoulder a greater than proportional burden in light of being a disproportionate source of negative externalities (even accounting for also being a disproportionate source of the much smaller positive externalities)*.

## 6. Conclusion

The purpose of this report is to evaluate the CCAC Paris Test (and, more generally, some moral assumptions relevant to carbon budgeting in Ireland) from a moral point of view. In order to avoid overreliance on my own positions, I took well- or influentially-defended positions in the philosophical literature to be indicative of the range of morally justified positions, developing a methodology I call Convergent Evaluation.

In general, the assumptions discussed herein (temperature targets, reference years, and equity principles) show that the CCAC Paris Test is generally in line with some positions defended in the philosophical literature. (The notable exception is reference years, where the Paris Test seems to adopt unjustifiably late reference years.) This would make them philosophically plausible assumptions to make.

However, the assumptions made are not very robust, in the sense that almost any changes to these philosophical assumptions would impose greater burdens on Ireland. This leads to my first conclusion: the assumptions made in the CCAC Paris Test are (mostly) philosophically plausible, but are conservative in the sense that they are amongst the most favourable to Ireland amongst the philosophically plausible positions. Thus, carbon budgets based on these assumptions should be viewed, from a philosophical point of view, as upper bounds.

My second conclusion is that, if one accepts any of a range of alternative equity principles, such as appeals to capacity or historical responsibility, one would demand more ambitious mitigation or limited carbon budgets. My personal view, and the robust position from the climate ethics literature, is that some, if not all, of these equity principles are morally appropriate [indeed, it is not uncommon in the literature to endorse burden-sharing on the basis of *multiple*, overlapping equity principles, endorsing the claim that more than one of the principles is morally correct (e.g. Shue 1993; Caney 2005; Dietzel 2019)—this is in stark contrast to *none* of them being adopted in the current context]. If so, then we should be ambitious in terms of Irish mitigation beyond the carbon budgets determined on the basis of these assumptions.

One final additional point is that, in this report, different (down)scaling national climate contribution methods are not discussed (e.g. Wheatley 2024, “Leave one in” and “Leave one out”). The reason is straightforward: there is no relevant philosophical discussion on this issue (even though Wheatley explicitly notes that these involve ethical judgments). This is a lacuna in the philosophy literature which is worth exploring or developing for future CBWGs.

Overall, this moral evaluation of the assumptions of the Paris Test is meant to provide a helpful contribution to the all things considered judgments about how to proceed for Ireland in this important policy domain.

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### Conflicts of interest

No conflicts of interest to report.

### Biographical note

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