



Climate Justice and Carbon Budgets

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1. Climate justice

Climate justice is an established concept and approach that informs climate action. It is captured in the Paris Agreement¹ through direct references to climate justice as well as an emphasis on equity, human rights, gender equality and intergenerational justice. Climate justice is included in the Irish Climate Act 2015² which states that national mitigation plan and the national adaptation framework should have regard to climate justice (Article 3(2)). The 2019 Annual Review of the Climate Change Advisory Council emphasises the role of the transition in achieving climate justice and states that ‘in a just transition, justice is considered not merely as an outcome of policy but within the process’³ (pg 50).

The definition of climate justice adopted by the Mary Robinson Foundation-Climate Justice is now broadly applied and states that ‘Climate justice links human rights and development to achieve a human-centred approach, safeguarding the rights of the most vulnerable people and sharing the burdens and benefits of climate change and its impacts equitably and fairly. Climate justice is informed by science, responds to science and acknowledges the need for equitable stewardship of the world’s resources.’

The Principles of Climate Justice provide a useful guide when developing climate policy and setting carbon budgets. For example, the right to participate in climate decision making or the need to share the burden and benefits of a carbon contained world fairly between people, countries and generations.

The seven principles are: i) Respect and protect human rights; ii) Support the right to development; iii) Share burdens and benefits equitably; iv) Ensure that decisions on climate change are participatory, transparent and accountable; v) Highlight gender equality and

¹ https://unfccc.int/sites/default/files/english_paris_agreement.pdf

² <http://www.irishstatutebook.ie/eli/2015/act/46/enacted/en/pdf>

³ <http://www.climatecouncil.ie/media/Climate%20Change%20Advisory%20Council%20Annual%20Review%20019.pdf>

equity; vi) Harness the transformative power of education for climate stewardship; and vii) Use effective partnerships to secure climate justice.

The IPCC Fifth Assessment Report describes the three dimensions of climate equity as:

- i) intergenerational (fairness between generations);
- ii) international (fairness between states); and
- iii) national (fairness between individuals)⁴.

All three of these dimensions should inform decision making on carbon budgets. Likewise, the procedural and distributive aspects of justice also apply (IPCC, 2018). Procedural justice applies to the process of determining a budget – for example in relation to participation - while distributive justice looks at how the costs and benefits of climate action are shared.

2. Climate justice in a carbon budget

There is a literature on climate justice and carbon budgeting⁵. In his book *Climate Justice: Vulnerability and Protection*, Professor Henry Shue highlighted the moral reasons to both set and share equitably a carbon budget⁶. He emphasises the need to fulfil the right to development of people living in poverty and without access to energy while living within a carbon budget. He stresses that the cumulative nature of the carbon budget, and the fact that it ultimately has to reach zero, means that carbon is now a scarce commodity that needs to be shared fairly among nations and generations – yet it is shrinking every day ‘leaving the people of the future with fewer options’⁷.

The climate justice challenge in the context of carbon budgeting is to:

- a) set a carbon budget that protects the climate system and humanity;
- b) to share this budget fairly between people, countries and generations and
- c) to do so in a way that does not exacerbate poverty or undermine human rights.

Developed countries have to both reduce their own emissions and support developing countries to achieve their decarbonisation ambitions and targets⁸. There is not enough space in the carbon budget for any country not to be a participant in the low carbon transition, but to be fair and effective, less developed counties, with less historical responsibility, need to be supported to invest in climate action (Robinson and Shine, 2018).

⁴ Based on Fleurbaey et al., 2014

⁵ See for example Rosner, D. & Seidel, C. (2017). *Climate Justice: An introduction*; Shue, H. (2018). *Mitigation Gambles: Uncertainty, urgency and the last gamble possible* <http://rsta.royalsocietypublishing.org/content/376/2119/20170105>

⁶ Shue, H. (2014). *Climate Justice: Vulnerability and Protection*. Oxford University Press.

⁷ Ibid. page 332.

⁸ Robinson and Shine (2018). *Achieving a climate justice pathway to 1.5oC*. *Nature Climate Change*.

Another way to think about this is in terms of a ‘safe operating space for humanity’⁹. This approach establishes planetary limits or boundaries, including climate change, that humanity must live within to be safe. In 2018, Rockstrom went on to look at how the SDGs can be achieved while operating within planetary boundaries¹⁰. This built on a concept developed by economist Kate Raworth to establish a social floor, or the minimal conditions needed for human development and the need to achieve these within the ‘space’ or ceiling provided by planetary boundaries¹¹. These approaches are consistent with climate justice as they seek to protect human rights while taking action to prevent dangerous climate change. And they set limits, like a carbon budget, on the remaining GHGs that can be emitted.

It is also worth noting that beyond distributive justice and the sharing of the remaining carbon budget, climate justice in carbon budgeting also considers compensation for the risks and harms caused by climate change (corrective justice) and even concepts of criminal justice in the case that carbon budgets are overshoot or fair shares of effort are not made and damage is caused as a result¹².

3. Fairness between generations

Justice in carbon budgeting has a strong intergenerational dimension. When a budget is set corresponding to a temperature target, it is all that is left to be shared between present and future generations. Given that current timelines to reach zero emissions do not extend beyond 2050 in most cases, there is also a need to create a future where development is no longer reliant on fossil fuels or produces GHG emissions, so that future generations can thrive without pollution. If current generations do not take action to live within the remaining carbon budget, they damage the conditions of life for future generations and cause an injustice. As Henry Shue states in his 2018 paper on the subject, ‘A rejection by current generations of more ambitious mitigation of carbon emissions inflicts on future generations inherently objectionable risks about which they have no choice’¹³.

The consideration of fairness between generations also arises in the context of the use of Carbon Dioxide Removal and Negative Emissions Technologies (NETS) as part of a strategy to stay within the carbon budget. The IPCC 1.5°C report most of the mitigation pathways to 1.5°C contain Carbon Dioxide Removal (CDR) technologies. In Ireland consideration of these technologies is in the early stages and can be informed by an emerging body of research on the ethics and climate justice aspects of geoengineering and NETS (e.g. Preston, C.J. (ed), 2016; Adelman, S, 2017; Lawrence. M. G., et al., 2018).

⁹ Rockstrom, et.al., (2009). A safe operating space for humanity. Nature.

¹⁰https://www.stockholmresilience.org/download/18.51d83659166367a9a16353/1539675518425/Report_Achieving%20the%20Sustainable%20Development%20Goals_WEB.pdf

¹¹ Raworth, K. (2017). Donut Economics. <https://www.kateraworth.com/doughnut/>

¹² McKinnon, C. (2015). Climate Justice in a Carbon Budget. Climate Change.

¹³ Shue, H. (2018) Climate Surprises: Risk Transfers, Negative Emissions, and the Pivotal Generation. University of Oxford. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3165064

The risk to future generations in this case is that current generations postpone climate action due to a belief that negative emissions technologies will be developed in time and at scale to solve the problem without near term action. However, as stated by Henry Shue ‘postponing action now in preference for NETS later – permits the passing of tipping points for irreversible change.’ An emerging body of research on the ethics and climate justice aspects of geoengineering and NETS which should be consulted (e.g. Preston, C.J. (ed), 2016; Adelman, S, 2017; Lawrence. M. G., et al., 2018¹⁴) when developing a carbon budget for Ireland.

There is also an intra-generational justice component to carbon budgets– which requires fairness between the generations alive today, so that the benefits and burdens of decarbonisation are shared equally. This is explored in the sections below.

4. Fairness in the international context

This paper will not address the technicalities of calculating a carbon budget as this has been addressed by the IPCC and is covered in other work for the Council. Chapters 1 and 5 of the IPCC Special Report on 1.5°C address the issue of the remaining carbon budget and consider ethics, equity and justice as they apply to the impacts of climate change and climate action in both 1.5°C and 2°C scenarios¹⁵. Again, procedural and distributive aspects of justice apply. For example, in determining a carbon budget do all countries have a voice and equitable influence, and in terms of the distribution of the burdens and benefits how can this be achieved fairly? The 1.5°C report recognises 4 asymmetries associated with a climate affected world and that influence decision making on carbon budgets and how the effort is shared internationally.

- 1) Different contributions to the problem: industrialised countries have historically benefited most from and contributed most to climate change and bear greater responsibility (McKinnon, 2015; Skeie et al., 2017¹⁶).
- 2) Different impacts: the worst impacts of climate change fall on those least responsible for the problem, within states, between states, and between generations (Shue, 2014; Ionesco et al., 2016¹⁷).

¹⁴ <https://www.amazon.com/Climate-Justice-Geoengineering-Atmospheric-Anthropocene/dp/1783486368>;
https://www.researchgate.net/publication/316001067_Geoengineering_Rights_risks_and_ethics;
<https://www.nature.com/articles/s41467-018-05938-3>

¹⁵ <https://www.ipcc.ch/sr15/>

¹⁶ <https://iopscience.iop.org/article/10.1088/1748-9326/aa5b0a>

¹⁷ <https://www.routledge.com/The-Atlas-of-Environmental-Migration/Ionesco-Mokhnacheva-Gemenne/p/book/9781138022065>

- 3) Difference in capacity to find solutions and response strategies: there is less capacity to respond to climate change in developing countries and less representation of the worst-affected states, groups, and individuals in international negotiations (Robinson and Shine, 2018).
- 4) Asymmetry in future response capacity: some states, groups, and places are at risk of being left behind as the world progresses to a low-carbon economy (Shue, 2014; Humphreys, 2017¹⁸).

These asymmetries make the finding of fair distributions of the remaining carbon budget challenging. Factors such as historical responsibility, ability to pay, polluter pays and capabilities have all informed studies on the subject¹⁹. Responsibility and capability (or capacity) tend to be the main factors affecting the obligation to act, given that the remaining carbon budget is shared amongst developed and developing countries. Whatever the global budget is determined to be, living within it requires mitigation by all countries, regardless of their level of development (MRFJ, 2015)²⁰. However, the ability to mitigate depends on the sharing of resources, technology and capacity between nations and the flow of support from developed to developing countries (Holz, et. al., 2017²¹).

Given the bottom up nature of Nationally Determined Contributions (NDCs) as defined in the Paris Agreement, there is no top down allocation of mitigation effort – instead each country has to determine what they consider their fair share of domestic action and international action to be. In the case of developing countries their fair share can be achieved through 100% domestic action, while for developed countries a combination of ambitious domestic action that is supplemented (rather than replaced) by international action is required. Climate change is as a global commons problem that can only be solved within a cooperative, multilateral regime. Hence national effort has to comprise of a fair share of the global mitigation effort carried out domestically and support for mitigation action in other countries.

5. Fairness at national level

Under the Paris Agreement each country determines its own contribution to the global effort to attain the temperatures goals set out in the Agreement. In the spirit of the Agreement these commitments should be informed by ambition, capability and fairness. When setting a carbon budget a country can use tools like the Climate Equity Reference

¹⁸ Climate, technology, justice,' in A Proelss (ed.) Protecting the Environment for Future Generations: Principles and Actors in International Environmental Law. Erich Schmidt Verlag (2017)

¹⁹ Waskow et al. (2015). Building Climate Equity. WRI. <https://www.wri.org/publication/building-climate-equity> ; Roser, CD. & Seidel, C (2017). Climate justice: an introduction

²⁰ Mary Robinson Foundation – Climate Justice (2015) <https://www.mrfcj.org/wp-content/uploads/2015/09/2015-02-05-Zero-Carbon-Zero-Poverty-the-Climate-Justice-Way.pdf>

²¹ Holz, C., Kartha, S., Athanasiou, T. (2017). Fairly sharing 1.5: national fair shares of a 1.5 °C-compliant global mitigation effort. International Environmental Agreements: Politics, Law and Economics. DOI:10.1007/s10784-017-9371-z

Calculator to determine their fair share in a number of different scenarios²². In the case of Ireland, and assuming a 1.5°C pathway (excluding LULUCF²³), it finds that Ireland’s commitment – via the EU Nationally Determined Contribution (NDC) - falls 19.6 tCO₂e/per capita short of our fair share of mitigation action. It calculates Ireland’s emissions allocation up to 2030 as -49 MtCO₂e. In other words Irish emissions would need to fall by 86% below 1990 levels by 2030 to constitute a fair share based on this calculator²⁴.

Ireland like other countries will need to both decarbonise domestically and support climate action in developing countries (e.g. through the Green Climate Fund) to contribute equitably to global climate action. This approach is considered by many to be consistent with climate justice as in addition to acting at home it recognises that global cooperation and solidarity are critical to solving the climate crisis. The implications of this approach to Ireland and an Irish carbon budget are interesting as they inform a) the quantification of the domestic budget and b) the role of Ireland in achieving the global carbon budget through international cooperation.

Research conducted in Sweden combined egalitarian principles (burden shared equally among all individuals) with grandfathering principles (based on actual emissions) to determine a national carbon budget. These principles were chosen over ability to pay and the polluter pays principle to determine Sweden’s fair share (Anderson, K. et al., 2018) but a fair share was nonetheless understood to constitute both domestic action and a contribution to mitigation in developing countries.

6. Fairness at the local level

Public participation and engagement are factors influencing effective climate policy and action. While setting a carbon budget is often seen as a top down exercise at global or national level, it can also have a bottom up, local and participative dimension which can improve citizens support for climate action. Municipalities in Sweden, including Järfälla municipality, have been testing a process of local carbon budgets²⁵.

The trials were based on a national budget for Sweden and a participatory process to determine a municipality’s budget within this. In the study the grandfathering principle was

²² <https://climateequityreference.org/calculator-about/> and Holz, Christian, Eric Kemp-Benedict, Tom Athanasiou and Sivan Kartha (2019) “The Climate Equity Reference Calculator” in Journal of Open Source Software, 4 (35), 1273. DOI:10.21105/joss.01273

²³ LULUCF – Land Use, Land Use Change and Forestry
²⁴

https://calculator.climateequityreference.org/?cum_since_yr=1850&use_lulucf=0&use_netexports=0&use_nco2=1&emergency_path=13&emergency_program_start=2012&baseline=default_gdrs&percent_gwp=&percent_gwp_MITIGATION=1&percent_gwp_ADAPTATION=1&use_sequencing=0&percent_a1_rdxn=40&base_levels_yr=1990&end_commitment_period=2020&a1_smoothing=2&mit_gap_borne=2&use_mit_lag=1&em_elast=1&dev_thresh=7500&lux_thresh=50000&interp_btwn_thresh=0&r_wt=0.5&do_luxcap=0&luxcap_mult=1&use_kab=0&kab_only_ratified=0&dataversion=7.2.0&iso3=IRL

²⁵ Anderson, K. et al. (2018) A Guide for fair implementation of the Paris Agreement within Swedish Municipalities and Regional Governments

used to determine emissions allocations between municipalities – so based on a municipality’s actual emissions. Other factors such as relative capabilities of the different municipalities were also considered in the study and are important to ensure fairness and effectiveness. The governance of this process requires capacities and leadership at both the national and local level, and while this is a challenge it is feasible. Oslo, for example, has calculated its carbon budget and the 2019 budget is the third since budgeting started in 2017. The city has set a goal of reducing its emissions by 50% by 2020 and 95% by 2030²⁶. Updates are provided annually in an open and transparent manner.

In Ireland, the Citizens Assembly and the National Dialogue for Climate Action, provide potential platforms for local engagement on carbon budgets, either in decision making on their ambition, revision or implementation, to enable ownership, fairness and public acceptability. This is explored further in the next section.

7. Participation and ownership

A study into the perceived fairness of carbon pricing finds that perceptions of fairness as well as satisfaction with the information provided by government and understanding of the purpose of an intervention all increase public acceptability. Participation contributes to the flow of information, to understanding and to climate justice and ultimately could make carbon budgets more tangible, acceptable and engaging to members of the public.

Research shows that people need to comprehend i) the personal effects of a climate policy measure (‘what’s in it for me?’); ii) the distributional effects (fairness to others); and iii) procedural aspects (e.g. trust in government) to support climate measures (Box 1)²⁷. All three should be considered when developing Ireland’s approach to carbon budgeting.

Box 1: Perceptions of fairness & public acceptability (from Maestre-Andres, et al., 2019)

People need to understand:

The personal effects – what’s on it for me?

The distributional effects – fairness to others

The procedural aspects – trust in government / do I have a say?

Experiences with participatory carbon budgeting indicates that Ireland’s experience with public engagement via the Citizen’s Assembly, for example, could prove a valuable avenue for co-creating, evaluating and / or implementing a carbon budget. It is suggested that citizens’ participation in carbon budgeting (as with other aspects of climate policy and action) may help to improve understanding between citizens and government on climate

²⁶ <https://www.oslo.kommune.no/politics-and-administration/green-oslo/best-practices/oslo-s-climate-strategy-and-climate-budget/#gref>

²⁷ Maestre-Andres, S., Drews, S. & van den Bergh, J. (2019). Perceived fairness and public acceptability of carbon pricing: a review of the literature. *Climate Policy*. Vol 19, No. 9. 1186-1204.

change as it promotes dialogue as an alternative to top down measures or incentives to regulate behaviour change²⁸.

A participatory approach could be used to determine the overall carbon budget of a country or a locality and then to help a community or country to assess the relative merits of policy actions and projects relative to that budget (e.g. by assessing their carbon footprint, resilience and cost and comparing these to the climate and development benefits). Participation can also inform monitoring and evaluation of progress as well as the revision of budgets over time. In addition, awareness raising about what climate budgets are, why they are needed and how they drive climate policy can help to increase public support for climate action. This is an area where the National Dialogue on Climate Action could play a valuable role.

Other democratic processes such as the Joint Oireachtas Committee on Climate Action can also play a role in providing oversight of the carbon budget process and progress made, informed by reports from DCCA, the EPA and the Climate Change Advisory Council. Cross party assessment of carbon budgets provides useful analysis for the public and decision makers alike. The UK experience has shown that independent oversight of carbon budgets is important to maintaining progress and meeting deadlines²⁹.

8. Just Transition

The concept of just transition is useful when considering a climate budget as it considers who the winners and losers are from the transition and proposes measures to protect those who stand to lose their jobs or have their quality of life compromised. The concept of just transition when applied to a carbon budget should consider sectors, regions, households, different income groups, genders, ages etc. to determine who may be negatively affected by restrictions on carbon and will therefore require measures to shield them from these impacts. A national assessment of vulnerability to both climate change and climate action (including a carbon budget) could inform climate just decision making.

Funding such a vulnerability assessment should be a priority for government as it would identify the people most vulnerable to the impacts of climate change and climate policy and enable them to be a) protected and b) enabled to reap the benefits of climate action. Without knowledge of who is vulnerable, where and when it will be more difficult to design climate action that is fair – particularly in the context of ambitious and fast paced climate action.

²⁸ Cohen, T. (2012) Can participatory emissions budgeting help local authorities to tackle climate change? Environmental Development. 2. 18-35.

²⁹ Priestly, S. (2019) UK Carbon Budgets. Briefing paper. Number CBP7555, 9 July 2019. House of Commons Library. <https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7555>

9. A climate justice checklist

A climate justice checklist for carbon budgeting may help to pose the right questions. This list has been drawn up informed by the Principles of Climate Justice and the information presented in this paper.

1	Respect human rights	How will the carbon budget affect the human rights of i) people in Ireland; ii) people elsewhere in the world
2.	Support the right to development	Is the right to development of people in Ireland fulfilled in the context of climate action and climate impacts? Is Ireland's carbon budget adequate to allow people in developing countries to realise their right to development? Is there universal access to renewable and clean energy to enable development in Ireland and other countries? Is the right to development of future generations safeguarded?
3.	Share burdens and benefits equitably	Have the following been considered? i) Intergenerational - fairness between generations & consideration of the needs of future generations ii) International - Ireland's share versus the share of other countries (and within the EU) iii) National - Domestic action and support for mitigation and adaptation in developing countries to achieve the global carbon budget iv) The share of effort / budget allocated to sectors, regionals, business, citizens.
4.	Participatory, transparent and accountable climate decision making	Are citizens enabled to take part in carbon budgeting (e.g. via Citizens Assembly / National Dialogue on Climate Action)? Is adequate information on carbon budgeting and tracking publicly available? How are local authorities and sectoral departments involved in setting the budget and tracking progress? Who is responsible and accountable for ensuring targets are met? What is the role of the Oireachtas / Joint Committee on Climate Action? What are the penalties and who will enforce them?
5.	Gender equality and just transition	Is there data on how men and women are affected differently by carbon budget / climate action? Who stands to win or lose and how can they be informed, engaged and protected?
6.	Education for climate stewardship	How are citizens, government departments, local authorities, communities and businesses being educated and informed about the carbon budget and climate action? How is research informing Ireland's carbon budget and our ability to achieve it?

7.	Partnerships	<p>How is Ireland working in partnership at the international level to support climate action in developing countries? e.g. support to Green Climate Fund? International climate finance? At a national level how are partnerships helping to shape and implement the carbon budget? How are local partnerships being informed and engaged to understand and achieve carbon budgets?</p>
8.	Achieving development goals / SDGs	<p>How will the carbon budget affect the capacity of Ireland to achieve the SDGs? How will Ireland's carbon budget affect the capability of other countries to achieve their SDG targets? What co-benefits to the SDGs can be achieved through carbon budgeting?</p>