FAIR SHARES – LESSONS FROM PRACTICE, THOUGHTS ON STRATEGY

An Equity and Fair Shares Discussion Paper for Climate Action Network International

August 2022

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“There is no easy way, but there’s a way.”

— Willie Nelson

Briefing Note

The fair shares idea is no longer novel. But as the crisis deepens, its profile is changing. Humanity is facing a civilizational emergency – a “polycrisis” with both climate and injustice at its core – and we need big ideas that can help guide us out of it.

This briefing is focused on one such idea: fair shares. Its purpose is to contribute to CAN discussion and strategizing, with the immediate goal of supporting analysis of and campaigns for equitable national mitigation contributions, including – very explicitly – greatly increased international mitigation finance. To this end, as one concrete manifestation of the fair shares idea, we also briefly discuss the ethical principles that underlie the Climate Equity Reference Framework, and its nuts and bolts, and how CAN member groups and nodes around the world have applied it in their work.

The fair shares idea, of course, has implications beyond mitigation, and in this report, we do discuss other climate equity challenges. But, importantly, these other challenges – which include adaptation and loss & damage – resist the kind of straightforward quantitative analysis appropriate to mitigation, for they involve even more complex and sprawling national and international efforts.

At any rate, the equity challenge has great relevance in virtually all dimensions of our global climate response, which also means that it cannot be set aside while we concentrate on “implementation.” This is the case for the simple reason that – despite all the benefits and promises of the climate transition – any adequately rapid global decarbonization process, if not carefully managed, could be extremely disruptive and in many cases painful.

A rapid global climate transition can, in principle, be achieved – we have (all) the money and (most of) the technology we need – but it’s hard to see how this will be possible if it is not done fairly. In other words, if we intend to succeed, then not only benefits and promises but also unavoidable pain and disruption must be shared amongst the people of this world in a way that is widely accepted as being fair enough. We can not follow, yet again, the all too often repeated pattern in which most of the benefits are captured by those who are already wealthy and powerful, while most of the pain and suffering is born by those already marginalized and oppressed.

This report is a bit long. It has to be, because while the fair shares idea is familiar in a vague way, crucial aspects of the global climate justice challenge are often misunderstood. Thus, this summary will begin by spotlighting a few of the key arguments this report will develop, before going on to very briefly summarize its chapters and lay out a few key recommendations.

Here, briefly, are those key arguments:

1. **There is a global climate crisis and there is a global inequality crisis, and they are very closely intertwined. Inequality both contributes to the climate crisis and makes responding to it more challenging.**

Extreme inequality is linked to our climate predicament in many ways, the most direct being the linkage between extreme *income* inequality and the *emissions* inequality now apparent between and within countries. More fundamentally, extreme inequality, and extreme injustice in general, profoundly shapes our planetary civilization, which is divided between "developed" and "developing" countries, all of which are themselves stratified between rich and poor peoples and communities. The twice-divided structure of this world constantly and *systemically undermines climate action*, for at least three interrelated reasons.[1]

First, there is a radical disconnect between those most responsible for the climate crisis and those most vulnerable to its consequences, many of whom depend directly on nature for their livelihoods, have no spare capacity to protect themselves from worsening climate shocks, and lack any real recourse to public support when disaster strikes. The wealthy and powerful, on the other hand – those who make the decisions, control the public narrative, and command the resources necessary to act effectively and at scale – are generally buffered from devastating climate impacts. All this critically undermines the perceived need for global action, and the impetus for political institutions at all levels to mobilize on the necessary scale.

Next, and at an even more fundamental level, extreme inequality poisons society itself, undermining the solidarity and social trust that binds us together. This, as it turns out, can be catastrophic, because trust is essential to cooperative action, which is in turn essential to ambitious, urgent climate mobilization.

Finally, yet obviously, we are living in a world system that is structured by fossil energy and by our dependence on fossil energy. In such a system, powerful and wealthy actors who profit from this dependence – whether in the rich world or the developing one – have tremendous stakes in maintaining the status quo, and they have labored mightily to obstruct meaningful climate action.

These three dynamics interact with and strengthen each other, and raise issues that sprawl far beyond the ambit of climate politics as it has generally been understood. Nonetheless, this report, like others now being published within the climate movement, emphasizes these dynamics precisely because they critically affect our ability to effectively manage our climate crisis.

2. **A global climate response must be accepted as sufficiently fair if it is to be effective.**

Given the pace and scale of the climate response that is now required, this response has the potential to be extremely disruptive, particularly in poorer countries and communities that are already struggling to achieve development in an increasingly hostile climate. This is true even though globally we have (all of) the money and (much of) the technology needed to navigate a rapid climate transition, and even though such a transition could ultimately be immensely beneficial to people all over the world. To enable this transition while managing this potential disruption effectively, there must be an overall context in which both effort and benefits are shared in a reasonably fair way, and keeps open paths to dignified futures for all.

[1] For a much more extensive discussion of these dynamics, see Stoddard et al. (2021).

The key premise here – one at the core of the fair share approach – is that the planetary mobilization now required cannot be successfully mounted, or sustained, unless it is very broadly accepted as fair both between and within countries. This is because a true 1.5°C-scale mobilization, or anything like it, will (as the IPCC has repeatedly stressed) require extremely challenging infrastructural and social transformations, and this is true despite the fact that, for example, the levelized cost of renewable electricity is now cheaper than fossil electricity in many contexts.

This is not to argue, as the fossil companies routinely do, that a rapid transition away from fossil energy would *inevitably* hurt the poor and the vulnerable, for a future based on sustainable energy that is fairly provided to all would clearly be a massive improvement – for people and for planet – over our current fossil fuel-driven pathway. But it *could* hurt the poor and vulnerable, and absent real efforts to the contrary, it *will*.

To be blunt, an honest 1.5°C future will require such rapid and sweeping change that transitional impacts and costs would be distributed unjustly *unless this injustice is explicitly prevented*. This is because, in our sharply unequal world, the very intensity of the necessary transition will create endless opportunities for the wealthy and the powerful to consolidate even more wealth and power, even while energy and material poverty becomes more firmly entrenched, livelihoods disappear with no support or transitional assistance, and responsibility for stranded assets is dumped onto the public sector.

Further, no individual, nor any single country, can meet the climate crisis on its own. If there is widespread free-riding among key players, especially wealthy players that live lavishly while they free-ride, this will rapidly erode the resolve of others to continue contributing to the shared global effort. Moreover, this will be true even for those who are deeply anxious about the impending climate impacts, because in the presence of rampant free riding, as impacts deepen and adaptation costs mount, they will be increasingly reluctant to sustain an apparently failing international effort. Instead, they will be inclined to pull back from the far-reaching and transformative action that would be needed to achieve any ambitious temperature target, and moved, perhaps reluctantly, to redirect their resources toward bracing against those apparently inescapable impacts. This is precisely because they see humanity tipping from a possible future of cooperation and mutual commitment, and toward a future that is defined by selfish and brutal survival strategies.

Fair effort sharing is thus not optional. It doesn't have to be perfect, but there is no adequately ambitious path forward – especially one that is seen as being difficult and disruptive – unless all actors can see the others contributing at a scale they can accept as being at least broadly fair.

3. **Countries have shown themselves to be unwilling or unable to substantively deal with equity and fairness within the UNFCCC, and thus it is critical that civil society prioritize it. Many civil society and climate movement groups are already doing this, and integrating it with their campaign demands.**

As one example of this unwillingness within the UNFCCC negotiations, the terms of reference of the Global Stocktake call for assessments of mitigation, adaptation, and means of implementation to be performed "in the light of equity." However, they nonetheless restrict these assessments to the collective level, thus leaving no room for assessments of individual national pledges or actions. So, not only does the Paris Agreement, with its "self-differentiated" and

"nationally determined" pledges, leave Parties free of obligations that are explicitly scaled based on principles of equity, but even the Paris ambition ratchet – which includes the pledges, the transparency mechanisms by which their details can be known, and the five-year cycle within which they are supposed to be strengthened – has no mechanism for assessing or even discussing the fairness, unfairness, or sufficiency of individual pledges. Furthermore, only so much can be said within the UNFCCC context about inequality within countries, which is unfortunate, because it is hard to talk honestly about international injustice without talking about inequality within countries.

If anything along these lines is to be possible, it will for now have to be based on the work of independent actors. Over the last several years, CAN nodes and other collaboratives of climate movement organizations have carried out specific projects and campaigns that are specifically based on analyses consistent with equity principles and fair shares. Despite differing equity perspectives and the various ways that groups have chosen to define fair shares, and despite the quite substantial differences between their specific views (which are discussed in detail in chapter 5), their results nonetheless tend to be consistent with each other, and add up to a very useful source of guidance for setting demands.

4. **The fair shares approach that undergirds those climate movement efforts is based on the fundamental UNFCCC principles. It implements a dynamic version of the keystone notion of "common but differentiated responsibilities and respective capabilities" (CBDR+RC) that explicitly acknowledges the inequality with nations.**

More particularly, this fair shares approach:

a. Recognizes that defining fair shares entails normative decisions, and it can be applied in a manner that is flexible to a wide range of perspectives;

While the fair share approach that underlies this report is based on the fundamental UNFCCC principles, it also recognizes that fair share assessments are inherently and unavoidably normative, and that there are differing perspectives on questions of fairness and fair effort-sharing, and indeed different interpretations of the principles of the UNFCCC. All of which is to say that fair share assessments cannot be reduced to purely academic or analytical exercises. Rather, equity assessments can and should be conducted in a transparent manner that allows for an explicit expression of value-based ethical assumptions. Any claims that a climate pledge is or is not "fair" should be underpinned by clear statements regarding the equity principles it is invoking, as well as the justification for their selection, the indicators by which it represents those principles, and the use to which it puts those indicators. Such "normative clarity" is essential, and though it does not settle the debate about what fairness is, it does allow us to coherently debate that question, to tell each other, and ourselves, where we actually stand, and to discover common ground and shared values.

b. **It recognizes the inequality within nations in its definition of responsibility and capacity, while recognizing that how issues of inequality within nations are addressed is not generally considered within the purview of the UNFCCC;**

Any arguably fair approach must recognize the extreme inequality raised at the outset, and how it defines the magnitude of a country or community's struggle to achieve sustainable development while undertaking climate action. Those that are relatively wealthy and secure, and can in principle direct much more attention and resources to shifting toward social and

infrastructural transformation than those struggling to meet basic needs, those who suffer widespread energy poverty, those whose lack of security renders them exceedingly vulnerable to disruptions and disasters.

The fact that some people are rich and some are poor thus must inform our understanding of a country's fair share. A poor person's dollar is not the same as a rich person's dollar, nor are their emissions. A dollar spent on obtaining staple foods and securing shelter is very different than a dollar spent on, say, space tourism. Or even terrestrial tourism, for that matter. Similarly, a ton of CO_2 emitted from the burning of a kerosene lamp to light a small home is not the same as a ton emitted from, say, a private spacecraft. Or from long-distance holiday travel. Survival emissions are, morally speaking, as distinct from luxury emissions as incomes required to meet basic needs are distinct from incomes utilized to fulfill discretionary desires. They have different moral valences and should not be treated the same when reckoning a country's responsibility for causing climate change, nor its financial capacity to contribute to global climate action.

Importantly, these admonitions apply to both developed and developing countries, for there are very poor people living within very rich countries, and any just transition worthy of that name must protect them as well as the poor people who live within developing countries. Successfully mobilizing support for ambitious national climate action will thus demand that income and wealth stratification within countries be spotlighted.

c. **It defines a national fair share as a share of a common global effort, rather than relative to purely domestic metrics; and**

This is a key point. The equity framework supporting this report, in contrast to most effort sharing frameworks, references fair shares against the common goal of protecting our single global climate, and gauges them against the scale of that overall challenge. This approach differs markedly from how people usually think about shared effort. Typically, people think about a country's share in comparison to some other arbitrary scale – such as its own emissions in some particular year, or its own mitigation potential, or the effort necessary for it to reduce its own emissions to "net zero,"(perhaps with a bit of extra time or international assistance to help it along) this automatically introduces a major bias in favor of countries with a disproportionately high fraction of historical responsibility and capacity.

This is not to say that there are not important nationally specific conditions to account for in assessing the scale of the challenge, or widely varying domestic predicaments, but only that these realities must be accounted for in our reckoning of the shared global challenge, domestic efforts, and international support.

d. **It is dynamic, and responsive to the shifting conditions of nations over time.**

Any defensible assessment of fair shares should be clear and concrete enough that its definition of basic equity principles – such as capacity and historic responsibility – can be referenced to real, empirical data and usefully expressed as quantitative indicators. These indicators will naturally evolve dynamically over time, reflecting the relative shifts among countries as their economies evolve, populations grow, and technologies change. Though they may be categorized in static annexes or various other caucuses and groupings within the

UNFCCC process, for a science- and principle-based fair share assessment, the data must determine the results.

5. **Any sufficiently ambitious climate regime will require significant amounts of international support, both public and private. If we are to achieve the Paris targets, this support will have to be available in amounts that far exceed those normally debated within the UNFCCC. Other more appropriate points of comparison are given in chapter 6. Such support is not "offsetting."**

Despite starting from meaningfully different ethical perspectives and normative decisions, groups undertaking fair share assessments have come to importantly similar outcomes. Specifically, wealthier countries have mitigation fair shares that are in excess, and often far in excess, of their total emissions or any plausible amount of mitigation that could be done within their borders. In less wealthy countries the opposite is the case – their fair shares are smaller, often much smaller, than the amount of mitigation that arguably could and should be undertaken within their borders. This is the case even though all countries must soon approach zero emissions. The natural implication of this is that international cooperation is critical to fair sharing of the effort, whereby wealthier countries provide the financial and technological resources by which less wealthy countries can exert efforts beyond their fair shares. That is the only way to square equity and ambition.

This all implies that *international cooperation and finance are not secondary issues* – wealthier nations such as the US, Europe, Canada, the UK, or, indeed, Singapore and South Korea can only fully deliver their fair share of the global effort by supporting a substantial amount of climate action in poorer countries. The fair share approach taken here defines a total fair share for such countries, which in practice would be undertaken in part as a domestic and in part as an international effort. Determining the best way to allocate this fair share into domestic and international components is no trivial matter, and involves techno-economic factors (such as the relative cost of abatement opportunities domestically and internationally), as well as political and ethical judgments such as what type of lifestyle change might be needed, and of whom?

Regardless of where exactly the line between domestic and international effort is drawn, national climate campaigns must come to stress international cooperation and climate finance as much as domestic mitigation. This implies a perspective that is starkly different from the current one, where the thought of developed countries searching for mitigation activities in developing ones invokes the image of wealthy countries with weak NDCs off-shoring much of their already inadequate effort through loophole-ridden carbon markets and offset schemes. But if high ambition pathways are to be taken seriously, then developing countries will also need to shift rapidly to these pathways, and they will absolutely need financial and technology transfers to do so. At the same time, the logic of high ambition pathways also means that the cooperation on and provision of this finance and technology by wealthier countries will have to be in *addition to* very ambitious domestic pathways and not *instead of* them, as would be the case if this were done through some offsetting scheme. Creating sound mechanisms and institutions that can effectively and fairly mediate this cooperation is an absolutely crucial development that civil society organizations must prioritize.

6. **The challenges here are great. Nevertheless, we have both the money and the technology to achieve the necessary transition, though major finance and support breakthroughs will**

be necessary to deploy them at the necessary speed and scale. To that end, we argue that a new kind of realism, a "climate realism," is now needed.

It is imperative to reject the false choice posed by what we call "conventional realism," which sees an almost immutable divide between, on the one hand, the incremental steps that are judged to be possible within the current political reality and, on the other, more strenuous demands that are summarily dismissed by that same realist judgement

In fact, the path ahead must be one of political transformation, within which the bold action necessary to stabilize the climate system can *actually become politically realistic*. "Climate realism," in contrast to conventional realism, embraces the central importance of equity, including the fair share perspective and the enormous demands it implies. In so doing, it does not simply ignore the constraints of political reality and idealistically assert that, because we *should* act ethically, we *must* act ethically. The point is rather to spotlight the grand compromises that are necessary to solve the climate problem, to stress the fact that *if* we act ethically, we can in fact solve it. In this sense, fair shares is anything but "idealistic," a word that, in the conventional realist lexicon, usually means "naïve." Rather, it is a hard-nosed realism indeed that can acknowledge that a fair approach, despite its daunting demands, is actually *in our own self-interest*, a self-interest that – in this case at least – we share with strangers beyond our national borders, who happen to share our same, single, imperiled climate system.

The conventional realist will hold that nothing like fair shares is in the cards, that the weight of history is simply too great, and that the politics of the day will simply not support it. But while this may at the moment seem to be the case, tomorrow's realism will assuredly be different from yesterday's. This is because of the rising impacts, and the increasingly visible and well-known existential dangers they portend. And this is because of the technoeconomic revolution in renewables, which has already reset expectations about the politically realistic pace and cost of decarbonization, and which is poised now to drive that point resoundingly home. And this is because of the evolving climate movement, which has already largely become a climate *justice* movement and is well on the way towards becoming a *global* climate justice movement.

Realist skepticism is especially provoked by calls for a "transformational finance breakthrough" that must inevitably be denominated in trillions rather than billions of dollars in new and redirected finance, both public and private, along with the new institutions of international cooperation that will be needed to effectively deploy it. But then again, the prospect that governments would quickly disburse multiple trillions of dollars for a smorgasbord of welfare relief and macroeconomic support would surely have provoked a similar skepticism… at least until COVID-19 hit.

One final point. What we've called climate realism goes far beyond fair shares. But the fair shares approach is surely a path towards climate realism, and not only because it insists on the primacy of international cooperation and solidarity. It also forces us to think about them in very concrete and very specific ways, which is exactly what we are going to have to do if we actually intend to launch a climate transformation of the necessary speed and scale.

Chapter Summary

This briefing is divided into the following chapters.

1) Introduction

The world is in a systemic crisis, with climate and inequality crises at its core. In this context, we need to move forward as best we can, but we also need strategic ideas that open doors to the bold action necessary to stabilize the climate system. Such ideas are necessarily rooted in a commitment to fairness, and fair shares is clearly one of them.

This report situates the fair shares approach with respect to the great problem of extreme inequality, summarizes CAN's history with it, and develops it further. The basis of this analysis, the Climate Equity Reference Framework, ("the CERP framework"), has been co-evolving with CAN's equity politics for over a decade, and it has informed the equity work of a wide spectrum of civil society organizations.

There is of course more to the global climate equity challenge than mitigation fair shares, but such fair shares have a key role to play, particularly now, as we begin to face the real demands of the Paris temperature targets, and struggle to ratchet up the Paris pledges, not least the finance contributions. Further, the ideas at the core of the fair shares analysis can provide useful starting points when considering the equally difficult challenges posed by adaptation, loss & damage, and the overarching global just transition challenge.

2) Context setting: Climate Action in a Radically Unequal World

The climate crisis is unfolding in a world simultaneously suffering an inequality crisis. This latter crisis is two-fold in nature, for it manifests both *between* countries and *within* countries, whether they be "developed" or "developing." The resulting picture is complex, and it is instructive to consider it against an analysis that steps back to see planetary inequality as a whole; it is particularly instructive to view inequality within individual countries in this larger global context.

We stress this point because *extreme* inequality has become a pervasive social poison, which undermines solidarity and cooperation both within countries and globally. The underlying issue here is that solidarity and cooperation are essential if we're to achieve first the short-term pledges and then the long-term targets upon which our common future depends.

Despite the myriad ways in which a rapid climate transition will ultimately improve the lives of people around the world, actually achieving this transition is going to be very hard. The power of the fossil energy cartel is, of course, one of the major problems here because it compounds the sheer size of the necessary effort (e.g. tens of thousands of power plants around the world), and the structural lock-ins and dependencies which challenge us on every front. Witness the depth of Europe's dependence on Russian fossil energy, which it took a brutal war to bring to the world's reluctant attention.

The point is not that a climate transition should be fair, but rather that it demands an immense and sustained effort, and unless this effort is widely seen as fair, it is very unlikely to happen in time. The

issues here sprawl far beyond the ambit of climate politics as usual, but so do the demands of an adequately rapid and transformational climate transition,

3) CAN International's history with, and near consensus on, the Fair Shares idea

CAN has long struggled with the significance and implications of the equity idea, which is of course highly contested. This is no surprise, given the state of the negotiations, and of the world system that underlies them. But despite the obvious challenges, many actors within CAN circles have long believed that the promise of equity – to become a "pathway to ambition" – cannot be abandoned, and in this context CAN has been engaged with the equity challenge – and in particular the fair shares idea – for some time. The story here began in earnest with the "Bali Equity Summit" in 2002 and extends through the Copenhagen and Paris equity debates and to the present moment.

These developments crystallized with the analysis produced by CAN's post-Copenhagen Equity Working Group, which co-evolved with and is closely related to the Climate Equity Reference Framework, which is at the foundation of the work summarised in this report, and is the basis of the climate equity work of a broad spectrum of civil society organizations.

This chapter presents some key lessons. For example, it argues that, in all matters related to equity and its uses, "normative clarity" is extremely important. To be useful, claims about climate equity must be very clearly and transparently laid out, so that different actors in different nations can judge them, understand them, and use them in ways consistent with their own ethical perspectives. And CAN itself is now in a position to have a substantive and productive internal equity debate.

4) The CERP framework in light of the CAN-I equity position

Insofar as CAN has a position on global climate equity, it is rooted in the Framework Convention and its equity principles. These principles can be justly summarized as:

- A precautionary approach to adequacy
- Common but differentiated responsibility and respective capability (CBDR+RC)
- The right to sustainable development.

CAN generally understands these principles not in abstract and legalistic terms, but as ethical imperatives that can and should be applied to the real world of complex, dynamically evolving nations, rather than to static lists of "developed" and "developing" countries.

While this report is not a primer on fair shares, it does explain the ethical premises that underlie the framework and how they are implemented, and in particular the user choices – "Equity Settings" – that allow it to represent different ethical perspectives.

Importantly, this chapter includes an appendix ("box") called *Fair Shares Assessment – Why this framework and not others?* In it, several alternative approaches to fair shares assessment are discussed, in light of CAN's position on equity. These alternatives are the Climate Action Tracker (more precisely CAT's new hybrid ambition benchmarking approach), the "grandfathering" approach, equality-based approaches like Contraction and Convergence and equal per-capita benchmarks, and the cumulative per-capita approach.

5) CERP applications around the world and how they are usefully different

Over the last several years, a number of climate movement collaboratives, including many CAN members and nodes, have conducted projects and campaigns based on the fair shares approach presented here. One of these, the ongoing Civil Society Equity Review, is global in scope and is historically targeted toward international events and audiences surrounding the climate negotiations. The others – this chapter will review efforts in Norway, the United Kingdom, Quebec, New Zealand, South Africa, and France – are national in scope, and targeted at national audiences. The bulk of these (the exceptions are the Civil Society Equity Review and the South Africa report) are focused on countries in the Global North.

This is a long chapter, and it may be tempting to skim it. This is even justified if you are primarily interested in the "big" political questions, which we turn to in chapter 6. But do understand that this chapter reflects the *practices* of fair shares effort to this point, practices that have varied from country to country as various collaborations have taken different approaches to defining and quantifying national fair shares. It also presents the high-level results of these efforts, and discusses how groups have leveraged these results to inform their campaigns.

Both the commonalities and the differences between national efforts are interesting, and taken together they are quite suggestive when it comes to strategizing forward. For example, the USCAN fair shares collaborative focused on "high progressivity" equity settings, which spotlights the disproportionate wealth and income of the rich relative to the middle-income and poor when calculating national capacity, while the South African report shows that ideas really do matter, and can have real policy impact, particularly when combined with a determination, on the ground, to prioritize equity.

6) Applying Fair Shares to global and national advocacy

Here the central political question takes the stage – what does the fair shares idea bring to the table, from the point of view of global and national advocacy? To queue up this question, two foundational issues are discussed in detail.

- How can calculations based on fair shares, which often demand national efforts that far exceed the bounds of conventional realism, nonetheless be helpful? In other words, what would a strategy based on "climate realism" consist of?
- How should a national fair share defined in terms of both domestic and international action best be framed, so as to most usefully contribute to efforts relevant to policy and campaigning?

The context here, stated simply, is that we will not achieve even the weak ("well below" 2°C) edge of the Paris temperature goal without meaningful breakthroughs on both domestic reductions and international support and cooperation, which itself implies a breakthrough on international climate finance, public as well as private.

To that end, we discuss the great challenge posed by the *sheer scale* of the necessary climate transformation, which is revealed especially clearly whenever attempts are made to estimate its size in monetary terms. As it turns out, expenditures on the necessary scale are almost routine, and not just in the military section. A number of examples are given.

It's important, here, to note that the need for "transformational levels" of international public climate finance is now widely recognized. This decisive shift, which was exemplified by Barbados Prime Minister Mia Mottley's speech to the COP26 opening plenary, is extremely important, and the overarching political challenge is to deliver on its promise. To that end, understanding the concrete implications of international support on the scale suggested by the fair shares analysis has become a top priority. This challenge, which is beyond the capacity of the formal negotiations, falls now to civil society.

7) Equity & Fair Shares – Strategic challenges and invitations to reflection

The goal of this chapter is to canvas the larger strategic landscape defined by the global climate equity challenge. It does not argue that the fair shares approach is relevant to all the key problems found on that landscape – though in some cases it is – but rather seeks to identify those key problems, and to briefly spotlight their structure, which often implies a need for approaches that, like fair shares, strain against the limits of conventional realism.

The discussion here sketches out some of the challenges implied by the outcomes of CAN's 2020 Arusha strategy conversations:

- Centering people and climate impacts
- Ending Fossil Fuels
- Transformative national climate action in a global context
- Multilateral action and advocacy

These challenges extend far beyond mitigation, and very far beyond fair shares. We recognize the deep complexity of all of these challenges, but we want to offer a set of key questions that, if properly explored, might help to illuminate some of the equity challenges central to the human prospect. In any case, all of these questions are in the air, and considering them as a set does, we think, sketch out a map of the larger equity problem space.

Recommendations

1) CAN members and nodes should convene national and regional fair shares exercises and pledge assessments, in broad collaboration with allied organizations, social movements, and front-line communities. These collaborations should be explicitly deliberative, aiming to build the basis for active and invested advocacy and campaigning.

    a. The Global Stocktake, as per the Paris Agreement's Article 14, is to be conducted "in the light of equity." Unfortunately, it is also generally understood to be restricted to assessments at the collective level. Given that the equity assessments of individual national NDCs is an essential part of any well-functioning "ambition ratchet," the need here is both obvious and critical – civil society organizations must pioneer ways forward by developing useful and illuminating ways of conducting such assessments.

    b. The negotiations around the New Collective Quantitative Goal (NCQG) are just as critical and perhaps more contentious than arrangements relating to the GST. With the negotiations still plagued by the arbitrary and grossly inadequate USD $100 billion/year finance number, NCQG discussions will provide an extremely important opportunity to reset expectations. CAN-I can seize this opportunity to highlight the crucial importance of a needs-based goal that takes both science and justice into meaningful account. No less important are the issues relating to the institutions and mechanisms through which finance is to be delivered, again to ensure just outcomes. As the NCQG is to be a *collective* goal, there will be little space within the formal deliberations to highlight national fair shares of finance, but this only means that the domestic work of CAN-I members must be all the more explicit and forceful about its implications for their national campaigns.

2) CAN members and nodes should explicitly face, and debate, the gap between the actions implied by their fair shares assessments and the limited actions that currently seem politically realistic in their countries and regions and examine what would constitute climate realism in their national political contexts.

3) Opening the conversation beyond the limits of conventional realism is an urgent priority, but the best paths towards that goal will inevitably vary from place to place. What would constitute climate realism within national political contexts that can manage the defining realities:

    a. In developed countries, fair share efforts consistent with a 1.5°C global pathway invariably include extremely ambitious domestic mitigation efforts *as well as* cooperative multilateral efforts to provide the international finance and technology needed to achieve the remainder of the national fair share.

    b. In developing countries, fair share efforts must include both ambitious domestic mitigation efforts and a readiness to conditionally embrace even more ambitious efforts – if adequate provisions of climate finance, technology transfer and capacity building are made.

4) CAN members and nodes should chart out equitable transformation pathways of the necessary scale, as implied by their national fair shares, and then advocate for them in close collaboration with social movements and front-line communities within their countries and regions. These

collaborations must, for both ethical and political reasons, explicitly and genuinely support broad social justice goals as an integral part of transformative climate action.

5) CAN members and nodes should help define and promote equitable international cooperation.

    a. Wealthier countries should identify sources of revenue that can appropriately be drawn upon to provide international climate finance, insisting that these must be tapped in progressive ways that do not unfairly burden the poor.

    b. All countries should work to understand how global cooperation and implementation could rapidly occur, and demonstrate the feasibility of cooperation at the necessary scale, while prioritizing the needs and priorities of local communities.

6) CAN members and nodes should work to shift power and reduce inequality, so as to make effective consensus on a climate transformation feasible.

    The details will vary from time to time and place to place, but the overarching goal should be reversing the extreme inequality that makes the emergence of a culture of solidarity, including international solidarity, all but impossible. There is no end to the possibilities here, from electoral reform and financial sector regulation to tax and immigration justice to reversing austerity measures and imagining a “global green new deal.” The list goes on. The point is that somehow, together, we must make solidarity possible.

Chapter 1. Introduction

The fair shares idea is no longer novel. But as the crisis deepens, its profile is changing. Humanity is facing a civilizational emergency with both climate and injustice at its core, and neither can be treated in isolation from the other. The fair share approach, by recognizing the linkages here, seeks to intervene in the climate crisis as we actually find it, which can be separated from the inequality crisis, but only in limited ways.

Climate-linked injustices extend far beyond mitigation, and this report discusses other equity challenges as well as mitigation proper. These involve an enormous set of profound justice related issues including adaptation, loss and damage, the challenge of a just global transition away from fossil fuel extraction and dependence, and of course the overarching challenge of just and sustainable development in a climate constrained world. We raise some of these issues, but the core of this report centers on fair shares of mitigation, and the point we wish to stress here is that, despite their importance, many of the other issues here resist the kind of straightforward quantitative analysis applicable to mitigation, for they involve even more complex and sprawling national and international efforts. Thus, the focus of this report remains mitigation, and this despite the fact that, at the end of the day, the climate equity agenda is impossible to narrowly circumscribe, not least because it inevitably implicates the global inequality crisis, which can no longer be set aside.

At any rate, the equity challenge has great relevance in virtually all dimensions of our global climate response, which also means that it cannot be set aside while we concentrate on "implementation." This is the case for the simple reason that – despite all the benefits and promises of the climate transition – any adequately rapid global decarbonization process, if not carefully managed, could be extremely disruptive and in many cases painful. And while a rapid global climate transition can, in principle, be achieved – we have both the money and the technology – it's hard to see how this will be possible if it is not done fairly. In other words, not only benefits and promises but also any unavoidable pain and disruption must be shared amongst the people of this world in a way that is widely accepted as being fair enough. It is not acceptable to follow the common pattern in which most of the benefits are captured by those who are already wealthy and powerful, while most of the pain and suffering is born by those already marginalized and oppressed.

This report is not intended as a primer. While it provides a general overview of the Climate Equity Reference Framework ("the CERP framework") and the UNFCCC equity principles it is based upon, it shifts relatively quickly to a discussion of the concrete decisions and choices involved in applying this framework in particular political contexts. By so doing, it seeks to illuminate political challenges that arise when approaching the critical task of assessing and then ratcheting up current mitigation NDCs "in the light of equity," and the equally pressing challenges of effectively delivering the necessary levels of international transition support. To that end, this report draws heavily on the work of the various civil society collaboratives that have applied the fair shares framework in their work. The lessons learned from these initiatives are quite instructive.

As the world enters the third year of a pandemic that has exposed the short-sighted venality with which the elites can ignore the needs of the poor, it is altogether obvious that the old politics will not suffice. And, of course, the Russian war in Ukraine has underscored the need to strengthen today's inadequate institutions of global governance. But while, within the climate movement, a new politics is being created, this is not the direction of the official climate "process." Rather, the high politics of

climate suffers a constant grinding pressure to replace the anchoring principles of the Rio climate regime – "common but differentiated responsibilities and respective capabilities" – with ad hoc and undifferentiated "shared responsibilities" approaches in which the challenges of international cooperation and finance are, it seems, never to be met. This pressure, importantly, is explained by those sympathetic to it (many of whom fully understand the depth of the climate crisis) as a realist imperative, but this only emphasizes the degree to which realism itself is now a contested notion.

There will be more to say in the years ahead. For the moment, in this report, our aim is to contribute to the deepening of CAN's equity discussions, a deepening that is necessary if CAN, a leading international civil society network, is to play a helpful part in the reckonings ahead. Here, we focus on fair shares for, inevitably, the challenge of international fair effort sharing must be faced in a manner relevant to the world as it actually is, a world as brutally divided by class as it is by nation.

Chapter 2. Context Setting: Climate Action in a Radically Unequal World

The climate crisis is unfolding in a world that is, simultaneously, suffering a crisis of extreme inequality. Radical disparities in income (Chancel, Lucas et al. 2022) are matched by radical disparities in carbon emissions ((Kartha et al. 2020), and these disparities are manifest both *between* developed and developing countries, and *within* all countries. This stratification, further, grew more extreme as a result of the disruption wrought by COVID and the mangled response to it, a point we must emphasize, because this disruption can be seen as a warning of future disruptions, including those that are in store for us as we confront the climate crisis.

During the first year-and-a-half of the pandemic, the world's ten richest men doubled the already obscene levels of wealth they had previously captured. They now own more than the poorest 3.1 billion people combined, while, according to Oxfam, over 160 million people were pushed into poverty over the same period of time (Ahmed et al. 2022).

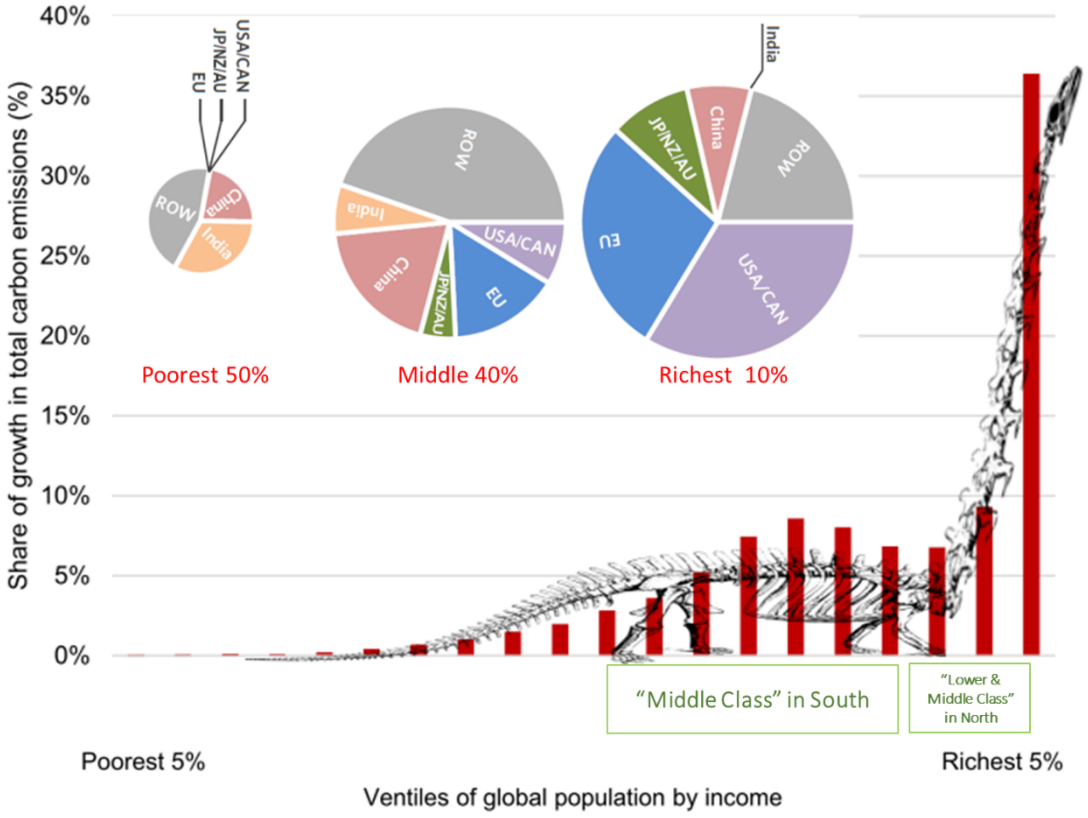

Figure 1. Emissions growth (1990-2020) by income group. (Source: adapted from Kartha et al. (2020); Civil Society Equity Review (2018)).

Income inequality is linked to our climate predicament in many ways, but the most direct connection relates to its leading to the similarly extreme *emissions* inequality now apparent between and within countries. The red bars in Figure 1 represent the world's population divided into twenty equally-sized groups, distributed from poorest income group on the left, to wealthiest on the right. The height of

each bar shows the corresponding income group's share of the growth in global CO_2 emissions, between 1990 (when the UNFCCC was being negotiated) and 2020. During that period, the consumption of the richest 10% of the world's population (the rightmost two bars) was responsible for more than one-half of all emissions growth (51%), exceeding that of the remaining 90% of the world's population (41%). In total, the consumption of the poorest half of the world's population amounted to less than 8% of global emissions growth.

The lesson from this is not only that wealthier people contribute more to carbon emissions than less wealthy people. More profoundly, the sheer overwhelming extent to which this is the case belies the claim that rising global consumption and fossil fuel emissions, and the overall strain on the climate system, is at least justified by the lifting of the world's masses from poverty. In point of fact, the poorest and most energy-deprived half of the world's population barely benefitted from (nor contributed to) this past three decades' rise in emissions, during which temperatures have risen perilously. The global poor continue to struggle, having benefited minimally from the still-expanding environmental footprint of the growing global economy, and the persistent narrative that economic growth is first and foremost justified by poverty eradication is nothing more than a global case of "hiding behind the poor."

This is not the whole of the matter, and the inset pie charts in Figure 1 reveal another dimension of this inequality story, reflecting how inequality at the level of global individuals is reflected within countries. The areas of the three pie charts represent the shares of income of the poorest 50% of the world's population, the middle 40%, who for lack of a better term we will call the "global middle class," and the richest 10%. The three pies are divided into slices showing the contributions of major countries (or country groups, as labeled; ROW = rest of world) to those income shares. It reflects the fact that in each country, no matter how wealthy or poor overall, the population ranges across the global income spectrum: the relatively rich countries have residents who are members of the global poor, and conversely some residents of poor countries are members of the global wealthy class. But just as the richest 10% of the global population has enjoyed a vastly disproportionate increase in income, so too has the richest 10% of the national population – and this is true in virtually all countries.

There are, to be sure, important differences between the income distribution in rich countries and the income distribution in poor ones. But that difference is largely one of national composition. In those wealthier countries that are gaining most of the global income, it is the members of the global 10% that earn the majority of the income. As you can see from the "Poorest 50%" pie chart, or rather from the thin line emerging from its top, there are US and Canadian citizens within the global bottom 50%. But they are, on the global scale, so comparatively few – and their income so comparatively meager – that they do not define a visible wedge.[2] In the case of India, however, the overwhelming majority of people are among the global poor, who earn about as much of the country's income as the smaller number in the global middle class, while a non-zero (but imperceptibly small, on this graph) share is earned by the Indian members of the global 10%.

And there is much, much more to say, but one crucial point is that national income distributions are very different from global ones. For example, the global bottom 70% includes the poorest 17% of the US population but a *much* smaller share of US income. And at the top end, the figures are equally

[2] For more on these numbers, and to drill down to primary sources, see USCAN (2020a)

startling – 64% of the US population is part of the global top 10%, 33% of the US population is in the global top 5%, and a full 20% of the US population is in the global top 2% (USCAN 2020a).

Obviously, such inequalities as these raise issues that sprawl far beyond the ambit of climate politics as it has generally been understood. But this old understanding of climate politics is becoming less relevant as another core truth becomes visible: Income is highly correlated with human development outcomes such as infant mortality, malnutrition rates, and life expectancy, and, likewise, widely differing levels of carbon emissions are directly linked to differing levels of travel, fuel use, food consumption, access to electricity, and so on. Moreover, all of these issues are directly linked to differences in political and economic power, and to all manner of marginalization, deprivation, and oppression.

Extreme inequality has become a social poison, and in many societies threatens to undermine efforts to work cooperatively to secure the basic conditions upon which humanity's survival depends, not the least of which is a climate that is stable and hospitable to human civilization. This inequality is the manifestation of a global economic system built around the historical legacies of unequal exchange, colonialism, slavery and "economic violence" (Ahmed et al. 2022), one that stands in stark opposition to the solidarity and cooperation needed to address the planetary climate emergency. In this sense alone, and because it concentrates resources, wealth and power in the hands of a few, extreme inequality threatens to deprive us of our last best chance to adequately respond to the climate emergency.

Our world has long passed the point where the climate challenge can be understood apart from the inequality challenge. It is now critical to take extreme inequality – both between and within countries – as an absolutely critical component of the climate challenge, and in this context, to spotlight the importance of global climate justice in general and climate fair shares in particular. At the very least – and this is a very low bar – the international effort to stabilize the climate must be shared in a way that *does not further worsen* existing inequalities, and it would be far, far better if the climate mobilization actually and prominently promised to contribute to reversing the widening disparities.

This challenge is made even graver by the dire nature of the situation, and by the massive scale of the required response. The UNFCCC Secretariat's 2021 NDC synthesis report (UNFCCC 2021) noted that if our civilization continues along the course set out by today's NDCs, it will have exhausted the remaining 1.5°C budget by around 2031. And note well that we're speaking here of the newly "enhanced" NDCs (i.e., as of late 2021), which, although they pledge twice the amount of mitigation of the previous batch, only increased the total pledged effort to close to 20% of the global mitigation gap. In other words, what was needed was a five-fold greater "enhancement" of mitigation than was actually delivered in Glasgow. To be sure, some assessments of the mitigation implied by countries' pledges are much more optimistic, for instance, the recent study in *Nature* (Meinshausen et al. 2022), as suggested by its title: *Realization of Paris Agreement Pledges May Limit Warming Just Below 2°C*. However, the authors came to this conclusion only by way of optimistically interpreting the pledges, by taking countries' long-term net-zero utterance at face value, and, crucially, by assuming that "all conditional and unconditional pledges are implemented in full and on time."

While such analyses can be quite helpful and insightful (as long as their caveats receive the same level of attention as their headline conclusions), this points to two important issues: First, the international finance and support needed to implement the conditional pledges will absolutely need to be mobilized, and this mobilization would be orders of magnitudes bigger than still unmet "$100

billion/year" pledge from Copenhagen.[3] Second, with regards to the "net-zero" pledges, while the number of countries that have announced "net-zero" pledges has increased, these are hollow pledges in the absence of the concrete near-term steps – including both credible national policies and very substantial levels of international cooperation and finance – that will be necessary if they are to be achieved. Clarity is important here – a global net zero push in which all countries are expected to reach (more or less) the same goal at (more or less) the same point in time, if asserted absent an international cost-sharing breakthrough of comparable ambition, will not only be unjust, it will also be a very bad bet; one that is almost certain to fail.

And even if the support challenge is met and these targets are achieved, it will have to be in a very different way than they are currently conceived, given the fact that the finite potential for global carbon sinks is already "over-subscribed" (Stabinsky and Dooley 2021).

Ambition and Equity

The key premise here – and this premise lies at the very core of the fair share approach – is that the global transformation needed to meet the climate crisis cannot be successfully mounted, or sustained, unless it is very broadly accepted as fair, both between and within countries. Most actors (countries, organizations, individuals, communities) will not be willing to engage in the far-reaching transformative action that is needed – especially if it is seen as being difficult and disruptive – if they don't see others also contributing to the transformation at a scale they see to be broadly fair. In this sense, as the slogan has it, equity really is the pathway to ambition.

While many people will readily agree that the global climate transformation should be undertaken in a fair way, the real beginning of this story is that an adequately deep and rapid climate transition will be extremely challenging, despite the many benefits. A true 1.5°C-scale mobilization, or anything like it, will require extremely challenging infrastructural and social transformations, and this is true despite the fact that renewables are now cheaper than fossil energy in many contexts. This new reality is immensely encouraging, but the speed and scale of the necessary transformation also poses the risk of disruption. Costs and benefits *will be* distributed, one way or another, which is not itself the problem. The problem is that, in our brutally unequal world, they are more likely than not to be distributed unfairly, because the very intensity of the necessary disruption means endless opportunities for the wealthy and the powerful to consolidate even more wealth and power, unless such consolidation is explicitly prevented. This has been proven time and time again (see, for example, Klein 2007), but, again, the COVID pandemic is the best recent example – in its first year and a half the wealth held by billionaires across the world increased by over 60% (Ahmed et al. 2022; Lawson and Jacobs 2022).

In such a world as ours, and in the absence of strong and very broad countervailing just transition policies, any high-ambition climate transformation will likely have huge impacts on the poor, the working class, and the world's majority. True, the solar transition has an immensely positive potential, but this isn't the only possibility, or even the most likely one. It could also, if a rapid exit from fossil energy deprives poor people from the energy needed for decent lives and livelihoods, lead to prolonged, and even worsened energy poverty. Likewise, it could mean biofuel and carbon-sequestration schemes that consume land and raise the price of food, further undermining

[3] For the first round of NDCs, Pauw et al. (2019) calculated the climate finance needed to implement that conditional portion of developing countries' NDCs as USD $3.3 trillion for the 2021-2030 period, or on average USD $330 billion per year. Presumably, the finance need for implementation of the Glasgow pledges is correspondingly greater.

the food security for the poor. It could mean loss of employment for those whose livelihoods, in this heavily fossil-fuel dependent world, are currently also fossil-fuel dependent.

This is not to argue, as the fossil companies routinely do, that a rapid transition away from fossil energy would *inevitably* hurt the poor and the vulnerable, but rather that it *could*, and that absent real effort to the contrary, it *will*. That the transition away from fossils, which must happen, won't be fair unless it's designed to be, that the immense potential for major welfare improvements through a renewables-based transition will only be realized if that transition *is done right.* And that there is no good reason to believe it will be unless such welfare improvements are prioritized – within a transition that seeks paths to mitigation that are equitable both between and within countries –, rather than assuming that positive outcomes will be the more or less inevitable products of a mitigation transition that is fundamentally imagined in techno-economic terms.

The key point here is not that a climate transformation *should* be fair, but that, unless it *is* widely seen as fair, it is unlikely to happen at all. Which is to say that, unless the climate transformation is widely seen as fair, its opponents – and they are many, organized and well-practiced – will have an easy time manipulating the anxieties that almost always accompany large and rapid changes; that, absent a forthright and compelling emphasis on justice in this transition, such fear will all too easily be transformed into resistance, backlash and ultimately into a failure to sustain the robust consensus that will be essential if a global mobilization is to be sustained.

Remember that no individual, nor any single country, can meet the climate crisis on its own. If there is widespread free-riding among key players, especially wealthy players that live lavishly while they free-ride, this will rapidly erode the resolve of others to continue contributing to the shared global effort. Moreover, this will be true even for those who are deeply anxious about the impending climate impacts, because in the presence of rampant free riding, as impacts deepen and adaptation costs mount, they will be increasingly reluctant to sustain an apparently failing international effort. Instead, they will be inclined to pull back from the far-reaching and transformative action that would be needed to achieve any ambitious temperature target, and moved, perhaps reluctantly, to redirect their resources toward bracing against those apparently inescapable impacts. This is precisely because they see humanity tipping from a possible future of cooperation and mutual commitment, and toward a future that is defined by selfish and brutal survival strategies.

In such a future, human civilization as we know it is unlikely to survive the climate crisis, and the larger crises within which it is embedded. Kate Marvel's ominous warning says it all: "I know what happens to a column of air, when you heat it up; I know what happens to water vapour when you heat it up – I am a physicist […]. I have no idea what people do when you heat them up" (Marvel 2019).

The bottom line is that extreme inequality, and extreme injustice in general, *systemically undermine climate action.* This is true for at least three interrelated reasons.[4]

First, there is a radical disconnect between those most responsible for the climate crisis and those most vulnerable to its consequences. The desperate need for action is felt keenly by communities that depend directly on nature for their livelihoods, by poor people who have no spare assets to protect

[4] For a more extensive discussion of these dynamics, see Stoddard et al. (2021).

them from worsening climate shocks, by marginalized populations that have no real recourse to public support when disaster strikes. But the wealthy and powerful, those who make the decisions and control the public narrative, and – crucially – control the resources necessary to act effectively, are generally buffered from devastating climate impacts. All this critically undermines the perceived need for global action.

Second, extreme inequality undermines social trust, both domestically and internationally, and this as it turns out is catastrophic, because trust is essential to cooperative action, which is in turn essential to ambitious, urgent climate mobilization. The importance of the dynamics here cannot be overstressed.[5] Absent a very widespread sense that "we're in this together," it is hard to imagine how humanity will find its way to multi-dimensional cooperation, or even limit the incessant free-riding that has to this point helped to critically undermine meaningful global climate action. Which is not to say that the entire massive challenge of planetary inequality – between nations and within them – has to be immediately imported into the climate regime, but it does mean that truly meaningful global climate action will continue to elude us until we begin to approach the climate challenge, and indeed the political challenge, with a pragmatic sense of solidarity, one that finds tangible expression in the core institutions of international cooperation and effort sharing. And right now just the opposite is happening, as intense inequality fuels polarization, within countries and between the global North and South.

The challenges here are many and difficult, and they will have to be met with strategies designed to address extreme inequality, both national and international, strategies that are distinct from those at the heart of the climate mobilization. Still, there are real overlaps, and one extremely difficult point, in particular, demands attention – the poisonous consequences of extreme inequality within wealthy nations can be catastrophic for international solidarity and cooperation. The US is an excellent example, a matter that became extremely clear to the members of the USCAN fair shares collaborative when they set out to define its approach to national capacity. The details of that approach will be summarized in chapter 5, but as it turns out, the poorest two-thirds of the world's population, which is an extremely economically disadvantaged stratum by any standard,[6] includes nearly one in five Americans. The implication is straightforward and unavoidable – the US is the wealthiest country of all time, and in any fair global climate regime, it must obviously carry a large fair share of the burden, including in providing international support. Just as obviously, however, it cannot meet that fair share on the backs of its poor, of which there are many. Indeed, as long as that threat looms, there will be no consensus within the US to meet its fair share.

Last, but certainly not least, there is the power of the fossil fuel industries. Ours is a world driven by fossil energy, and those who benefit from its power are represented everywhere. Whether they are in the rich world or the developing one, they have tremendous stakes in the maintenance of the status quo, and they have labored mightily to obstruct meaningful climate action. Just consider the vast

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[5] Key new research stresses that extreme inequality is a driver of political polarization. For an excellent entry point into this topic, see Edsall (2022).

[6] In the US, a hugely disproportionate number of the people in this stratum are Black, Brown, and Indigenous. The numbers here are contested, and range from bad to worse. By some estimates, African Americans have approximately one-eighth the median household wealth of white Americans. For a recent instance of this commonly-cited statistic, see Luhby (2020). In other estimates, the ratio is much higher. For example, Chuck Collins and colleagues at the Institute for Policy Studies assert that "The median Black family today owns $3,600—just 2 percent of the $147,000 of wealth the median White family owns. The median Latino family has assets worth $6,600—just 4 percent as much as the median White family. In other words, the median White family has 41 times more wealth than the median Black family and 22 times more wealth than the median Latino family." (Collins et al. 2019)

sums that fossil barons pour into disinformation campaigns and the sway that, for example, their campaign contributions allow them to have over political processes.
This point must always be repeated: No campaign for an ambitious climate transition can hope to succeed unless it fully recognizes both the power and the venality of the fossil cartel.

In sum, humanity cannot be expected to get its arms around the climate problem without a deeply cooperative ethos, rooted in a sense of shared fate. This is true in terms of national politics, where the challenges of domestic decarbonization must come to be seen expansively: as not merely technological challenges, but as equitable transition challenges that, if met, can lift us up and bring us together, that can yield winning majorities that are willing and even eager to embrace change. And it is equally true of international politics, where the challenge demands a sense of international fellowship, which can only be expected of people who have come to know solidarity on smaller scales as well.

We are all in this together, and we are going to have to learn this, well and quickly. And there is no good reason to believe that the sheer political and economic power needed to drive a very rapid transition will ever cohere if this simple but overwhelming fact, and its implications, are not faced.

Chapter 3: CAN International's history with, and near consensus on, the Fair Shares idea

CAN has historically followed a mode of operation that is very strongly dominated by the pragmatics and tactics of the formal climate negotiations, which sometimes limited the space it was able to dedicate to advancing its positions on climate equity. At the same time, ideas matter, and this is especially true when it comes to contested ideas about equity, justice, and solidarity. Unfortunately, it is easy to argue that CAN has not consistently highlighted the importance of, or exploited the opportunities presented by, the equity debates that backlight the negotiations.

We're referring, first of all, to the equity ideas – the high-level equity principles – that were first clearly expressed in the Rio Declaration, and which frame the UN Framework Convention. The most important of these are, of course, "common but differentiated responsibilities and respective capabilities" and "take the lead."

CAN's explorations of equity frameworks were never limited to the UNFCCC's terms. At its 2002 Bali Equity Summit, for example, an idea dubbed "Per-capita Plus" – a modification of the old "Contraction and Convergence" framework that also took "national circumstances" into account – was seriously discussed. The history here, as it evolved, was sometimes fraught, and by 2008, when many CAN members met for the "Equity Summit" in Mahabalipuram in India, CAN's internal equity debate had become almost as toxic as the equity debate within the formal negotiations. Suffice it to say that, for a number of intersecting reasons, the summit failed to advance the equity conversation within CAN.

In the run-up to and especially after the Copenhagen events, the dominant currents of opinion within CAN as well as, more generally, the climate funding community tracked an evolving "realism" which saw the equity agenda as, fundamentally, something to be contained. However, there was also an equity-forward tendency within CAN, and it was formed into a formal Equity Working Group, which began meeting in 2011. Its first product was a comprehensive review of the effort sharing landscape (CAN 2011)and in 2013 it published the *CAN paper on the Core Convention-Based Equity Indicators* (CAN 2013a), which formed the basis of many CAN position statements and submissions to the UNFCCC around that time (e.g., CAN 2013b, 2013c, 2013d, 2015), and which is still relevant today.

The strategy of that discussion paper, which reflected the support that had grown within CAN for a dynamic rethinking of CBDRRC (as opposed to the static reflection of CBDRRC embodied in the Convention's Annex I), was to make "the Convention's high-level equity principles" extremely clear. CAN stated them as "*historical responsibility, standards of living, development need, national capability to act,* and *sustainable development rights*" (CAN 2013c) and consistently called for an "Equity Reference Framework" (e.g., CAN 2013b, 2013c, 2013d, 2015) that transparently quantified them by way of carefully designed indicators that could be used to generate a dynamic "responsibility and capacity indicator" for each country, one that could at any given time be used to partition a given global climate obligation into individual national obligations – national fair shares – which actual national pledges could then be evaluated against.

The paper, which was extensively debated within CAN's Equity Working Group, asserted that the equity discussion within the formal negotiations should be based primarily upon the UNFCCC's "high level equity principles," and it added some very specific clarifications, including that,

- These principles should not be operationalized by way of static lists of countries, but must rather be quantified by way of transparently defined, dynamic national indexes.
- In defining such indexes, inequality within countries must be taken explicitly into account. This is important because the dollars of the rich are not the same as the dollars of the poor.
- Properly designed equity indicators could be used to allocate fair shares to any well-defined global climate "need." Note here that while the "global mitigation gap" was the principal example, "adaptation need" and "loss & damage need" were both explicitly noted.
- Historical responsibility should be understood in a manner that distinguishes the emissions associated with basic needs from those associated with luxury consumption.
- "Responsibility and capability are frequently correlated," which is "not surprising since development and wealth creation have historically been strongly correlated with the consumption of fossil fuels" (CAN 2013c) – this point has significant political implications when attempting to set a "responsibility start date." For example, a 1950 start date will be seen by some to ignore deeper history, but that deeper history is also reflected in today's infrastructure and wealth, and therefore captured via any consideration of a "capacity" indicator.

Reviewing these CAN documents today (including the CAN proposal for a "Science-based Equity Review" which CAN presented to a UNFCCC plenary in late 2014 (CAN 2014) and which became a central element of its vision for the ratcheting mechanism of the future Paris Agreement (CAN 2015)), the similarities between the discussion paper and today's Climate Equity Reference Framework is striking. This is because they emerged at the same time and within the same milieu, one in which the idea of "Science Based Equity Review" was in the air, and because they influenced each other in significant ways.

Thus, they share key characteristics: Responsibility and Capacity are treated as the key global climate equity principles and are defined dynamically on a nation-by-nation basis. There are no annexes for the purpose of differentiation. Need is treated as a fundamental and multidimensional principle and is understood as a reflection of the right to sustainable development. Capacity and Responsibility are calculated in ways that exclude basic needs income and emissions. Ambition is itself understood as a fundamental equity principle in its own right.[7]

Later, in Paris, any near-term hope for a formal international accord based upon explicit and quantifiable equity principles was lost. National pledges would be "self-differentiated" and "nationally determined," and would not individually be subject to any official ambition assessment. And references to CBDRRC were systematically caveated by undefined "national circumstances," which created a sense that the CBDRRC principle had ceased to have any definitional significance, though this was not the case.

In this context, the Paris compromises had significant consequences, specifically with respect to anything that could reasonably be called an adequate ambition mechanism. Simply put, the Paris ambition ratchet – which includes the pledges themselves, the transparency mechanisms by which their details can be known, and the five-year cycle within which they are supposed to be strengthened, but no mechanism for assessing, or even discussing the fairness, unfairness, or sufficiency of individual pledges – is not in itself strong enough to drive the necessary ambition. Even the Paris

[7] CAN argued that it is embodied by the Convention's precautionary principle, because there can be no justice in a world ravaged by climate disasters. CAN has of course always accepted this point and has come to interpret it to imply a wholesale embrace of the 1.5°C temperature limitation objective.

Agreement's Global Stocktake, with the promise to take place "in the light of equity" is in its formal scope limited to collective assessments that have no room for equity assessments of individual national pledges. If anything on these lines is to be possible, it will for now have to be based on the work of independent actors.

In this regard, CAN's endorsement of the Civil Society Equity Review initiative, which was designed to fill the vacuum by providing principle-based fair share assessments of individual NDCs, is important to recall. This support initially came via individual CAN nodes, then expanded as CAN-I came to itself endorse the annual Civil Society Equity Reviews, which for their part expanded in scope to address other key equity challenges (e.g., Loss and Damage in 2019, the fossil fuel phaseout in 2021), but always include equity-based assessments of the national pledges, of just the kind consistently called for since CAN's 2013 equity discussion paper.

Other CAN-I Paris-era positions are strongly linked to the equity challenge, and very much worth recalling. For example, the issues raised by the "matchbox" debate[8] are still relevant, and they open into the much larger, still-unmet challenge of reframing international effort sharing in concrete terms that can be widely and easily understood, rather than vague and unmet promises of money and technology.

All this history, we would argue, is still relevant. But how exactly? And what conclusions does it suggest? Here are a few:

First, CAN's long history with the equity challenge has been a mixed one. But it can at least be said that equity is no longer widely seen, within CAN, as a topic that can be, or should be, *contained*. Rather it is seen as one that must be *engaged*. Does this mean that all or even most climate activists now fully accept the necessity of centering equity in everything they do, if there is to be any chance of limiting warming to well below 2°C, let alone 1.5°C? No, not at all. Today, CAN's official strategic policies seek to advance the understanding that climate justice and equity are essential core elements of any just or even realistic drive for adequate climate ambition.

Second, "normative clarity" is extremely important. It will not suffice to assert that the fairness or unfairness of national or international pledges or actions can or should be assessed in terms of some statistical process which leaves ethical claims blurred, indistinguishable, and unarticulated. Rather, equity assessments can and should be conducted in as transparent a manner as possible. When a country (or a corporation, for that matter) claims that a climate pledge is fair, it should be able to say exactly why it considers this a legitimate claim. It should be able to clearly explain the equity principles it is invoking, as well as the justification for their selection, the indicators by which it represents those principles, and the use to which it puts those indicators. And it should show its work. This is the position that the CAN Equity Working Group took back in 2013, and it is as valid today as it was then. In the conversations of CAN's current Equity Task Force, this view has been dubbed "normative clarity." Such clarity is essential, though it does not settle the debate about what meaningful fairness actually demands, which is inherently an ethical, not a technical, matter. What it does do is allow us to debate that question in a coherent manner, to tell each other, and ourselves, where we actually stand.

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[8] The "matchbox," along with a scientific adequacy assessment based on an Equity Reference Framework and a robust and common MRV framework, was a central component of CAN's vision for the Paris Ambition Mechanism as articulated in CAN's 2015 annual policy document for the Paris COP. The "matchbox" would institute a formal mechanism through which conditional developing country pledges would be matched to developed country offers of finance and technology, to make them achievable (CAN 2015: 13–14).

Third, CAN needs a clear strategy for *using* fair shares assessment in its advocacy. Other than for creating a consensus around fair share targets and assessing NDCs, a related key example is today's global push for universal net zero 2050 targets, which are not accompanied by any real plans to provide international climate finance or technology transfer. Such targets are only transformational if they are actually implemented. And to that end, they must not only be pushed far beyond their current ambiguity of scope and timelines, but also made more concrete, in terms of the international cooperation necessary to make them a reality. Relatedly, this is also true for the absolutely necessary rapid phase-out of not only coal, but also oil and gas (Calverley and Anderson 2022), which can only be imagined with very near term, equitably distributed, fossil phase-out target dates, which are backed up by very significant technology and finance transfers, where needed. None of this, not even the full implementation of the more modest 2030 targets, is going to happen without an international climate finance breakthrough of the first order, which is in turn unlikely without political strategies that are rooted in, and successfully leverage, equity-based approaches.

Chapter 4. The CERP framework in light of the CAN-I equity position

The above evolution has led to a CAN-I consensus on climate and equity that rests, at its most fundamental level, on the assertion that justice and equity must lie at the center of all climate demands. This clearly includes a fair shares approach to the needed mitigation, and hence the assessment of mitigation pledges against such fair shares, but obviously touches on all climate aspects of a climate response, both domestic and international.

As discussed in chapter 3, CAN-I has identified a set of specific core Convention-based equity principles as the center of its understanding of fair shares. These can be clearly identified in terms of the following triplet:

i. A precautionary approach to adequacy
ii. Common but differentiated responsibility and respective capability (CBDR+RC)
iii. The right to sustainable development.

CAN has further agreed that these principles should be clearly and explicitly affirmed whenever claims about fairness are made in the UNFCCC and climate policy contexts. Additionally, in chapter 3 we explain that CAN's position includes the view that fairness claims must be made with "normative clarity." According to this standard, it must be possible to clearly understand why a certain position should be considered fair, including by reference to explicit equity principles and indicators.

Precautionary Approach: As of 2010, CAN-I has taken the position that the first of these core equity principles requires limiting warming to 1.5°C. We won't go further into this decision, as in any event it now seems to be the most precautionary limit that is plausible, even though it would inevitably lead to continued and increasingly devastating impacts, particularly for poor countries and communities. As such, it has to be our goal, though in the more distant future, CAN-I (and humanity) might need to seriously consider the question of returning temperatures and atmospheric GHG levels to preindustrial levels.

CBDR+RC: The second of these core equity principles refers to the oft-repeated UNFCCC provision that countries should act "on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities" (UNFCCC 1992, Art. 3.1). This phrase echoes the more explicit text of the Rio Declaration, which Parties adopted at the same time as the UNFCCC at the Earth Summit in Rio de Janeiro in 1992. The Rio version helpfully clarifies what this phrase actually means:

> "In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of ***the pressures their societies place on the global environment*** and of ***the technologies and financial resources they command***" [Principle 7, Rio Declaration, (UNCED 1992)]

In other words, *countries' contributions should be consistent with their contribution to the problem (Responsibility) and their capabilities to solve it (Capacity*[9]*)*. Far from being some arcane legalistic banality, this makes simple and practical sense. In fact, few ethical principles are more familiar to us than responsibility and capacity. They strongly resonate with the ethical norms that societies invariably see fit to apply within their own sovereign boundaries. Common sense ethics and typical legal practice both hold persons responsible for harms or risks they knowingly impose or could have reasonably foreseen, (and in certain cases regardless of whether they could have been foreseen). In plain speech, members of society are expected to take responsibility for cleaning up their messes. The principle of *Responsibility* is thus closely connected to the Polluter Pays principle, and effort-sharing principles that derive from it hold that countries should be accountable for their greenhouse gas emissions.

The principle of *Capacity* is taken to imply that the more one can afford to contribute to the costs of preserving or generating societal public goods, the more one should. So, when public costs need to be shared, tax systems invariably require wealthier members to contribute more than poorer members. An absolutely minimal interpretation of this is that one's contribution should be in proportion to one's income, and a more reasonable interpretation holds that people with higher incomes should contribute a higher fraction of their income, which is indeed the norm across the world's income tax regimes, where marginal income tax rates increase with income.

As is painfully well known, the wealthy have devised countless ways to keep this norm from being effectively applied, or even understood. However, moral standards have meaning even in an all too immoral world – which is apparent in the fact that the tax avoidance of the rich is widely recognized as unfair and immoral, even in cases where it may be legal.

Right to sustainable development: This third core equity principle captures a right with implications that sprawl far beyond the climate problem. In turn, ensuring access to that right calls for fundamental shifts far beyond the formal climate regime, and certainly beyond the question of national fair shares of the globally necessary mitigation. Clearly, any country or community must have its adaptation and loss & damage needs met before it can be said to enjoy its right to sustainable development, which is why this principle is sometimes stated in terms of "need" (CAN 2013a). In any case, any approach to fair shares (and certainly any approach consistent with the CAN-I equity position), has to *recognize, accommodate, and be consistent with implementing* this right, and above all must not undermine it.

Also, taking the right to sustainable development seriously means acknowledging the extreme inequality raised at the outset of this report, and how it defines the magnitude of a country or community's struggle to achieve sustainable development. Those that are relatively wealthy, secure, and with plenty of discretionary income can in principle direct much more attention and resources to shifting toward sustainable development than those who are struggling to meet basic needs, who continue to suffer widespread energy poverty, and whose lack of security renders them exceedingly vulnerable to disruptions and disasters.

The fact that some people are rich and some are poor thus must inform our understanding of a country's Capacity and Responsibility. A poor person's dollar is not the same as a rich person's dollar, nor are their emissions. A dollar spent on obtaining staple foods and securing shelter is very different

[9] The UNFCCC uses the word "capability," while "capacity" is preferred elsewhere. We consider the terms to be synonymous and typically use "capacity."

from a dollar spent on, say, space tourism. Or even terrestrial tourism, for that matter. Similarly, a ton of CO_2 emitted from the burning of a kerosene lamp to light a small home is not the same as a ton emitted from, say, a private spacecraft. Or from long-distance holiday travel. Survival emissions are as distinct from luxury emissions as incomes required to meet basic needs are distinct from incomes utilized to fulfill discretionary desires. They have different moral valences and should not be treated the same when reckoning a country's responsibility for causing climate change, nor its financial capacity to contribute to global mitigation.

It is not morally straightforward to distinguish "basic" from "luxury" emissions or consumption, and reasonable people can disagree about what's fair. Different people, and different societies, have different views, and in fact ethical and political debates often revolve around the central question of how to best gauge the obligations and rights of those who have plenty, compared to those who have little.

People within CAN will certainly disagree on specifics, as well they should. But the *principles* here are clear, and well established.

Note also that these points are not exotic. The same points are raised, for example, when societies decide how "progressive"[10] their income tax system should be, or how much income should be exempt from taxes altogether. They reflect different views about the taxation of luxury consumption, about how best to involve the public sector and public revenue in the provision of basic levels of goods and services, about what such "basic levels" properly entail. Sweden's decisions in these regards, for example, are markedly different from those made in the US. And the US itself, judging at least by its tax rates, has dramatically changed its views between the time of Kennedy and Reagan and the time of Trump.

A wide range of perspectives is reflected in the different ways that climate movement organizations have chosen to implement this fair shares framework. This is discussed more in Chapter 5, but at the general level the following can be taken as a faithful reflection of the core CAN-I equity principles as applied within the Climate Equity Reference Framework to determine national fair shares of global mitigation.

- **Capacity** – a country's contribution to the global emergency mobilization should be proportional to its capacity to act. Clearly, a nation's capacity to help solve the climate problem is an infinitely complex notion, but despite this complexity, it is very highly correlated with national wealth and income. As is typical in many analyses, this fair share framework uses a country's total income as a proxy for its capacity. However, as per the above discussion of inequality and the right to sustainable development, this is done in a progressive manner, accounting for the fact that, in every country and to differing degrees, some people have very little, while some have a great deal. There is no question that this difference should be taken into explicit account when calculating national capacity – the more billionaires a country has, the greater its capacity to act. The core question, when it comes to calculating national fair

[10] In taxation, "progressive" simply means that higher incomes are subject to higher average and marginal tax rates (i.e., the tax rates "progress" along with income level). This is in contrast to "regressive" taxation, where tax rates are higher for households and individuals with lower incomes than they are for those with higher incomes. Most (if not all) income tax systems are progressive, while many consumption or sales taxes are regressive (since poorer households spend proportionally more of their income on consumption, the associated tax burden is relatively higher for them, even with equal tax rates). "Progressive" or "progressivity" as used here has nothing to do with "political progressivity."

shares, is how much more heavily, in a time of global emergency, a dollar of extreme wealth should be weighed against a middle-class dollar.

- **Responsibility** – a country's contribution to the global mobilization should, similarly, be proportional to its responsibility for the climate crisis, meaning a sum of emissions since some point in the past, adjusted to exclude those emissions that were associated with basic needs – again, the emissions of those who consume very little and those who consume very much do not have the same moral valance.

The key decision, in all this, is how progressively Capacity and Responsibility should be calculated. That is, how exactly the income and emissions of the poor should be reckoned against the income and emissions of the wealthy. The straightforward way this is done in the CERP framework is by defining thresholds that distinguish the poor (whose income and emissions should be exempted when fair shares are calculated) from the rich (whose income and emissions should be counted), and from the intermediate group that spans the range from poor to rich (whose income and emissions should be counted in a gradually rising degree). One can imagine other more complex approaches, but this simple approach implements the principle simply and effectively. This, too, is discussed in more detail in Chapter 5.

A second necessary decision relates to interpreting what "historical" means when considering historical responsibility Here, the key questions tend to revolve around our attitudes towards history – how far back do the responsibilities of today's countries extend? This question is as interesting as it is difficult, and too will be further discussed in chapter 5.

While this is admittedly a simple encapsulation of the basic ethical principles for reckoning the relative fair shares of disparate countries, we would claim that it gives us a framework that is, as Albert Einstein is often quoted as saying, "as simple as possible, but no simpler."

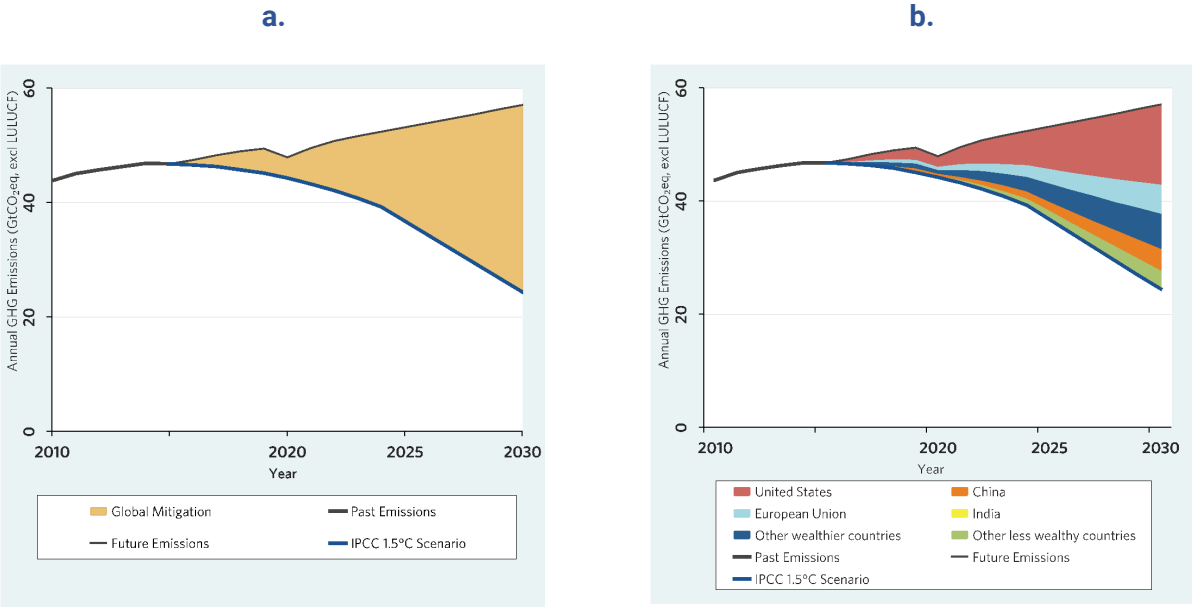

Figure 2. a. 1.5°C pathway, against a moderate business-as-usual emissions projection, showing necessary global mitigation (tan shading). b. The 1.5°C Pathway and baseline, showing necessary global mitigation divided into national shares of the selected countries and groups.

Once indicators of national Capacity and Responsibility are defined one can quite directly determine national fair shares of a global effort. On the left panel in the figure below there is a 1.5°C pathway[11] (blue line) that is extremely challenging, and that well illustrates the scale of the global transformation that will be needed to shift away from an emissions course that reflects no mitigation effort (black line). Global emissions would fall to about 25 billion tons of carbon dioxide equivalents ($GtCO_2eq$) by 2030. The orange wedge, which graphically depicts the total global emissions reductions relative to baseline[12] that would be needed through 2030 to rapidly decarbonize and shift to the 1.5°C pathway, reflects the global mitigation effort that nations must fairly share.

On the right panel in the figure below, you see the same global mitigation wedge, but this time it's divided into multiple wedges, each for an individual nation (or groups of nations) and representing its fair share of the overall (global) effort. The resulting fair-share "rainbow" illustrates the global cooperation that will be necessary to achieve the 1.5°C goal. The fair share challenge is easy to see. For each country, it comes down to a simple question – how big is my slice of the overall effort?

The discussion of the fair share principles above thus leads to a straightforward approach where a country's share of the global mitigation effort – that is, its "fair share wedge" – is simply defined by its share of the global Capacity and Responsibility.

The consequence of this is that a country that is wealthy and high-emitting will correspondingly have a percentage of global responsibility and capacity exceeding its percentage of global emissions, which in turn means that its fair share of global reductions by 2030 may well exceed its domestic emissions. For example, in the context of the US fair share project the US fair share was calculated to be roughly 40% of the total "rainbow," which, if expressed relative to the US's own (2005) emissions, is equivalent to a 195% reduction by 2030 (FoE US et al. 2021). Such a figure is jarring to people who are used to thinking that each nation can do its fair share solely within its own borders, which would make figures in excess of 100% reductions impossible. However, results like this US example are no mathematical glitch, but simply the straightforward consequence of defining a country's fair share of the global effort in proportion to its share of global capacity and responsibility. These results are where "the numbers lead to" and thinking about the implications of fair-share reduction figures in excess of 100% is the necessary next step.

The converse is also the case. Developing countries typically have fair shares that amount to reductions that are smaller than their projected domestic emissions. This is the case even though all countries must eventually approach zero emissions. What this all implies is that *international cooperation and finance are not secondary issues* – wealthier nations such as the US, Europe, Canada, the UK, or, indeed, Singapore and South Korea can only fully deliver their fair share of the global effort by supporting a substantial amount of additional climate action in other countries. This is a key feature of the fair shares framework, and one of the reasons it is widely considered to accurately capture the ethical core of the inherently planetary climate problem.

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[11] The 1.5°C pathway shown here is the Low Energy Demand (LED) pathway that played a key part in the IPCC's Special Report on Global Warming of 1.5°C. See Civil Society Equity Review (2018: 5–6) for further details of this pathway.

[12] The baseline shown here is calculated by the Climate Equity Reference Project for its Climate Equity Reference Calculator and is intended to reflect a near-term future in which historical rates of carbon emissions intensity improvement are continued. Alas, there is as yet no evidence that the renewables revolution has increased these rates. This version of the baseline has been updated to account for the reduced economic growth (and associated slower growth of GHG emissions) expected as a result of the COVID-19 pandemic. More details can be found in the documentation of the Calculator (CERP 2018).

Notice that this defines each country's national fair share as a share of a common global effort, rather than relative to purely domestic metrics. This is a key point. The equity framework undergirding this report, in contrast to most effort-sharing frameworks, references fair shares against the common goal of protecting our single global climate, and gauges them against the scale of that overall challenge. This approach differs markedly from how people usually think about shared effort. Typically, people think about a country's share in comparison to some other arbitrary scale – such as its own emissions in some particular year, or its own mitigation potential, or the effort necessary for it to reduce its own emissions to "net zero,"(perhaps with a bit of extra time or international assistance to help it along) this automatically introduces a major bias in favor of countries with a disproportionately high fraction of historical responsibility and capacity.

This is not to say that there are not important nationally specific conditions to account for in assessing the scale of the challenge, or widely varying domestic predicaments, but only that these realities must be accounted for in our reckoning of the shared global challenge, domestic efforts, and international support.

Box 1: Mitigation fair shares assessments – Why this framework and not others?

The challenge of fairness has always and everywhere accompanied the challenge of sharing, and the challenge of sharing *mitigation* efforts between countries or groups of people is no exception. Over the years, a number of approaches have been developed, all of them intending to offer guidance in navigating the challenge of equitable effort sharing.

Here we look at some of the most salient of these approaches and evaluate them against the UNFCCC's equity principles, and in particular CAN's interpretation of these principles. We will focus, first, on the Climate Action Tracker, but then go on, more briefly, to consider a few other approaches, all of which have at least some support and use within the climate movement.

To recap, the CAN equity principles are adequacy, responsibility, capacity, the right to sustainable development (which we also call "need"), and normative clarity. Normative clarity deserves a special mention here, for when evaluating effort sharing approaches, its challenges arise in essentially this form: "Is the approach clear enough that I, as a user, can identify and understand the normative claims that form its basis, so I can then decide whether these claims align or do not align with my own normative position, so I can judge whether the approach's results are potentially consistent with what I believe to be fair."

The Climate Action Tracker's Hybrid Ambition Benchmarking

We will begin with the Climate Action Tracker (CAT), because it is often used by CAN members, the media, and officials as a trusted and soundly science-based yet quick-and-easy reference resource to evaluate national mitigation pledges. It is important, especially for long-time users who have grown used to interpreting CAT's results as a "fair shares assessment," to note that the CAT methodology underwent very substantial changes in September 2021, which fundamentally changed its methodological approach and hence its results.

Prior to these changes, CAT was a benchmarking system that leveraged a set of effort-sharing quantifications appearing the academic literature to establish benchmarks, called the "Fair Share Range," against which it then assessed and rated countries' emissions reduction pledges to conclude whether, and by how much, countries' pledges fall short of their fair share as defined by the CAT. In contrast, since the 2021 changes, the "Fair Share Range" is only one of a number of assessments that together determine CAT's rating of a country, the others all being measures of a country's ambition on mitigation that don't take equity into account at all (e.g., policies and action, provision of finance, conditional pledges). Clearly, such hybrid ambition benchmarks can be insightful and useful for assessing whether countries are "doing enough" overall, but users who are specifically interested

in whether countries' pledges are fair should be mindful of the fact that the CAT no longer offers such assessments.

Specifically, in addition to assessing pledges against the "Fair Share Range," for "provider" countries,[a] CAT now additionally assesses the level of provision of climate finance, and the consistency of both the pledged mitigation target and the adopted mitigation policies and measures with a particular 1.5°C domestic mitigation benchmark.[b] That benchmark is derived from regional emissions scenario pathways from Integrated Assessment Models, following a simple downscaling heuristic, that does not involve any equity considerations. In the case of the "recipient" countries, the additional new criteria are whether an additional target that is conditional on international support has been articulated and is consistent with the heuristically-downscaled domestic 1.5°C pathways, and whether the adopted policies and measures are consistent with CAT's assessment of the country's mitigation fair share. At the end of the day, CAT's "Fair Share Range" forms only one (for providers) or two (for recipients) of the five assessment pillars, and the five pillars are combined into a single assessment result in a way that gives fair-share-based pillars only 25% (in the case of provider countries) or 75% (for recipient countries) weight in the final result.

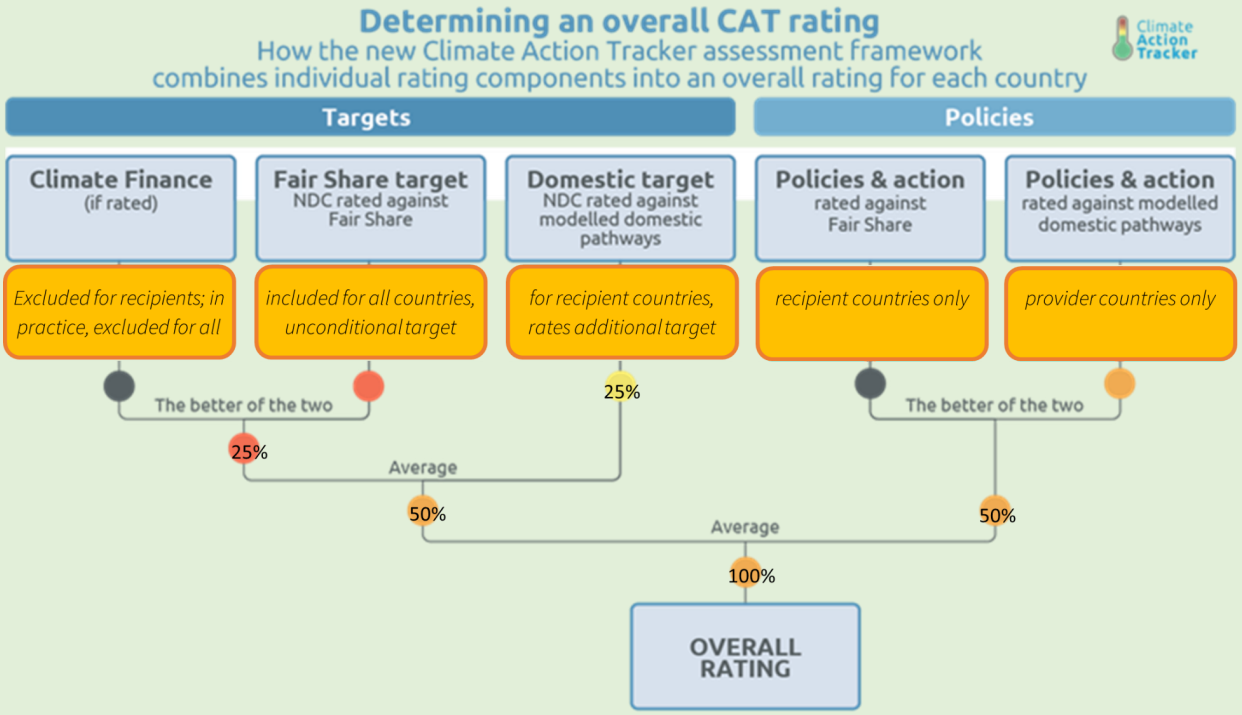

Figure 3. The CAT's new hybrid ambition benchmarking algorithm. Source: Adapted from CAT (2021) by adding each step's total weight (percentages in the coloured circles) and typical inclusion/exclusion (in orange bubbles).

CAT's new system is thus a "hybrid ambition benchmarking" approach, because it only considers equity for a portion of the score, a portion that is overwhelmed by other metrics for most countries for which CAT provides assessments. Such hybrid ambition benchmarking undoubtedly has a role to play in the overall discourse, but at the same time it is important to differentiate it from assessments of fairness and equity.

This also means that users who are specifically interested in assessing pledges against equity benchmarks may well have to consider alternative sources for such assessments, if they previously sought those results from CAT.

It is useful here to review some other approaches that have found a degree of salience over the years, and consider their suitability as equity assessment frameworks in light of CAN's general equity position as outlined in chapter 3.

"Grandfathering,"[c] *aka inertia, aka Constant Emissions Ratio, aka Relative Status Quo.*

"Grandfathering" holds that all countries ought to reduce emissions so that their share of global emissions under a mitigation scenario remains the same as at some previous point in time. For example, a country whose emissions were 10% of global emissions in 2010 would still be allowed to contribute 10% of global emissions in 2030 even in a case where global emissions in 2030 are only half of those in 2010. Understanding "grandfathering" is important for two reasons.

First, it appears that simple approaches to thinking about ambition tend to gravitate toward grandfathering, perhaps often unconsciously and with little sense of the consequences. For example, consider common statements such as "If the IPCC says global emissions must be 50% below 2010 levels by 2030, clearly that means that countries pledging less than 50% are not ambitious enough,"[d] which are clearly only true if "grandfathering" is considered the relevant benchmarking approach.

Second, many effort sharing approaches (sometimes called "staged approaches") more or less transparently utilize "transition periods" of various lengths, which start by allocating effort based on "grandfathering" to then gradually move to more equitable allocation. In the context of shrinking global emissions and often very generous transition periods, this, however, often leads to allocating the majority of effort based on "grandfathering" instead of the nominal allocation principle (Kartha, Athanasiou, et al. 2018).

In terms of CAN's equity principles, the "grandfathering" approach ignores capacity and responsibility, and severely undermines the right to sustainable development because it "guarantees existing advantages for the wealthy and in practice denies the vulnerable the resources to meet their basic needs" (Dooley et al. 2021). As a result, "grandfathering" is generally disavowed in the effort sharing literature for its blatant injustice (Caney 2009). Approaches with lengthy transition periods from "grandfathering" to some other principle often do not emphasize that most of their allocations are based on "grandfathering" and therefore lack the normative clarity that would allow users to judge the approach's consistency with their own ethical position.

Equality, Contraction and Convergence, Equal-per-capita emissions.

Approaches that are based on "equality" also feel intuitively attractive because of their moral simplicity, which is probably why they keep reappearing, generally along with the claim that they offer "straightforward solutions." Those approaches are based on the basic premise that every human life has the same value and therefore each human has equal claim to a shared resource (in this case, for example, of the remaining carbon budget).

The previously influential (including oft-cited endorsement by Angela Merkel) Contraction and Convergence approach, where the equality principle is combined with a transition period from "grandfathered" emissions levels that gradually converge over decades to an equal per capita level of emissions, is an example of approaches where the nominal principle is combined with a long transition period from "grandfathering," but there are many others.

Rebuttal of equality-based approaches in moral philosophy goes back at least to Aristotle who remarked that assigning equal shares or rights to individuals who are not equal is as unjust as assigning unequal shares or rights to equal individuals. From this it follows that only in cases where individuals are equal (or at least equal enough) can equality be just (Aristotle n.d., 1131a 23-24). When thinking about climate change, it is of course not the case that individuals and countries are reasonably equal. Compare the emissions of a rich New Yorker to a poor citizen of Madagascar and the point is obvious. Also, different levels of income and wealth – both personal and national – afford different levels of capacity to undertake the transformational challenges of increasing carbon constraints. Ignoring this, in turn, risks undermining the right to sustainable development of those with less capacity.

Furthermore, equal treatment without regard to past emissions not only disregards the principle of historical responsibility but also presents an internal inconsistency –it treats humans alive in the recent past (large emissions footprints) differently from those alive today (shrinking footprints) and differently from those alive in the future (zero footprints). This belies the underlying assumption that the fundamental moral tenet that all human life has equal worth is faithfully translated by assigning equal per capita emissions shares.

Cumulative Equal Per Capita.

To overcome the shortcomings that the missing recognition of past emissions present in equal-per-capita approaches, *cumulative* equal per capita explicitly takes the emissions of past (and, to varying degrees, future) humans into account and assigns equal per capita shares of the carbon budget from some past point in time into the future. As such, at least if they utilize a sufficiently long historical time horizon, cumulative per capita approaches can account for the historical excess of emissions on the part of wealthier countries and tend to lead to numerical results that reflect a substantial "carbon debt" on the part of these countries to developing countries (Hickel 2020; Matthews 2016). This is also the finding of the recently launched Climate Equity Monitor[e] which considers cumulative-equal-per-capita to be the approach most consistent with its ethical position, which is strictly responsibility-only and explicitly rejects the view that capacity should be considered when defining national fair shares.

The ability to take past generations' emissions into account makes these approaches less problematic than the "simple" or "pure" per-capita approaches previously discussed, especially if the "carbon debt" of higher-emitting countries is interpreted as resulting in a moral obligation for reparations or other forms of compensation for their historical overuse. However, due to its exclusive focus on historical (and future) emissions, this approach does not take the different capacities of countries, individuals or communities into account, nor does it consider the critical equity principle of the right to sustainable development. This is an extremely serious shortcoming for those (including CAN itself) that share the view that the *capacity* of nations – and individuals – plays a key role in any equitable climate transition.

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a CAT doesn't actually use the terms "provider" and "recipient" countries, but countries "are evaluated differently depending on whether they are expected to give or receive financial support," so we're using those terms here for simplicity.

b In theory, as is shown in the chart, the adopted policies and measures are also compared to the country's old CAT-based "Fair Shares Range" benchmark, but in practice the result of this comparison doesn't influence the assessment results for provider countries since their "Fair Share" benchmark is always more stringent than their "modelled domestic pathways" benchmark, causing the new CAT algorithm to select the latter as "the better of the two." Further, in practice the climate finance assessment is always excluded because its score is always at least as low as that of the fair share assessment.

c The term "Grandfathering" has deeply problematic roots outside of the realm of climate change. It was first coined in the United States during the period after the Civil War in the context of racist and sexist laws that were designed to exclude African-American voters (and any non-males regardless of their racial background) from elections. Those laws established onerous, but universal, and thus ostensibly non-discriminatory, barriers to voting (e.g., high poll taxes, and excessive literacy and knowledge tests). However, voters were exempt from having to face those barriers if their grandfathers (hence the term) had already been eligible to vote (i.e. whites) (Schmidt 1982). The analogy to the use of the term in climate change discourse is obvious because there, too, it serves to justify the continuation of an unjust situation merely on the grounds that this unjust situation currently exists or previously existed. "Grandfathering" is used here with quotation marks to indicate a distance from the term and its racist and sexist background, while continuing to use it to avoid confusion, since it remains the dominant term in climate discourse. Notably, the term has also been used in a wide variety of contexts where rights are allocated (or permitted to be retained) based on some previous allocation approach that has since been abandoned, for example, allowing an older building to stand even though it would violate current building standards or zoning, or in the context of Californian water rights, or allowing consumers to remain on cell phone contracts no longer offered.

d This is, for example, the approach followed by the report "The Truth Behind the Climate Pledges" (Watson et al. 2019).

e https://climateequitymonitor.in

Chapter 5. CERP applications around the world and how they are usefully different

Introduction

Over the last several years a number of climate movement collaboratives, including many CAN members and nodes, have conducted projects and campaigns based on the fair shares approach presented here. One of these, the ongoing Civil Society Equity Review (e.g., Civil Society Equity Review 2015), is global in scope and is historically targeted toward international events and audiences surrounding the climate negotiations. The others – and this chapter will focus on those that took place in Norway (Kartha, Holz, et al. 2018), Canada (CAN-Rac Canada 2019; Holz 2019), the United Kingdom (Christian Aid et al. 2020), the US (FoE US et al. 2021; USCAN 2020b), Quebec (Holz 2021), New Zealand (Johnston and Tong 2020), South Africa[13] (CER 2021; CERP 2021; Kartha et al. 2021) and France (Holz et al. 2022a, 2022b) – are national in scope. The bulk of these (the exceptions are the Civil Society Equity Review and the South Africa report) are focused on countries from the Global North.

This chapter will describe some of these efforts in more detail, to begin to extract lessons from them on how fair shares and equity analyses and frames can be, and indeed have been, used in campaigns, communications, and advocacy. After highlighting a few important commonalities among these projects, the bulk of the chapter will describe the differences between the specific approaches, before discussing the specific (campaign) uses of the fair shares results in each case. The chapter will close by enumerating some questions that have arisen in these projects.

Commonalities across projects

With the exception of the South African and New Zealand cases[14], all projects began with extensive discursive processes among the groups and individuals involved. These serve two crucial purposes: First, they provide opportunities for participants to interrogate the framework's structure, logic, and mechanisms, and to consider its strengths, its limitations, its results, and, very importantly, the ethical decisions required to use it (e.g., the choice of mitigation pathway, and how to precisely to operationalize "responsibility" and "capacity"). Second, they serve as the setting within which the group can discuss and ultimately adopt specific normatively-derived "equity settings" for the calculator that best reflect their shared collective ethical position, or the range of their collective ethical positions. Notably, making these decisions with regards to what groups find morally defensible in the context of their own country also applies to all countries since the Climate Equity Reference Framework only allows for a single set of parameters to be applied to all countries. As will be discussed later, these conversations sometimes include meaningful contemplations with the ethics of applying a set of parameters that seem defensible in one context to others. During these discussions,

[13] See section "Differences between projects" below for more details.

[14] In the South African case, a single organization, the Center for Environmental Rights, commissioned the Climate Equity Reference Project to produce analyses to be used in the public consultation process on the draft updated NDC and later in a court case against the South African government's energy policy. Likewise, in the case of the New Zealand project, Oxfam Aotearoa decided to develop a fair shares analysis for its own advocacy, even though later the findings were embraced more widely by New Zealand's climate community. In both cases, because only one group was involved, no discursive process to "bring everyone onto the same page" was undertaken.

participants typically considered the implications of alternative approaches before settling on given equity settings.

Both of these create a sense of ownership among the participants, with respect to the fair shares analysis as well as its results and their political implications. This in turn helps participants to effectively integrate them into their campaigns, as well as fostering what we've been calling *normative clarity* – since participants themselves articulate the ethical-normative principles reflected in the "equity settings," they tend to understand these principles and their implications in substantive ways, and with respect to their own national contexts.

This understanding is further enhanced by the general approach that most, if not all, of the projects have taken. They first accepted the general structure of the Climate Equity Reference Framework, which is to say they accepted utilizing UNFCCC-based equity principles and embracing the full scale of the mitigation challenge. Any subsequent normative decisions required to operationalize the Climate Equity Reference Framework were then taken *before* obtaining the results of the consequent analysis and considering its political implications. Therefore, it can be argued that their normative decision-making with regards to the specific operationalization of the Framework was largely independent of the preconceptions about results and their implications.

Importantly, all of these projects tended to find themselves, after conducting their analysis, with results that demanded messages and strategies far beyond those considered realistic within their respective national contexts. This turns out to be a general feature of centering fair-shares-based analyses of a global climate mobilization of the necessary scale, for the simple and obvious reason that such analyses tend to spotlight the unavoidable need for political, communications and campaigning changes that push beyond business-as-usual and, indeed, beyond many mainstream climate movement strategies. The different projects dealt with this challenge in quite different ways, as will be discussed in Chapter 6, as they sought to make the fair shares analysis and its implications useful for their campaigns.

Notably, all projects reaffirmed capacity and responsibility as the preferred normative foundations for international effort sharing, and their conceptualization in progressive terms, i.e., treating incomes and emissions of the poorest differently from those of the richest when conceptualizing capacity and responsibility, respectively, as explained in Chapter 4 above. Similarly, and very importantly, they embraced the notion of *fair shares as shares of a global effort* – which inevitably requires a real degree of international cooperation for all countries – as opposed to a definition that preemptively defines each country's share as a transition in which it is more or less exclusively charged with the decarbonization of its solitary national economy (see box).

By ways of example, the global *Civil Society Equity Review* was initiated due to the realization during the negotiations of the Paris Agreement that, despite public pronouncement to the contrary, the Paris Agreement would not provide for equity- and science-based assessment of the ambition of individual countries' climate action pledges (which would later become called NDCs). This left the job to civil society and its policy and research institutes.

Subsequently, a number of groups from a wide range of backgrounds joined together into a collaborative in an attempt to fulfill this function – environmental groups and social movements representing the UNFCCC environmental "sub-constituencies" of CAN and CJN!/DCJ, including some CAN nodes, development organizations, labour groups, etc., from both the global North and South.

Importantly, from the very beginning, the convening groups had a strong desire to create a broad civil society consensus across the traditionally disparate parts of the civil society organizations engaged in the UNFCCC process.[15]

In preparing for this task, they began by debating the top-level ethical and political principles upon which they would proceed, and subsequently selected the Climate Equity Reference Framework as the most suitable of the existing analytical frameworks to carry out an assessment of climate action pledges that would align best with their own values. Once selected, representatives of the initial set of groups involved debated the specific ethical choices for calculating the fair shares benchmarks for the countries against which to assess their NDCs. There was *no* consensus. Different groups had somewhat different views on these benchmarks, though they could agree on a range of defensible options (more in the next chapter) and strongly shared a commitment to climate equity and its key role in winning an adequately ambitious ambition.

This shared political framing was further developed over the years, to allow annual reports and initiatives to focus on different parts of the climate justice problem space – e.g., Loss and Damage in 2019 (Civil Society Equity Review 2019) and Fossil Fuel Extraction in 2021 (Civil Society Equity Review 2021). As mentioned, the focus of the initiative was and remains mostly global, although individual countries are highlighted in the fair shares assessments. This naturally limits the degree to which they can be utilized in individual countries' ambition campaigns, a limitation which, combined with the groups' realization of the usefulness of the fair shares and equity frames in the context of the Civil Society Equity Review, helped generate interest in national fair shares projects. This is also the reason why the Civil Society Equity Review's approach to specific fair shares benchmarks has often been the starting point when groups in specific countries embarked on their own national fair shares projects and encountered the need to articulate their own specific ethical positions for this benchmarking.

This emphasis on engaging different member groups in a discursive process also occurred in CAN-Rac Canada's fair shares project where members decided at an Annual General Meeting after the Paris COP to review the node's ambition demands in light of the new 1.5°C temperature limitation objective of the Paris Agreement. Based on previous work by a number of member organizations, CAN-Rac Canada's Science and Equity Working Group discussed a number of frameworks for establishing fair shares ambition benchmarks, before deciding to utilize the Climate Equity Reference Framework. Subsequently, the Working Group conducted a series of conversations to determine the fair shares benchmarks that would best reflect the collective normative position of the CAN-Rac membership. On the basis of this decision, benchmark results were calculated, the policy positions and demands of the network adjusted accordingly, and they were very widely incorporated into campaigns and communications – within the network as well as with outside audiences.

Differences between projects

While the national fair shares projects being examined here share a number of structural features, there are important and instructive differences between them. Chiefly, these relate to: specific choices about the choice and weight of the benchmark components, whether to choose a single benchmark or a range (and in the latter case how to present that range), which are discussed in this chapter. Projects also had to make decisions on how to partition a country's total fair share into domestic and international components, how to conceptualize, quantify and communicate the international

[15] In fact, the Civil Society Equity Review became the first time that environmental groups from both CAN and CJN!/DCJ networks collaborated in a major initiative since the establishment of these two separate environmental NGO sub-constituencies in 2007.

cooperation and climate finance implications of the fair shares benchmarking, and how to approach adaptation and loss & damage finance within their fair shares analysis – those topics are covered in Chapter 6.

With regards to differences between projects, the "South African" case deserves special attention, because it differs from the others in several interesting ways: The Climate Equity Reference Framework and calculator was used by several actors during the updating of the South African NDC in 2021. First, the South African government itself, when justifying its target as "fair and ambitious," specifically cited the Framework's "transparency, ease of access and usability, as well as its alignment with the equity principles South Africa values and prioritises – taking into account responsibility and capability, as well as the right to promote sustainable development and the need to prioritise development for those living in poverty" (UTC 2021). At least partly due to the Fair Shares result of our calculator, the South African draft update NDC (March 2021, RSA 2021a) increased ambition relative to the original NDC by at least 174 $MtCO_2eq$ of mitigation annually by 2030. South African civil society (CER 2021) further used work based on the Climate Equity Reference Framework (CERP 2021) to great effect during the public consultation period, which resulted in the final NDC to be even more ambitious (by 20-48 $MtCO_2eq$) than the draft update, bringing the target range in line with the Fair Shares range that was submitted by the civil society groups based on our calculations. In addition to the memo that was used for the submission during the public consultation period for the draft NDC update, Climate Equity Reference Framework results (Kartha et al. 2021) were also used as expert input in a legal challenge against the South African government's plans for building new coal-fired power plants in South Africa (African Climate Alliance 2021). Despite being somewhat separate efforts, these two initiatives together are considered here to constitute the "South Africa fair shares project," since they share the key normative and methodological features that will be discussed in this chapter.

Returning to the other projects, recall that the Climate Equity Reference Framework allows (and, indeed, requires) users to articulate their specific normative views with regards to important dimensions of the fair shares and equity problem, such as the starting horizon for historical responsibility or the parameters by which the incomes and emissions of the poor, the middle classes, and the rich are to be treated. Ultimately, these choices, since they determine how fair shares of the global effort to address the climate crisis are to be understood, are choices to determine who should contribute, or pay, how much toward this effort, and who should be, partly or fully, exempt from contributing, based on their position in time or in the national or global income distribution. For example, one could take the position that the emissions of countries long-dead former inhabitants ought not to result in an obligation for their current citizenries to contribute according to those emissions, or that the incomes of individuals below a certain income threshold ought to be reserved for meeting those individuals' basic needs, instead of being put against their nation's climate effort.

Equity Settings - Historical Responsibility Time Horizon

When it comes to setting the time horizon for the responsibility for historical emissions, all projects chose one or several of the years 1850, 1950 and 1990 – the illustrative options first used by the Civil Society Equity Review. In that Review, 1850 was used for the of the two defining fair share benchmarks because it is a year that precedes most all industrial activity and reflects the most comprehensive view of historical responsibility (about 95% of all anthropogenic emissions are from 1850 or later) – carbon dioxide emitted since that year still very much impacts current levels of warming (which is why this choice can be said to reflect a "causal responsibility" view), and it's the

earliest date from which good data sources exits. Ultimately, the thinking here is that since emissions from 1850 onward are responsible for causing current levels of global heating, those countries that caused those emissions should be held accountable for them. 1850 was also chosen as one of several benchmarks for the projects in Canada, the UK, Quebec, and South Africa, and for the only benchmark in France. In the French project, this choice was justified by the comparatively early start of industrialization in France and the country's long colonial history – both of which are associated with substantial greenhouse gas output. Thus, a later start date was considered to give France an unfair advantage in terms of its allocation of the global climate action effort.

The other fair share benchmark used by the Civil Society Equity Review took 1950 as the start date. Proponents of this choice generally argue that the period between 1850 and 1950 is simply too far in the past to hold current populations responsible for those emissions, especially since the people of the past were unaware of the harm of their greenhouse gas emissions. Furthermore, they generally posit that around 1950, in the aftermath of the second world war, many of the borders of the currently-existing nation states started to take shape, making attribution of historical emissions to currently-existing countries much more straightforward, and that much of the carbon-intensive infrastructure built in the decades from 1950, when the great global economic boom began in earnest, are still around today and benefitting current generations – making this the "beneficiaries' responsibility" perspective. Thus, the prosperity enjoyed by the populations of today's industrialized countries already reflects, and expresses, their deep history. The projects in Canada, Quebec, South Africa and the UK also utilized 1950 in some of their benchmarks, while the US project, in line with its choice to spotlight inequality – and, thus, unequal capacity – within the US, exclusively used 1950 within a benchmark range defined by multiple definitions of capacity (see below).

Note also that the Civil Society Equity Review has since its inception been reporting results also for a third, "political," threshold, which uses 1990 as the start date, a decision that reflects its recognition of the high political salience of the year 1990 as an important reference year (when governments were drafting the UN Framework Convention on Climate Change), while at the same time dismissing it as unjust: "the large volume of historical emissions from which many countries benefited during the decades of unrestricted high-carbon development prior to the UN Convention cannot be ignored from both a moral and legal standpoint" (Civil Society Equity Review 2015: 2). However, given the obligations that the UNFCCC nonetheless created for countries, this perspective could be called the "legal responsibility" view. Other projects (Canada, Quebec, New Zealand) decided to include it, albeit with similar caveats, in their range of benchmarks, typically to demonstrate the very important general findings that even blatantly unjust responsibility start dates do not massively alter the results of the fair shares analysis, which is overdetermined by the choice to understand fair shares in terms of the UNFCCC's framing principles. The extreme case here was the Norwegian project, in which 1990 was used in this sole benchmark, "to make a point: it defines Responsibility in a manner that is generous to nations that had already been fully industrialized and had undertaken much of their fossil fuel-intensive development prior to 1990, and yet, […] it nevertheless leads to striking results showing the need for these countries, […] to contribute much more to the global effort than they have so shown a willingness to commit" (Kartha, Holz, et al. 2018: 15).

Equity Settings – Capacity, Inequality, and Progressivity

The most notable differences between projects lies in how the incomes of individuals at different positions in the income distribution are treated, when considering their contribution to their country's capacity to address the climate emergency. As a starting point, the Climate Equity Reference

Framework takes a nation's GDP as an acceptable proxy for its capacity to mobilize resources against the climate crisis, but also suggests that the incomes of the poorest should rather be utilized to alleviate poverty, rather than addressing a problem (climate change) that the poorest had little hand in creating. Likewise, the Framework recognizes that the incomes of the richest should be fully accounted for when calculating a nation's capacity to mobilize against the climate crisis, since beyond a certain income level, all basic (and many non-basic) needs are fully met, and any additional income will only be used for discretionary luxury consumption and/or personal wealth increase.

Because of this distinction, national capacity can be conceptualized as a function of income *distribution*, and therefore supports important distinctions between the rich, the poor, and the middle classes. This is an important difference between this equity approach and others that simply take a country's GDP as a proxy of its national capacity without taking account of income stratification. Because of this feature, the Climate Equity Reference Framework requires normative decisions to be made with regards to this stratification. Specifically, a decision has to be made whether to treat the incomes of the poor differently at all (and, to be clear, a decision not to do that would result in asking the poor to shoulder relatively *more* effort than others). Once this decision is made, the income level that defines who belong to "the poor" (the "lower threshold" or "development threshold") needs to be defined. Subsequently, a decision has to be made whether further differentiation is desired above this lower threshold – differentiating the middle-income classes from the rich and where to set the threshold for this differentiation (the "upper threshold"). Collectively, these are decisions about the "progressivity" of the capacity calculations. This term is not to be understood as "politically progressive" but progressive in the sense of, for example, progressive income taxation (which most, if not all, countries utilize) where generally speaking individuals with higher incomes are asked to contribute a larger share of their incomes to the financing of state functions, and therefore to the provision of the public goods the state provides.

In the Civil Society Equity Review, both of the two equity benchmarks utilize a lower threshold of USD $7,500 (2005 PPP)[16] per person per year. This figure is based on empirical research (e.g., Pritchett 2003, 2006) suggesting that the long-term and intergenerational negative impacts of poverty that are related to inadequate nutrition, water and energy access, health care, shelter, education and so on begin to dissipate at approximately this level (of roughly $20 USD (2005 PPP) per day). Notably, this is substantially higher than the International Poverty Line (IPL, at $1.25 (2005 PPP) per day[17])—the IPL is best described as an "*extreme* poverty line" and should really be thought of as a mere subsistence line. In considering where to set the lower threshold of a proper capacity calculations, this threshold is unsuitable since it only protects incomes necessary for mere survival, as opposed to taking a more expansive view of poverty and its long-term and intergenerational effects.

One of the Civil Society Equity Reviews benchmarks, called "Medium Progressivity" in its reports, only utilizes this lower threshold of $7500 (2005 PPP) and treats all contributions to national GDP above this threshold as a resource to be potentially mobilized against the climate emergency. For its second benchmark, labelled "High Progressivity," however, the collaborative decided to also utilize an upper

[16] "2005 PPP" dollars are adjusted to reflect the different purchasing power that a certain amount of national currency had in 2005, relative to the US Dollar. PPP stands for purchasing power parity. In other words, saying "$7500 (2005 PPP)" it is approximately shorthand for "an amount of local currency that has the same purchasing power as 7500 US Dollars had in the US in 2005." This device is commonly used to make income levels appropriately comparable across nations.

[17] The International Poverty Line is currently set at $1.90 per day, in 2011 prices, which translates to roughly $1.25 in 2005 PPP terms (World Bank 2015).

threshold, set at $50,000[18] per person per year to further differentiate between the rich and those that are neither rich nor poor, and to gradually include the incomes of those "in the middle" in their country's capacity as their incomes increase between the thresholds. Finally, as mentioned, the Civil Society Equity Review also presented a third benchmark (explicitly excluded from its "fair shares range"), which utilized a lower value of $2,500 (2005 PPP) for the lower threshold, but stressed that this was a problematic value, "much more reasonably described as a 'poverty exclusion' threshold than as an indicator of development. Such a low threshold would burden billions of poor people with a completely unreasonable share of the responsibility for dealing with climate change." (Civil Society Equity Review 2015: 12)

Other projects discussed here also applied, in one way or another, the choices of the Civil Society Equity Review, including Canada, Quebec, New Zealand, South Africa, and the UK, by using the thresholds described above for what the Review called the "Medium" and "High Progressivity" cases. Again, following the lead of the Civil Society Equity Review, in both the Quebec and New Zealand cases, the results for the $2,500 lower threshold were also calculated and presented as sensitivity cases but were subsequently excluded from the fair shares range that supported the headline fair share findings, since the collaboratives considered them unjust. In Norway's case, the collaborative decided to utilize a value of $100,000 for their upper threshold (and $7,500 for the lower one) given their country's very high average per capita income and their resulting understanding that it would be unfair to shift the additional burden from richer individuals, like those in Norway, to the global middle classes.

The French and US projects followed different approaches when considering the income thresholds and how to make ethical choices with regards to where to set them. For the US Climate Fair Shares project, the collaborative decided to have five benchmarks that only differ in their interpretation of how to set the thresholds to enable ethically defensible progressivity globally. The figure below gives an overview of how the thresholds were set for those benchmarks, which are in terms of fractions of the global income distribution.

The collaborative explains its progressivity choices as follows, which is worth quoting at length: "For those at the poorer end of the range,

- All five benchmarks reflect the perspective that is it appropriate not to include the income and emissions of the 'relatively poor' in the assessment of their countries' Capacity and Responsibility.
- In three of the benchmarks (A, B, and C), the poorest 70% of the world's population is included in this group, which encompasses everyone earning less than [$7,500 (2005 PPP) per person per year, which includes the poorest 17% of the US population] […].
- Two of the benchmarks (D and E) recognize that even above this level of income, many people do in fact still struggle to meet basic material needs. These benchmarks set the threshold of 'relatively poor' at a more expansive 'escape from poverty' threshold. It includes the poorest 90% of the global population (which includes the poorest 36% of the US income distribution). Here, the key point has to be that these people are far from wealthy. In fact, even the relatively better-off within this group can reasonably be presumed to be struggling with the demands of

[18] Unlike the lower threshold, the upper threshold is not expressed in PPP terms. The reason is that, unlike the basic necessities of life, consumption above this threshold mostly consists of globally traded goods and services where purchasing power (of equivalent amounts to local currencies) is roughly similar.

housing, transportation, and health care, and are lucky if they can get proper education for their children. In other words, is it easy to see how inappropriate it would be to tap their contributions to their national economies in order to finance climate mitigation. At the top of the income distribution are the 'relatively wealthy,' whose excessively large economic and emissions footprints imply a Capacity- and Responsibility-based ethical obligation.

- Two of the benchmarks (A, D) consider this group to be defined as the world's wealthiest 2%, who are rich by any reasonable standard, and should certainly be considered to be among the relatively wealthy. (Again, this includes the top 20% of the US population.)

- Two benchmarks (C, E) reflect a broader understanding of the level of material wealth that implies an ethical obligation, and defines it as the global top 10%, the wealthiest decile of the world's population. This group receives more than half of the global income and emits more than half of global emissions. Here, the perverse nature of our twice divided world — unequal between nations and within them — comes into full display. Fully 64% of the US population live above this level, but they span a broad range; it would be absurd to say that all of them are 'rich.'

- Consequently, one benchmark (B) expands the definition of the 'relatively wealthy' to the wealthiest global 5%." (USCAN 2020a)

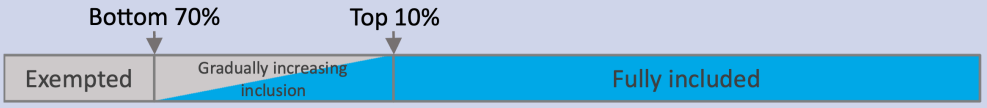
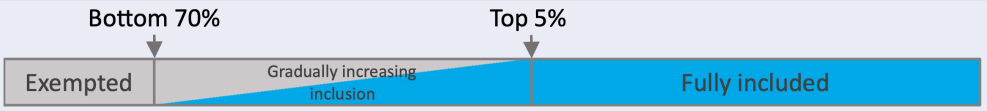
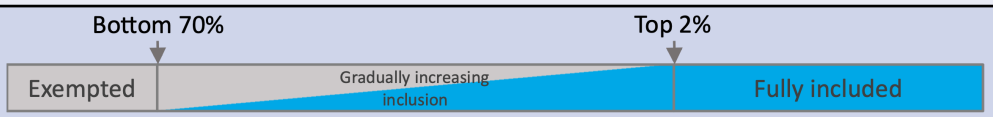
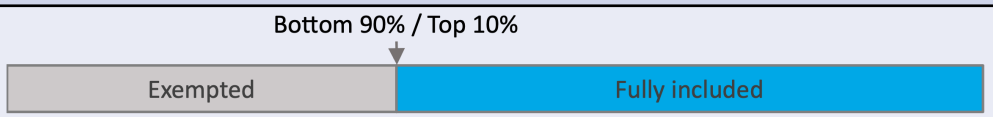
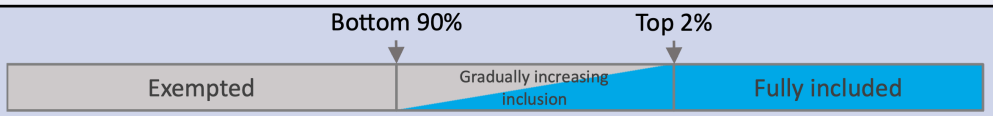
Bench mark	Benchmark's Treatment of Contributions to National Capacity	US Fair Share Reductio n
A		173%
B		186%
C		195%
D		199%
E		229%

Figure 4. Ethical choices for counting income in calculating the capacity component of the fair shares benchmarks (and associated fair shares results, last column) for the five benchmarks of the equity range of the USCAN fair shares project. Horizontal bars show the fractions of the entire combined global income (or Gross World Product) that are exempted (grey boxes), fully included (blue boxes) or partially included (grey-blue boxes) when estimating the national financial capacity that could be mobilized for climate action. In other words, blue shaded areas represent income that counts towards capacity, and blue shared areas represent income that does not. Thresholds are marked with bottom or top percentiles of the global income distribution that correspond to the threshold, i.e., which fraction of the global population fall below/above each of the thresholds.

It is important to note, as this figure clearly shows, that even though the incomes of at least a full 70% of the global population are fully exempt from the capacity calculation (A-C), and, depending on the benchmark, additional groups' incomes are at least partially exempt, in most of the benchmarks, the majority of total global *income* is still included in the capacity calculations. The figure shows this clearly as the width of the bar is scaled to represent the total global income. So, for example, for benchmark A, since the blue area representing the (fully included) incomes of the top 10 percent is much larger than the grey (excepted) area of the bottom 70%, this also means that the (blue) majority of the total global income is included. This further demonstrates why it may be appropriate to hold the ethical position (as USCAN members did) to exempt incomes of a group as large as a full 70% of the global population: they command a fairly small fraction of global resources, while the resources collectively captured by the rest of the population would probably be sufficient to address the problem.

While the USCAN collaborative expressed its benchmarks with regards to the *global* income distribution, the France fair shares project expressed them relative to the French income distribution. In particular, they found no defensible grounds on which to decide that a threshold to define "poverty" that is appropriate for the French population should not also be appropriate for the rest of the world (after adjustments for purchasing power). Thus, the French groups decided to utilize France's poverty line as their lower threshold. For comparison with the USCAN benchmarks, this threshold completely excludes the incomes bottom 80 of the global income distribution. Likewise, for the upper threshold, the French groups decided to utilize a point on the French income distribution to define the threshold between the rich and everybody else, using the top 20% of France's income distribution as the cut-off point, which corresponds to the richest 4% of the global population.

Equity Settings – Weighting Responsibility and Capacity

The Climate Equity Reference Framework also supports users choosing different weights for combining responsibility- and capacity-based fair shares into a single result. Typically, and in fact in all equity benchmarks of the projects discussed here, users tend to weigh them equally, but any other weighting is possible, up to and including fully disregarding one principle and basing results solely on the other. As mentioned, none of the fair shares results among the projects discussed here are based on such unequal weightings, however, in some projects, such benchmark results have been presented for comparison purposes.

For example, the New Zealand report presents results for a number of "capacity only" benchmarks that completely ignored countries' historical responsibility and only considered their financial capacity (as calculated by a number of progressivity settings), to show that even in this extreme case results are not much different than in mixed benchmark cases, while also arguing that such "capacity only" benchmarks would violate important ethical principles. Likewise, the Quebec report showed results for "capacity only" benchmarks for context before dismissing them on ethical grounds. That report also included a "responsibility only" benchmark, to show that even when utilizing the normative position of the Quebec government, which argues for a responsibility-only view, the results are still much more stringent than those committed to by the Quebec government. Again, this result was dismissed as unfair, but contrasting it with the official government target nevertheless provided important context.

There is an important general point here, which is that groups, when utilizing the CERP framework, tend to agree that both the responsibility and the capacity side of the equity benchmarks are needed

to capture the essence of our predicament. In particular, ignoring capacity can be as ethically and politically problematic as ignoring historical responsibility, for the simple reason that it tends to obscure the role of income, which is often a good proxy for wealth and class and often race. In other words, it obscures the important role of economic inequality. At the global level, the fundamental divide is between rich and poor nations, but there are rich enclaves within poor countries, and very poor ones in most rich counties, and these enclaves too must be taken into proper account.

Finally, the Civil Society Equity Review has also provided, as background and context, information on progressivity-only and capacity-only versions of its main fair shares benchmarks, to show which of these components have the stronger effects on determining the overall results for each country.

Single Benchmark vs. Benchmark Ranges

National fair shares projects have also differed in how they dealt with internal divergences of views. In some projects (like France and Norway) such divergences did not arise as groups easily managed to converge on a single position, but this has turned out to be the exception and not the rule. The global Civil Society Equity Review itself, could not, despite extensive discussion, agree on a single benchmark, but rather opted for an agreement in which two benchmarks could be treated as the boundaries of an "equity range." In practice, this meant that any commitment falling within the range would be considered consistent with the fair share expressed by the benchmarks. Given the Civil Society Equity Review's role as a template, several other projects (including South Africa and the UK) followed this example. In the New Zealand report, a number of benchmarks were presented, all of which were presented as defensible, and the resulting fair shares range was represented as open-ended with the least stringent benchmark as the lower bound. The USCAN fair shares consensus statement states the full range of the five benchmarks but highlights the average of the benchmarks as the single "representative number" to stand in for the full range for the sake of simplicity. Similarly, the Canada and Quebec projects ultimately chose a single number roughly in the middle of their benchmark range, a number that doesn't represent a specific benchmark but is rather taken to represent the full range.

Lots of Questions

Even given all these experiences, important questions that arise from time to time, questions for which no national projects have proposed good solutions yet. The first of these relates to the issue of Land Use, Land Use Change and Forestry (LULUCF), in particular with regards to deforestation. Currently, the Climate Equity Reference calculator does not support fair shares calculations based on emissions data that include LULUCF, and therefore does not produce results that include LULUCF. While this is arguably not a major issue in the case of the countries discussed here, it severely limits the applicability to countries where deforestation is a major historical emissions source and where addressing ongoing deforestation is a major component of their contribution to addressing the climate crisis.

Another issue that comes up repeatedly when people think about the ethics of responsibility for emissions is the question of whether the territorially based accounting system used by countries in accordance with the UNFCCC rules (i.e., emissions are considered "belonging" to a country if they originate from that country's territory) is the most appropriate to conceptualize a country's responsibility for causing the climate emergency. This usually comes up in relation to the alternative of consumption-based emissions accounting, where the responsibility for emissions associated with the production of goods and services is assigned to the country where these goods and services are

ultimately consumed, instead of the country where they were produced. However, note that in some of the national projects discussed above, consumption-based responsibility has been calculated in addition to territorially based figures and have not resulted in substantial differences (see, for example, footnotes 11 and 12 in Holz et al. 2022b).

This does not dispose of the equity issues here – in particular, the outsized consumption of the rich matters a great deal – but it does indicate that, with respect to the fair shares problem, the impact of consumption side accounting would be small. And note that, while it is possible within the Climate Equity Reference Framework to use consumption-based emissions accounting to calculate national responsibilities, doing so is not straightforward – it leads to perverse results to apply fair shares *reductions* to consumption-based emissions baselines.[19]

Having reviewed the various ways that groups have expressed their specific normative positions within the Framework, it bears emphasizing that despite the quite substantial differences between their specific views, their results tend to be very consistent within and across the projects – wealthier countries typically have mitigation fair shares that are in excess, and often far in excess, of their total emissions or any plausible amount of mitigation that could be done within their borders. And in less wealthy countries the opposite is the case: their fair shares are smaller, often much smaller, than the amount of mitigation that arguably could and should be undertaken there. In the next chapter it will become clear that groups also tend to come to fairly similar conclusions as to how to address this conundrum (especially note Box 1 at the beginning of the chapter). However, for the moment it shall suffice to recall that this consistency is primarily because the fundamental approach followed by the groups embraces both the UNFCCC's equity principles and the real scale of the 1.5°C mitigation challenge.

[19] Also, there is a third alternative when considering responsibility for emissions, which could be called extraction-based accounting; as this name implies, this would be a system wherein the responsibility for fossil fuel emissions lies with the country that originally extracted these fossil fuels from the crust of the planet. While compelling at first glance, this approach carries with it a plethora of equity challenges that are associated with the fossil fuel extraction problem. Some of these challenges have been discussed in the Fossil Fuel Extraction report of the Civil Society Equity Review (Civil Society Equity Review 2021).

Chapter 6. Applying Fair Shares to Global and National Advocacy

In chapter 5, we discussed issues key to *defining* national fair shares, with a focus on various defensible possibilities. In other words, we discussed the issues that come to the fore when designing equity benchmarks, and when making the related choices necessary to use the Climate Equity Reference Framework to calculate national fair shares, relative to a given global mitigation trajectory.

In this chapter, we discuss issues that arise *after* the fair shares benchmarks have been defined and applied, and after absorbing their quantitative implications – the actual results of the fair shares model – which tend, when translated to the level of individual national actions, to be more than a bit eye-popping. This is true, moreover, not just with respect to domestic emissions reduction targets (for most all countries), but also with respect to the provision of international climate finance and technology (for wealthy countries in particular).

In particular, we will here review the different approaches that civil society collaboratives have taken to the interpretation and use of their results. These differences have clear implications for how the fair shares idea is understood, and how it can most usefully be used in campaigns and communications materials. We will also go beyond these immediate challenges to broach larger challenges that are *revealed* (but not caused) by the fair shares analysis, which have everything to do with the severity of the position we now find ourselves in.

However, to highlight the uses of the fair shares approach, it's helpful to first examine the kind of realism that has long dominated the climate policy discourse – we'll call it "conventional realism" – and consider an alternative that, for lack of a better name, we'll call "climate realism."[20] This distinction is helpful because, from a conventional realist point of view, the fair shares approach seems to be fatally idealistic, and to appeal to political impossibilities in a way that is not only counterproductive but even dangerous. To open the space necessary to see beyond this impression, we will very briefly discuss the conventional realistic take on the climate emergency, and then its implicit theory of change and its perspective on the fair shares approach. We will then offer a very quick and preliminary sketch of an alternative realism.

[20] Note here "realism" is an extremely overloaded term, with many, many usages. We are not using it in the classical international relations sense, where it generally denotes the view that, structurally, "world politics is always and necessarily a field of conflict among actors pursuing wealth and power." https://en.wikipedia.org/wiki/Realism_(international_relations). Our usage, a more informal one, simply aims to rather emphasize the tension between actions that are seen as politically achievable and those that are necessary.

Box 2: Domestic and international action: two sides of one fair share

All the fair share exercises discussed so far, including those of the international Civil Society Equity Review and the national efforts of civil society and government researchers, have concluded that wealthy, high-responsibility nations invariably have mitigation fair shares much larger than their total domestic emissions, such that even an incredibly ambitious mobilization that rapidly achieved total domestic decarbonization would not suffice to meet these fair shares. Just as significantly, the opposite is characteristic of less wealthy and developing countries, where the mitigation fair share is typically smaller than, and in some countries much smaller than, the domestic mitigation that would be required by any stringent global mitigation pathway.

This result is not an artifact of these exercises and their chosen benchmarks, but a natural property of any international effort-sharing framework that is even modestly fair. On the one hand, the relatively wealthy countries of the world are home to most of the world's wealthy people, and have most of the world's financial capacity and most of its historic emissions as well; hence their fair share should rightly include most of the required global mitigation. On the other hand, it is in the relatively poor and developing countries where most mitigation must actually take place as the world moves toward zero emissions. It is in these countries that most emissions now arise and where emissions are growing most rapidly: after all, energy services must still grow to eliminate energy poverty and to enable the industrial and urban transitions that are currently underway

As a result, any wealthy and high-emitting country can be expected to have a disproportionate percentage of global responsibility and capacity, relative to its percentage of global emissions. For example, the recent US fair share study (FoE US et al. 2021) concluded that while the US had only 13% of current global emissions, it had 39% of global capacity and responsibility, and thus 39% of the total global mitigation as its fair share. This implies a fair share reduction that would, when translated to domestic terms, amount in 2030 to a 195% cut below 2005 emissions (USCAN 2020a). Such a figure is jarring to people who have, consciously or unconsciously, assumed that nations' fair shares must naturally be defined with respect to their own emissions, and therefore capped at 100%. Indeed, unless it is explicitly framed in terms of a fair share framework, the idea of "net zero" tends to reinforce this misconception by casting 100% reductions as the default metric by which to measure whether a country's climate action has reached maximum possible ambition. However, results like the 195% in the US example mentioned are the straightforward consequences of defining a country's fair share of the *global* effort in proportion to its share of *global* capacity and responsibility.

It is easy enough to see how this mismatch – between the high fair share countries and those where most mitigation *must actually* take place – might seem to imply there's an unavoidable trade off between high climate ambition and international climate equity, that you can have one or the other, but not both.

But this neglects an obvious solution, in which countries with high fair shares fulfill them by way of two complementary efforts – highly ambitious domestic mitigation actions on one side and international cooperation and climate finance for mitigation on the other – such that the two together amount to the total national fair share. And, conversely, mitigation in relatively low fair shares countries consists of their own mitigation fair shares plus additional mitigation enabled via cooperative finance and technology transfers from the high fair shares countries.

This is, of course, a major shift of perspective, but it has the great virtue of reconciling ambition and equity. It does so by unifying the treatment of mitigation action with mitigation finance and cooperation. Mitigation finance and cooperation are no longer conceived as a subsidiary, often neglected tasks. Nor are they miscast as a form of "aid." Instead, they begin to be explicitly treated as being as important an obligation – as important an ethical *and* realist obligation – as domestic mitigation. And, indeed, one that is often comparable in scale.

It is also important to acknowledge that the idea of overall (fair share) targets that can include reductions achieved internationally will immediately invite untoward thoughts of offsetting. Thoughts, that is, of mechanisms by which countries purchase "credits" from external jurisdictions to compensate for their domestic mitigation shortfalls; mechanisms that have already been decisively shown to fail the tests of equity, integrity, and effectiveness. As the US Fair Shares NDC concluded, they "are ineffective at reducing GHG emissions; increase air pollution and other harmful health and environmental impacts in environmental justice, Indigenous,

and low-wealth communities; and undermine efforts to build a healthy, sustainable, and resilient food system." (FoE US et al. 2021).

However, this fair shares approach by no means implies offsetting. It very much does imply, however, international cooperation, which in turn implies the need for mechanisms and institutions through which the international climate finance, cooperation and support components of wealthier countries' fair share would, in part, be deployed. This is especially the case if those targets exceed 100% reductions, or whatever target may prove the maximum conceivable pace of domestic mitigation.

Precisely to avoid the problems that have plagued offset schemes, the needed mechanisms and institutions would clearly require careful design with regards to their governance, environmental integrity, and environmental justice.

This is not to say that developing countries would be in any way "off the hook." For while they will need an enabling environment, including finance, technology, and other resource transfers, if they are to decarbonize rapidly enough, they would emphatically not be relieved from the requirements of massive infrastructural and social transformations. They will still need to bring their political and economic and cultural systems, and their developmental visions, into accord with a low carbon future. They will still need to forego any fossil resources that they may still see as a route from poverty. Yes, there are opportunities here, opportunities in abundance, but let us not forget that there are also challenges, and that, frankly, even the wealthiest countries have not yet demonstrated a willingness to honestly face them.

Again, these conclusions are not artifacts of a methodology that applies unduly harsh assumptions in terms of its implications for the North. In fact, there are many ways in which this approach is charitable, and perhaps unduly so, toward wealthier countries. If it reckoned national capacity not in terms of income but rather in terms of wealth, the global fair share would shift yet further to wealthier countries, as wealth is even more unevenly skewed. If it reckoned responsibility not in terms of national production-based (territorial) emissions, but rather in terms of national consumption-based emissions, the weight of the global fair share would shift further still toward wealthier countries. Most importantly, if it did not set aside all the free-riding that Parties to the UNFCCC have done since its adoption in 1992, the "climate debt," as it is sometimes called, would be heaped even more heavily onto the North, because the post-1992 free riding by wealthier countries has massively outweighed that of poorer countries. Indeed, it is this inaction and delay by the wealthier countries that most definitively set the world upon its present, dire course, one that is far more dangerous than if countries, once they had signed onto the climate convention, had promptly set about doing their fair share to prevent "dangerous anthropogenic interference with the climate system" (UNFCCC 1992).

Climate realism – a closer look

To begin, one must candidly acknowledge that the global demands of a proper climate mobilization – one scaled to meet the 1.5°C goal, or even the "well below 2°C" backup goal – are unambiguously staggering. Emissions are still rising, but they must rather plummet. This means that tens of thousands of power plants, millions of factories, billions of homes and vehicles, all must be overhauled, if not replaced, and at the same time there must be massive shifts in consumption patterns, behaviours, and lifestyles, around the world. Nor are these really disputable points. The IPCC, which has perfected the art of studied understatement, thus told us that "limiting global warming to 1.5°C requires rapid, far-reaching and unprecedented changes in all aspects of society," with "the rates of system changes associated" with such an effort having "no documented historic precedent" (IPCC 2018).

What's more, as Box 2 above highlights, fairly sharing this effort among countries and among people implies a transformation so large as to require not only a sea change in private investment patterns, but also massive public investments, a large portion of which must come via unprecedented flows

from wealthier to poorer countries. Further, if these flows are to be effectively deployed, the world will need new or transformed institutions and new cooperative mechanisms able to collect, coordinate, and mobilize the necessary resources and then direct them to where they're most required, and to do so on a sustainable, ongoing basis.

But, to many people in wealthier countries, calls for action on this scale can easily appear ludicrous, and this is especially true when the international financial flows implied by fair shares approaches are explicitly spelled out. This will be especially obvious to activists who have devoted themselves to lobbying for stronger domestic reduction targets or meaningful increases in national contributions to the Green Climate Fund. They will acutely know just how far beyond the "realistic" even their comparatively "reasonable" asks can fall, and how unlikely it is that fair shares numbers will be honestly considered by national decision-makers.

At the same time, the demands that a fair shares mobilization would make of the developing world can easily appear no less ludicrous to its citizens. Indeed, these demands can seem impossible as well as cruel, for they require the developing world to forego the very energy sources that fueled the rise of the wealthy world, and to do so even as the burdens of poverty and underdevelopment are sharply intensified by an increasingly hostile climate. Indeed, such demands can seem to seal a fate of permanent underdevelopment. Even if promised that much of this energy transformation would be enabled by finance and technology provided by wealthier countries, such reassurance will carry little weight until real trust has been established, which means, at an absolute minimum, that the long chain of broken climate finance promises has been decisively broken.

Given all this, one can understand, and sympathize with, a tempered approach that carefully calibrates its immediate demands, aiming to hold near-term objectives to "realistic" proportions. This "conventional realism" seeks to enhance ambition incrementally, even when this means advocating for patently inadequate actions and policies. The theory here is that even inadequate actions, if they can survive the journey through the policy-making gauntlet, are ultimately more promising than campaigns for a radical mobilization that seem – given the limits of today's politics – to be altogether unachievable. In this view, to ask too much is to recklessly risk an even greater danger: backlash and the further empowerment of already powerful blocking coalitions.

In this view, the spectre of large public finance flows to developing countries, in particular, invites nationalist backlash, and must be downplayed and softened, and this reticence applies especially to the demand for meaningful loss and damage finance. As for mitigation, the conventional realist perspective tends to view the 1.5°C objective as important, but chiefly as a maximalist opening bid, and prioritizes policy and negotiating strategies that focus on more achievable goals, such as a nominally 2°C pathway that may well overshoot in the nearer term, but in explicit anticipation of a future reversal enabled by carbon dioxide removal.

Such goals may be less ambitious than we would wish, but they are far better than prolonged deadlock, and everyone – realists included – hopes that wider windows will open soon. Meanwhile, the climate movement must continue to stress the co-benefits and opportunities of climate action – which are real and can help countries to see climate action as in their self-interest – rather than burdensome action on a scale that "the politics of the possible" will simply not allow.

As for the fair share approach, the conventional realist tends to caution that it simply is not helpful. That, in fact, it is counterproductive for both advocacy and outreach, primarily because it is too uncompromising, especially when it comes to global climate justice. That its insistence that rapid

global decarbonization will require large flows of finance and technology to developing countries, as well as major efforts to cushion the impacts that a rapid transition may have on the poor and the vulnerable worldwide. Rather, conventional realism would advise that we reluctantly accept, and even campaign for, levels of international finance that are plainly inadequate, because presenting the real numbers now, and the policy choices they manifestly imply, is to court political irrelevance.

To be clear, we find realism about political limits to be extremely valuable. It enables us, as individuals and as a movement, to far more clearly gauge the temper of the moment, to navigate tactical struggles with the opponents of climate action, and to precisely discern the current bounds of the so-called Overton Window[21]. But clarity about limits is not enough, not when it comes to long-term challenges, which demand a major shift, and indeed a major expansion, of the Overton window.

In general, the stubbornness with which the elites define the now endless cascade of international crises in catastrophically narrow terms underscores the limits of conventional realism. One obvious case in point here is the recent and ongoing debacle of the COVID vaccines, which were never made properly available in the developing world.[22] The warning here is difficult to miss, and it does not inspire confidence in the prospects for a muscular climate internationalism, which will be far more challenging than vaccine internationalism ever was.

More generally, opposition to climate mobilization has become a keystone of right-wing identity and a deeply polarizing "political issue." The precise nature of this polarization is not the principle point here, nor is the fact that it is incessantly stoked by individuals and corporations tied to the fossil economy. The point is rather that – if politics is always and everywhere "the art of the possible" – then, as conventional realism holds, climate policy must forever adapt to existing political reality, and forever seek to find as much incremental change as is possible within its constraints.

The point here is that conventional realism is not so much wrong as it is radically incomplete. It does not account for the historical branchpoints in which the nature and limits of realism themselves change. In such times, the insights of the conventional realists, if they are to be part of the solution and not part of the problem, must be folded into a larger and more strategic realism that understands not only that transformational change is very, very hard, but also that, sometimes, it rapidly becomes inevitable.

This is where climate realism comes in, and why it conflicts so sharply with conventional realism. In embracing a fair shares perspective, it is not simply ignoring the constraints of political reality and idealistically asserting that, because we *should* act ethically, we *must* act ethically. Rather it is to spotlight the grand compromise necessary to address the climate problem, and to show that *if* we act ethically, we can solve it, which is, ultimately, in our own real self-interest, which we inherently share with distant strangers, far beyond our national borders.

More prosaically, as we argued in chapter 2, only a global cooperative solution that is widely seen as being "fair enough" can possibly attract a political consensus, globally and within nations, that is coherent and durable enough to solve the immense collective action problem posed by the climate

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[21] "The Overton window is the range of policies politically acceptable to the mainstream population at a given time. It is also known as the window of discourse." https://en.wikipedia.org/wiki/Overton_window

[22] See also Sam-Agudu et al. (2022) , who suggest that "[a]s with diseases such as malaria and HIV, rich countries are 'moving on' from COVID while poor ones continue to get ravaged." Or, even more pointedly, "[s]ome pandemics never truly end – they just become invisible to people in the global North."

emergency. Without such a globally cooperative solution, we will be trapped within a makeshift framework that, while it may by fits and starts yield substantial incremental progress, will ultimately fail to generate the transformation we actually need.

It will fail because the climate regime will be unfair, and because significant blocs of countries will feel cheated by its demands, and legitimately so. And because of the worsening crisis, within which these countries will be strongly tempted to prioritize national adaptation and resilience, rather than expending scant resources on mitigation projects that privilege the common interests of the world as a whole, interests that also benefit distant and even hostile others. And if the regime appears to continue, or even echo, the economic depredations and racism of the colonial past, or the structural adjustments and austerity-first policies of the neoliberal decades, so much the worse. Transformational global policy cannot, and will not, survive in a world awash with justified grievance.

The conventional realist, of course, will hold that a cooperative global solution is not in the cards. But while at the moment this may seem to be the case, this is hardly decisive. For one thing, tomorrow's realism will be different than yesterday's. This will be true because of the rising impacts, and because of the increasingly visible and well-known existential dangers they portend, and because of the larger geopolitical and economic crises, which will not abate soon. And this will be true because of the technoeconomic revolution in renewables, which has already reset expectations about the politically realistic pace and cost of decarbonization, and which is poised now to really drive that point home. And this will be true because of the evolving climate movement, which has already largely become a climate *justice* movement and is well on the way towards becoming a *global* climate justice movement.

Social movements have a proven power to shift the Overton Window, to change the default, conventional, view of what is, and what is not, realistic. Which is exactly why a strong and coherent global climate justice movement is critical at this juncture. Shifting public discourse, articulating positive visions of still-possible futures, weaving the climate challenge deeply into the struggle for a new system of democratic multilateral governance, demanding a transitional strategy that might actually work – there is much for it to do. The overarching point is to reject the false choice between the inadequate changes already possible within the current political reality and the outright dismissal of more demanding asks. The path ahead must rather be one of political transformation, within which bold action to stabilize the climate system actually becomes possible.

Again, the fair shares perspective does not discard realism for idealism. Rather it insists that we have the science and the technology to save our civilization, and that we can absolutely afford to deploy it globally (as we shall see later in this chapter). The problem is that this can only happen in a manner that is widely accepted as passably fair. We've called the challenge here climate realism, but by any name it goes far beyond fair shares. But fair shares is a path towards climate realism, because it not only insists on the primacy of international cooperation and solidarity, but also forces us to think about them in very concrete, very specific ways. It forces us, in particular, to talk about global cooperation in concrete, meaningful terms.

How much domestic mitigation and how much international cooperation on mitigation?

As noted above, the fair shares approach treats international cooperation, including climate finance and technology transfer, as fundamental (see Box 2). What it does *not* do is define how much of a nation's fair share should be achieved by way of domestic emissions reductions, and how much via international cooperation and climate finance, asserting rather that it's the sum of the two that counts.

This might seem like a critical weakness – a refusal to face a key issue – but this isn't the case. National activists will still demand extremely ambitious domestic reduction targets, even if they also support a global fair shares transition. It's only that such targets are not themselves generated by the fair shares analysis, but are selected by those who are *applying* its results in national campaigns.

Importantly, nations with weak domestic targets can still be held to account. It's entirely straightforward to calculate how much each country must mitigate to at least match *the global average rate of emissions decline* associated with a global emissions trajectory, and this immediately provides a rough-but illuminating benchmark. If a government's domestic emissions pledge is substantially less ambitious than the global average decarbonization rate, one should insist on a very good reason why, and this would be true even if the country committed to make up the difference with reductions enabled through international finance. Further, if that country wants its pledge to be accepted as fair, it had best justify it in terms that make good and transparent ethical sense. After all, if one country proposes to cut its emissions more slowly than the global average, then the remaining countries have to cut more rapidly.

The global average rate of emissions reduction, in other words, points toward domestic targets that might plausibly be claimed as (barely) fair, but neither it nor any other overly simple measure can be taken as being either hard and fast or globally applicable. For example, it cannot be claimed as universally fair to declare that all countries should achieve a 50% domestic reduction by 2030, or (net) zero by 2050, and even small modifications – in which a developing country might be given until 2060, or 2070 – don't reliably yield anything like a generally fair approach.

Presumably, some countries should decarbonize more quickly than the global average, while others move less rapidly. Presumably wealthy countries, with lots of financial and technological capacity to implement drawdown solutions, and plenty of "excess consumption" to trim away, and heaps of resources to avoid or cushion the resulting disruption and hardship, should go even farther or faster. But *how much* farther or faster they should go is not a question to be answered in terms of national capacity and responsibility alone. It also involves country- and sector-specific technoeconomic judgements and depends on nationally specific data and analysis, as well as highly uncertain political, technological, and economic projections. Even more importantly, it involves social and ethical judgments. What type of lifestyle change should be expected, and of whom? What levels of consumption are not only low-carbon but more comprehensively sustainable as well (would routine transatlantic weekend trips in private airplanes be acceptable if the aircraft were zero-carbon)? Crucially, what approaches to decarbonization would be *universalizable*, and ultimately available to all?

These questions must soon be faced. But, at least for the purpose of deriving a country's overall fair share, they can be set temporarily aside. As the New Zealand report concludes: "However, while these factors are relevant in setting domestic targets and may, to some extent, be relevant in setting NDCs, they are not necessarily relevant to calculating fair shares of global effort. A high relative cost of domestic mitigation does not change a country's fair share, just how that country might choose to meet its fair share, balancing between domestic reductions, potentially lower-cost international emissions trading and/or climate finance for developing countries." (Johnston and Tong 2020: 18)

Regardless of where exactly the line between domestic and international effort is drawn, national climate campaigns must come to stress international cooperation and climate finance as much as domestic mitigation. This implies a perspective that is starkly different from the current one, where the thought of developed countries searching for mitigation activities in developing ones invokes the image of wealthy countries with weak NDCs off-shoring much of their already inadequate effort

through loophole-ridden carbon markets. But if high ambition pathways are to be taken seriously, then developing countries will also need to shift rapidly to these pathways, and they will absolutely *need* financial and technology transfers to do so. In any case, it is imperative that all countries are able to avoid further investments in fossil-based capital that leave them with costly stranded assets, or lock them into carbon-intensive futures. This is especially crucial for developing countries, where the vast majority of global energy-related investments will take place in the coming decades.

It's instructive to see how different fair share projects have managed these issues. For example, they have not been warranted much attention in the global Civil Society Equity Review, because the assessment of domestic targets is not the primary focus of the Review. However, in its first iteration, released just before the Paris COP, the Review presented an aggregate differentiation for the fair shares of wealthier countries as a whole. The result is illustrated in the figure below, where the left bar shows the 2030 mitigation fair share of wealthier countries (green) as a combination of their domestic action (dark green) and the mitigation that they enabled elsewhere through the provision of international climate finance and technology transfer (light green). The diffuse boundary between these two areas is meant to indicate the absence of a universally applicable and universally appropriate methodology for making this differentiation or for setting national domestic targets.

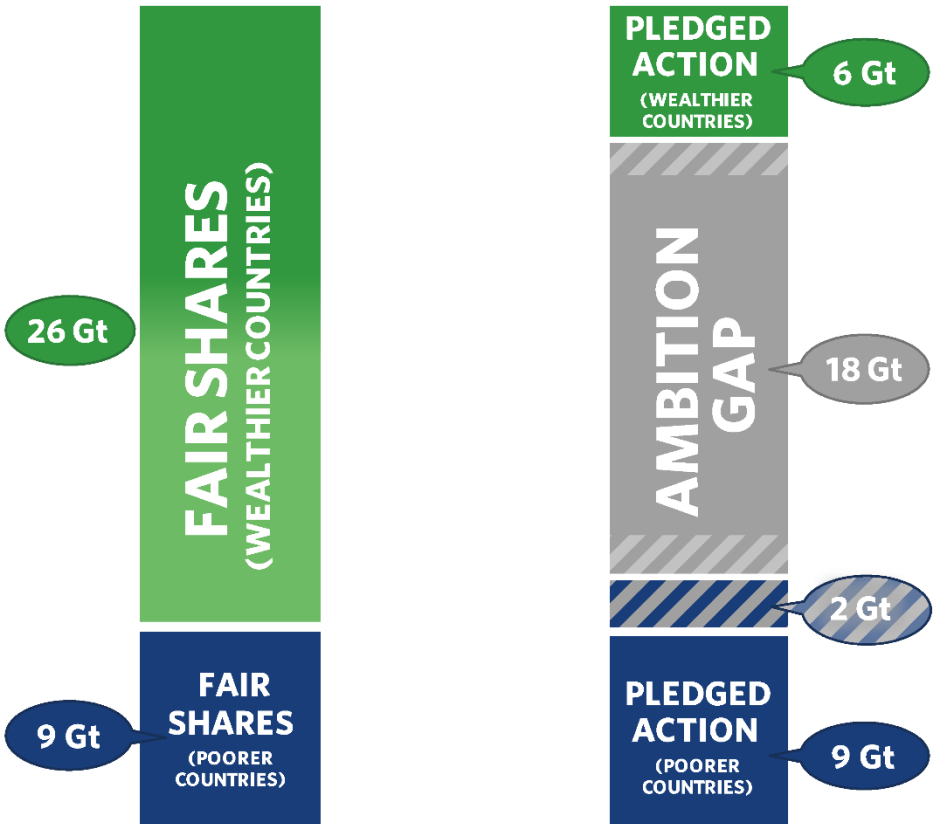

Figure 5. Fair Shares vs. Pledged Action (mitigation in 2030 below baseline in $GtCO_2eq$). Source: Civil Society Equity Review (2015)

National fair share projects, on the other hand, generally seek to define domestic reduction targets, and when setting out to do so they've drawn on various approaches, including expert analyses that, using one techno-economic methodology or another, and various ethical judgments, to derive a maximum plausible rate of domestic decarbonization. Alternatively, they've relied on pre-existing civil

society campaign demands, or other means, to decide on the "right" domestic mitigation goal. Most of these projects have been in wealthy countries, so they've generally proceeded by maximizing the domestic emissions reduction goal, and then defining the remainder of the fair share as a target to be achieved through international cooperation and climate finance to enable additional mitigation in less wealthy countries.

We will illustrate these choices with various examples, starting with the USCAN Fair Shares report.

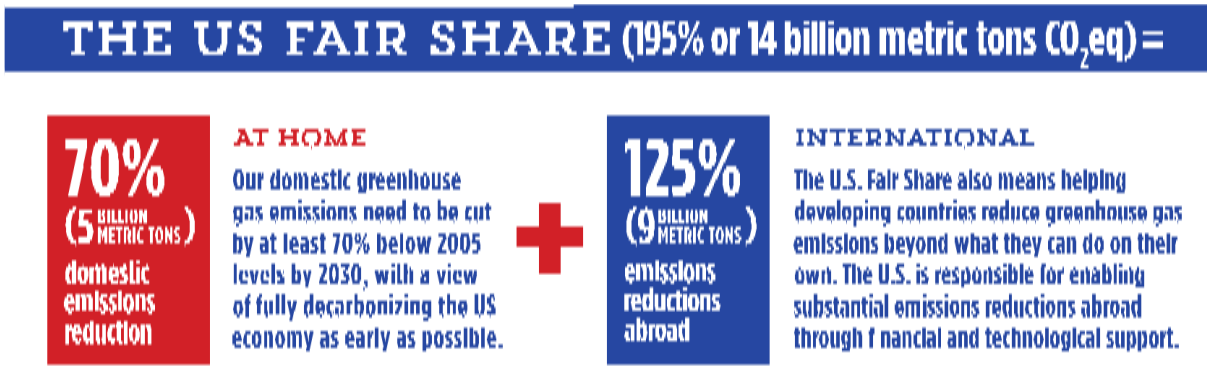

Figure 6. The US Climate Fair Share as sum of domestic and international action. Source: USCAN (2020b)

The above graphic shows the US's fair share divided into domestic and international portions, both denominated in tons (or percentages) of emissions reductions. As you can see, the US fair share is divided into 5 $GtCO_2eq$ of domestic reductions – a quite demanding 70% (2005 to 2030) emissions cut – plus another 9 $GtCO_2eq$ of additional emissions reductions (equivalent to 125% of its own emissions) achieved by "enabling substantial emissions reductions abroad through financial and technological support." The 70% domestic reductions target had already been developed by USCAN as part of its Vision for Equitable Climate Action (USCAN VECA 2020).

In the case of Norway, the fair shares collaborative used the simple heuristic mentioned above to roughly indicate a minimum domestic effort consistent with their chosen global pathway; Norway's domestic emissions in the target year, it was stipulated, should *at a minimum* reflect the same reduction rate below Norway's emissions baseline as the global average rate.

In France, the previous civil society demand had recently become obsolete due to the EU's submission of a new NDC. Given this, the members of the French fair shares collaborative took the opportunity to strengthen their domestic reduction demands, using a logic similar to that described above for Norway – France's domestic reduction rate should at a minimum match the global average rate, and actually, should be a bit higher.

A somewhat more involved process was used for Quebec (see Table 3 on page 12 of Holz 2021), where a number of possible heuristics were presented, all with very similar results, a finding that led the Quebec groups to adopt a number within that range as their domestic reductions demand.

In Canada, previously agreed civil society domestic reductions demands were deemed by CAN-Rac Canada's Equity and Science Working Group to be suitable and were directly applied, with detailed socio-techno-economic modelling later confirming the target to be very challenging but nonetheless achievable (CAN-Rac Canada et al. 2021; Sawyer and Melton 2021).

In the UK, the groups in the fair shares collaborative did not share a pre-agreed domestic reduction goal. Some advocated a domestic reduction target of zero emissions by 2030 or even earlier, while others envisioned zero or net zero being achieved at a later date. As a result, the collaborative articulated the domestic reduction portion of the UK's fair share as a range. Since, following the example of the Civil Society Equity Review, it also chose to express its final fair share results as a range, this made it somewhat challenging to clearly communicate those results.

This type of challenge is not uncommon. It arises whenever there are various options being explored that multiply into numerous possible cases. In this instance, there were two fair share benchmarks with two domestic 2030 targets each, leading to four possible combinations of domestic reductions and international support. While this is a challenge to communicate clearly in, for example, an infographic or a political demand, it can still be quite helpful. Agreeing to a range can sometimes open a path to consensus in a broad and diverse coalition. It can also powerfully demonstrate that even across a wide range of plausible assumptions, results consistently imply dramatic increases in *both* domestic effort *and* international financial support relative to existing policy and practice. The adoption of an "equity range" was extremely effective, in just this way, in the case of the Civil Society Equity Review.

This question did not arise in the New Zealand report, as its objective was simply to establish a basis for a total mitigation fair share, without specifying a split between domestic and international action.

In the South Africa case (the only developing country project considered here) the question of how much internationally supported action should be taken *in addition* to the national fair share did not arise, as the very targeted legal intervention the fair shares analysis was designed to support was focused on South Africa's fair share itself. However, the revised NDC target put forward by the South African government (which used the Climate Equity Reference Framework to justify the fairness and ambition of its mitigation target) appears, at least at the governmental level, to be understood as requiring at least some amount of support since the NDC details international support required to implement this target (RSA 2021b). This raises an important challenge for fair shares campaigns in developing countries, relating to two questions in particular: 1) how can the sequencing of support and action in the North and the South best be structured, in order to enhance ambition of all countries toward their fair share, 2) how can conditional pledges best be structured, so as to maximize their ambition ratcheting potential?

International Cooperation and Climate Finance – Toward Meaningful Numbers

In wealthier countries, a complete fair shares analysis would yield not only the size of the mitigation fair share and an estimate of how much of it should be achieved in less wealthy countries via international cooperation, but also a translation of that effort into concrete, policy-relevant terms, such as a total amount of climate finance to be provided. This is not the entire problem, of course, for the easy phrase "international cooperation" entrains a wide range of critical issues, including the creation of appropriate institutions and mechanisms, equitable governance arrangements, and inclusive participation, all in the service of property designed, adequately scaled, and justly implemented global efforts. Further, the challenges only become more encompassing and complex when adaptation and loss & damage are treated as equally essential aspects of the climate transition, which of course they are. But one thing is clear from the start – it is necessary to radically shift the scale within which policy discussions of climate finance now occur in the Global North, telescoping from the patently

inadequate $100 billion toward the actual finance, denominated in trillions, that will be needed to enable a serious global transformation.

It is, however, very much impossible to precisely determine national climate finance fair shares. For one thing, the global climate transformation is uncharted territory, not least because the future course of technological progress is inevitably uncertain. So, we will proceed by merely illustrating some approaches that have been taken to provide estimates, set goalposts, and otherwise reset the scale of national climate finance discussions toward more meaningful and realistic levels consistent with science and fair shares.

In the US, during the run-up to COP26, a number of USCAN members, in collaboration with some non-USCAN organizations, moved to build upon the USCAN fair shares consensus position, using it as the basis for a "US Fair Shares NDC" (FoE US et al. 2021) that, among much else, aimed to radically shift the political framing around the US's fair contribution to climate finance. Here, the sheer size of the US's fair share, and the simple fact that much of it must be discharged as international support, made it obvious that the US "owed" a great deal to the developing world. More precisely, the US's very large fair share (under any defensible equity benchmark) indicated that any plausible mitigation finance figures would have to be *several orders of magnitude* larger than anything within the horizon of US political discourse.

The groups in the collaborative were also determined to face the adaptation and loss & damage finance challenges head on, which would increase the already very large climate finance figures even further. Given this, they had to try to talk about these very large figures – "scary numbers" as we sometimes call them – in a manner that could be helpful even within the extremely polarized political situation that now exists within the United States, where substantial fractions of both the population and the political class are hostile towards both climate action and internationalism.

It was ultimately decided to explicitly *not* quantify the US's fair share finance – a process that would require dealing with a very wide range of disparate mitigation cost estimates, as well as with assessments of the global adaptation and loss & damage needs, where comprehensive cost estimates simply do not exist, and where many fundamental questions remain to be answered. Instead, the collaborative would merely put forward a demand for a preliminary contribution – a "good faith down payment" – toward the US's as-yet-unspecified fair share finance.

To determine the mitigation portion of this figure, the collaborative used cost figures from the current international finance experiences of the Green Climate Fund to derive a number that, while based on empirical data, would also be well below any plausible estimates of future mitigation costs under a much more ambitious 1.5°C-consistent mitigation pathway (the identified figure was only $10.70 per ton!), and assume that this cost would apply to the cumulative 53 $GtCO_2eq$ of international mitigation that the US would have to enable to achieve its mitigation fair share over the 2021-2030 period.

When it came to estimating the global adaptation need and the global loss & damage need, the collaborative was even more conservative, and decided that meaningful estimates of any kind were premature and probably impossible. On the adaptation side, the best numbers – they are on the order of hundreds of billions of dollars a year -- hail from the *UNEP Adaptation Gap Reports,* but these reports themselves clearly acknowledge that the studies underlying their costing exercises are based on analyses that lead to notoriously low estimates. To give just a few examples, they generally exclude the costs of a large set of "autonomous" adaptation measures, which are quietly shifted to those private citizens who can afford them, while those who cannot afford them are implicitly left to

endure the consequences. The studies invariably assume a level of adaptation that neglects the higher vulnerability of some people than others. They do not cover all sectors, and even within the covered sectors they do not cover all adaptation measures. They typically focus on "hard" (engineering) costs of adaptation, and exclude institutional, transaction, and opportunity costs. They do not cover adaptation to all types of climate impacts, and rarely include cascades from direct to indirect impacts. And so on.

On the loss & damage side, the challenges are even more profound, because loss & damage, when properly considered, is only an anodyne phrase that denotes human and ecological tragedy, of a kind and on a scale that cannot – by definition – be quantified at all. Layer the issues here on top of those that maintain in the adaptation area, and one quickly enters a realm of potential adaptation actions and unavoidable impacts where overwhelming complexity, profound uncertainty, and inherently ethical dilemmas make the notion of monetizing the costs unviable. What remains is a cascade of caveats and limitations that suggest that any putative "estimate" of adaptation and loss & damage costs would actually have to be taken as an extremely conservative floor that is well below any "real" or "plausible" range.

In line with the US Fair Share NDC project's determination to be as "helpful" as possible, the decision to use extremely conservative numbers and methods was repeated. The extremely conservative figures obtained for mitigation, adaptation, and loss & damage were then added, and then arbitrarily cut in half, establishing a bottom line that would explicitly *not* be framed as a fair share figure or an estimate of any sort, but merely a "good faith down payment," which still amounted to a politically eye-popping $800 billion over 10 years.[23] Importantly, the collaborative also called for this good faith down payment to be split equally in three ways – mitigation, adaptation, and loss & damage. Further, this proposal was joined with a very clear call for comprehensive needs assessments for both adaptation and loss & damage, and earnest efforts to leverage the US's down payment within the negotiations to raise overall ambition of finance commitments across developed countries toward the game-changing levels actually required. Highlighting the importance of raising this figure toward the actual finance needs, the collaborative, writing as an imagined, aspirational US government, presented the following NDC language:

> "The following commitments are put forward as a down payment on the U.S.'s true fair share, a good faith signal that the U.S. is taking an earnest step. Meeting the full U.S. fair share will require significantly more finance than outlined here, and can only be achieved within a multilateral process. To promptly ramp up this finance commitment toward its fair share, the U.S. will: implement measures to help refine assessments of actual mitigation, adaptation, and Loss and Damage finance needs; put finance measures and mechanisms in place that will help generate the necessary resources; redirect finance that is currently prolonging the unviable fossil-fuel-based economy; and – with the full partnership of recipient countries – support multilateral institutions that can deploy the resources rapidly, effectively and equitably."
>
> "[T]he U.S. [further] commits to work with the global community, emphasizing stakeholders from recipient countries, to more precisely determine the true finance needs for mitigation, adaptation, and Loss and Damage. The U.S. further commits to revise its finance commitment upwards, in a timely manner, based on the results of this multilateral process, with other contributor countries expected to make similar fair-share efforts."(FoE US et al. 2021: 16–17)

The above approach here, obviously, does not reflect an actual costing methodology, but is rather an attempt to make a politically useful intervention into a seemingly impossible political debate. For this

[23] The figures obtained for mitigation, adaptation, and loss and damage were $570 billion, $423 billion, and $634 billion, respectively, over the 2021-2030 period, totaling $1.6 trillion,

reason, it was built around an illustrative benchmark that attempts to make a virtue out of calculating numbers representing *extremely conservative floors, well below any actually defensible estimates* of all three components of the finance figure.

Why take such a tack? Because, having derived such a number – which, again, amounted to *USD $800 billion for the period up to and including 2030* – and expressing it as a "good faith down payment," the collaborative took a position that cannot honestly be dismissed as rigged, highball, or irrelevant within US political discussions. A figure of this scale is not so ludicrously far above the range of "politically serious" discourse as to be pointless; nor, since it is merely a "good faith down payment," does it undercut Southern demands for a level of support that more truly matches the need.

As for the decision to allocate equal shares of the total to mitigation, adaptation, and loss & damage, the patently approximate "one third" reinforces the message that these are not real estimates, but merely down payments on costs that – while not yet well quantified – are comparable in magnitude, and wholly on par in terms of political importance.

Note that CAN-Rac Canada sought a goal similar to the US collaborative's – to make a politically useful demand, while keeping the door open to future discussions about finance commitments more fit to the actual needs of developing countries. To do so, it had to reconcile the results of its fair share analysis with a pre-existing agreement within Canadian civil society that Canada's fair share of the USD $100bn developed country climate finance target should be considered to be USD $4bn annually, equally split between mitigation and adaptation. Unsurprisingly, since this figure is based on the arbitrary and ridiculously low $100 billion global commitment, the $4 billion headline demand was well below Canada's international fair share finance, even for mitigation alone (unless an unrealistic scenario with a per-ton mitigation cost of less than USD $3.50 somehow came to pass). This headline figure of $4 billion was thus framed as being only a portion of the overall international support requirement, with an additional unspecified amount, so it was implied, needed to achieve the overall international mitigation goal.

The Norway collaborative sought an approach that drew upon more standard costing methodologies. It decided to focus its examination of Norway's international mitigation fair share finance on a scenario in which this finance was focussed specifically on the deployment of renewable energy in developing countries. This choice allowed the collaborative to leverage data sources of an arguably better quality than is available for general mitigation costing, since investments and costs for renewable energy deployment are relatively well understood, although it was limited insofar as a finance figure should by its nature span the wide range of activities associated with transitioning the economy, and thus the society, to (net) zero. Separately, the groups estimated Norway's required contribution to global adaptation finance using an approach analogous to calculating its mitigation fair share: by applying their country's share of the combined global capacity and responsibility to the adaptation finance need as articulated by the UNEP Adaptation Gap Report (UNEP 2016). Interestingly, this strategy resulted in a mitigation finance estimate that was many times higher than the adaptation finance estimate – a contradiction to the general position of civil society groups that mitigation and adaptation finance should be equal. This is a telling outcome, and evidence that the art of "costing" adaptation finance need, let alone loss & damage finance need, remains at a primitive stage.

The French fair shares coalition, one of whose main purposes was to strengthen and support French climate finance campaigns, took an approach somewhat similar to the Norwegian coalition. In search of climate finance numbers with more standard methodological underpinnings, the coalition decided

(quite in contrast to the strategy utilized by the US fair share NDC or Canadian groups) to directly leverage mitigation cost results from the Integrated Assessment Models (IAMs) that were summarized in the IPCC's Special Report on 1.5°C (IPCC 2018). This is because IAMs in general, and the IPCC reports in particular, enjoy a large degree of support and even reverence, including from policy makers, and because this approach largely avoided using campaign-based judgments of the scale of the international mitigation finance need (Holz et al. 2022a, 2022b).

For adaptation, on the other hand, the French project used an approach that is somewhat similar to that used in the US Fair Shares NDC: presenting data on adaptation needs in developing countries, alongside of uncertainty estimates of this data, and then calculating France's fair share of providing the finance required to meet this need (in accordance with its share of the combined global responsibility and capacity). This led to a figure subject to a large uncertainty range, so given the long-standing view that mitigation and adaptation finance but provided at equal levels, an adaptation finance value was chosen that matched the mitigation amount. For loss and damage finance, the French report followed the approach first proposed in the Civil Society Equity Review's loss and damage report (Civil Society Equity Review 2019), where fulfilling the estimated global loss and damage finance needs is apportioned to countries in proportion to their share of the combined responsibility and capacity.

How big is big?

The question – as raised at the opening of this chapter – is how to create the political backing for the international effort necessary to achieve a fair and rapid global climate transition, even though that support would be properly denominated not in billions of dollars but rather in trillions, or even as percentages of Gross World Product?

One eye-opening approach is to make clear comparisons. By so doing, we can show that the likely costs of the climate transition, great though they may be, are nevertheless entirely affordable. This is especially true when we consider them against other, even larger expenditures, which we routinely accept as inevitable, even though they are often ill-conceived and sometimes criminally frivolous, and even self-destructive on a monumental scale.

In a way, we all already know this, for we never tire of pointing out that the damage costs of inaction will far exceed the costs of any plausible mobilization. But other comparisons are also helpful, comparisons against the sums mobilized for other purposes, and against the trillions that are wasted, on every front, when luxury consumption or war sets the terms by which expense is justified.

The good news here is that such comparisons are now routinely being made. Since the 2009 global financial crisis, and especially since the COVID pandemic, large governmental and intergovernmental financial interventions have, in the face of cascading emergencies, become almost routine. In both cases, very large numbers of people, and even significant fractions among the political elites, have been jolted into understanding that major mobilizations of public finance are sometimes absolutely, indisputably, necessary.

However, it's still not possible to talk honestly and openly about the scale of the climate finance that's actually necessary, or to keep the formal climate finance conversation from devolving into one in which private investment gets all the airtime. To be sure, there are many people who believe that transformational levels of public finance will be necessary to stabilize the climate system. But many of them also accommodate themselves to a policy world in which, so the thinking goes, the

challenges of public finance can be safely set aside. In fact, public finance – and public planning and coordination more generally – will be absolutely necessary for the economy-wide transformations the climate crisis requires. Major debates remain before this point is so clearly established that it can no longer be reasonably contested, but at the same time, the conversation has clearly shifted. "Trillion is the new billion," and this helps a great deal.

The key point here is that money is not the real problem. Keynes' declaration made during World War II, "anything we can actually do, we can afford" (Keynes 1942), applies here as well. That said, the institutional and political challenges of providing the public finance and technology support necessary to achieve 1.5°C would be immense, and it helps to think of them in practical terms. For example, is it possible to have standardized asks (e.g., for large-scale solar initiatives) that could be roughly "costed" in advance? If so, what factors would enter into the costing? Would they be limited to matters of physical infrastructure, or would "softer" transition costs also be on the table? The questions here sprawl, but it's fair to say that Keynes would have considered them to be entirely solvable.

Here are a few useful points of comparison:

Environmentally destructive subsidies. Every day, governments spend massive amounts of money to subsidize the destruction of our world. How much money? If you count not only fossil subsidies but a variety of subsidies for environmentally destructive activities across a range of sectors including agriculture, forestry, water management, and fisheries – activities leading not only to climate destabilization but also biodiversity loss, land degradation and global inequality the latest expert estimate appears to lie north of $1.8 trillion a year, or about 2% of Gross World Product (GWP), all of which goes into directly supporting unsustainable production and consumption (Hodgson 2022; Koplow and Steenblik 2022).

Of this $1.8 trillion, about $640 billion comes as *explicit* subsidies to the global fossil industry. Actual cash. But there's more to this story, as far as fossil fuel subsidies are concerned, in part because some of it comes as consumption subsides designed to protect the poor (a fact the fossil cartel takes full advantage of, in its endless claims to be a great benefactor of humanity) and in part because there is another, truer way, to estimate fossil subsidies. This time it's the IMF that has run the numbers, and despite criticism, stuck to its insistence that hidden damage costs must be counted as subsidies. In 2020 its calculation of the real fossil subsidy was about $5.9 trillion, almost 7% of GWP (Timperley 2021). Which comes to about $11 million a minute.

COVID Recovery spending. The International Energy Agency estimated that pandemic recovery spending, as of October of 2021, had reached $16.9 trillion. Of that, about $2.3 trillion went into long-term investments, of which only about $470 billion was for clean energy and sustainable recovery – about 3% of the total (IEA 2021). Matters improved a bit by March of 2022, but just a bit – total pandemic recovery spending had increased to $18.2 trillion, and of that $714 billion had been directed toward clean energy – about 4% (IEA 2022). This "recovery spending" is dropping, so it's also notable that, during this same period, fossil energy subsidies significantly outpaced clean energy subsidies (Energy Policy Tracker 2022). It's particularly notable that the overall economic recovery was fantastically inequitable. According to the World Inequality Lab, the richest 1% of the global population have, since the beginning of the pandemic, captured 19 times more of global wealth growth than the whole of the bottom 50% (Chancel, Lucas et al. 2022). The extremity here is frankly amazing – Oxfam, in its *Inequality Kills* report, notes that "The increase in Bezos' fortune alone during the pandemic could pay for everyone on earth to be safely vaccinated" (Ahmed et al. 2022).

Military spending. Military spending is the gold standard of wasted economic potential. In early 2021, the Stockholm International Peace Research Institute estimated the world military spending had risen to almost $2 trillion in 2020 (SIPRI 2021). And this figure is growing fast. The US military budget is the largest in the world (it recently came to about 40% of the global total) and "according to a projection by the Congressional Budget Office, Congress is projected to spend about $8.5 trillion for the military over the next decade – about half a trillion more than is budgeted for all nonmilitary discretionary programs combined (a category that includes federal spending on education, public health, scientific research, infrastructure, national parks and forests, environmental protection, law enforcement, courts, tax collection, foreign aid, homeland security and health care for veterans)" (Manjoo 2022). Rapid growth is also taking place in China, where the military budget is about $229 billion and "modernization" programs are driving its growth up by an estimated 7.1 percent per year (Bradsher and Buckley 2022), and of course in Europe, where the Russian invasion of Ukraine has led a new prioritization for all things military.

Odious Debt. The poor are in all ways disadvantaged, and this of course means adequate climate action is often beyond their means, as is sustainable development itself. For some key current details, see the 2022 *Financing for Sustainable Development Report*, which begins not with the COVID pandemic but with the "legacy of inequality" that already hung over the poor countries when the pandemic arrived, a legacy that only deepened as the COVID crisis cascaded into broader economic instability (supply chains, inflation, higher interest rates) and then into the instabilities and economic dislocations of the Ukraine war. The chief point here is to highlight the billions that the developing countries must every year pay to their creditors in the wealthy world to service this debt, a burden that is sometimes so odious that the term "debt slavery" is more a simple honest description than any kind of hyperbole (United Nations 2022).

How large is the developing world's external debt? Estimates vary, as does the legitimacy of the debt – how valid was it, really, for example, to transfer South Africa's apartheid debt to its inheritors? What is clear is that the total external debt of the developing countries has reached $10.6 trillion, and that servicing this debt consumes resources that are desperately needed for both development and the climate transition. In 2021, the Jubilee Debt Campaign estimated that 34 key developing countries, taken as a group, are planning to spend $5.4 billion a year on climate adaptation, which compares to the $29.4 billion they were obligated to spend on external debt payments in 2021 (Jubilee Debt Campaign 2021). Note too that, in the low-income countries alone, external debt sharply increased during that pandemic, reaching $860 billion in 2020 (World Bank 2022). No wonder a new wave of defaults has begun, and that widespread debt distress appears to be on the very near horizon.

Dynastic wealth. This brief list would not be complete without a mention of dynastic wealth, which is passed down from generation to generation within families, and of course within castes and classes. The numbers vary tremendously from country to country, but the US figures alone are boggling enough. Wealth managers estimate that "nearly 45 million U.S. households will transfer a total of $68.4 trillion in wealth to heirs and charity over the course of the next 25 years" (Cerulli 2018). And of course, much of these transfers will be protected from taxation – according to Americans for Tax Fairness, "these wealthy families will avoid as much as $8.4 trillion in estate and generation-skipping taxes between now and 2024, by using dynasty trusts and other currently legal loopholes" (Collins 2022a).

Tax Avoidance. Speaking of the rich, we should mention hidden wealth, which is shielded by tax havens and secrecy laws, and has now been estimated to be about 8% of the world's household

financial wealth (Alstadsæter et al. 2018). In 2007, this came to about $5.7 trillion. More generally, and this may be the best bottom-line figure for this brief summary, taxing the wealth of people with over $5 million could raise about $2.52 trillion a year, or, if a progressive wealth tax was applied, $3.62 trillion (Collins 2022b). It may not be enough to support all the ongoing social services associated with a just and sustainable global society, but amounting as it does to about thirty times more than developed countries' climate finance current pledge of $100 billion a year, it would certainly be a game changer. And if we may add a country specific data point, note that, as of March 2022, the wealth of the US billionaire class had increased by an estimated $1.7 trillion since the beginning of the COVID pandemic. And that, as Americans for Tax Fairness notes, "Under current law, none of that wealth gain – essentially income – will likely ever be taxed" (Nichols 2022).

Blood Fossils. Finally, given Russia's war on Ukraine, it seems appropriate to note that a good fraction of the untold billions that are spent on fossil fuels are diverted, sometimes immediately, to support the worst kinds of infamy. The exact figure varies over time, but as of this writing, good estimates from the Brussels-based economics think tank Bruegel held that "the amount of money Europe pays to Russia each day will keep increasing, and could average $850 million per day in the first half of 2022." (Estimates vary, but see the citation to Bruegal's numbers in Cohen 2022, as well as Mathis et al. 2022; Ustenko 2022). This is clear evidence of an intolerable dependence, and voices everywhere have risen to denounce it. What is not clear is how many of them will denounce the larger dependence, which hems us in on every side, with anything like equal vigour. Russian oil and gas, after all, is only the tip of the fossil iceberg.

A Transformational Finance Breakthrough?

However the larger political system is understood, and whatever that understanding implies, the short term is pressing. If the 1.5°C target is to maintain its relevance, and even if humanity were to only aim to meet the well-below 2°C target, global emissions must be significantly lower in 2030 than they are today, and be headed quickly and steeply downward. To that end, the negotiations, if they are to play their necessary part in stabilizing the climate system, must very soon achieve a finance breakthrough that is real and meaningful enough to tip the scales of international trust and cooperation.

To be realistic about this, one short-term question is if "innovative" financial moves can somehow support such a breakthrough, and by so doing shift the overall political trajectory. There are many possibilities here, ranging from carbon, aviation and financial-transaction taxes to debt relief to green bonds to various kinds of "global quantitative easing," including utilizing IMF Special Drawing Rights (SDRs). This later possibility, SDRs, was brightly spotlighted by Barbados Prime Minister Mia Mottley during her speech to the COP26 opening plenary, in which she proposed using SDRs as "a sword that can cut down the Gordian Knot" (Mottley 2021). By this she meant, in effect, leveraging the existing SDRs mechanism to create, at the stroke of a pen, a sustainable and adequately scaled stream of public finance. Specifically, she claimed that "the central banks have engaged in $25 trillion of quantitative easing in the last 13 years. Of that, $9 trillion was in the last 18 months to fight the pandemic," then called for "an annual increase in the SDRs of $500 billion a year for 20 years, put in a trust to finance the transition," adding that $500 billion is "just 2 percent of the $25 trillion" that the central banks have conjured out of thin air in the last 13 years.

The order of magnitude here is certainly large enough to be interesting, as is the fact that real attention is being paid to this proposal, and not just within civil society. But the obstacles are great, and it's not clear that we will ever see a substantial, good faith effort to retool SDRs into an instrument

of social progress. This is particularly the case given the enduring resistance that "fiscally conservative" elites invariably mount to any proposal for "printing money," a resistance that will only be strengthened by today's inflation scare. And, of course, there are good reasons to doubt the IMF itself, an institution with a long and fraught history.

All this said, any chance for an international climate finance breakthrough that is negotiated "above the pay grade" of the climate negotiators must be taken seriously. SDRs are sufficiently concrete that the possibility of using them to provision a "resilience and sustainability trust" designed to support climate action at scale is a tantalizing one. But do consider a core challenge here, that, in accordance with IMF rules, SDRs are not allocated to countries on the basis of their need, but rather in proportion to the size of their economies, an issue that would need to be overcome to transform SDRs into a useful climate finance mechanism (Mariotti 2021; Oxfam 2022). This, in turn, will only be possible with the explicit approval of wealthy nations, which generally restrict the use of SDRs to "liquidity" management and such, rather than venturing off into uncharted waters like climate finance. And do note that these nations include the US, which within the IMF has effective veto power over the rest of the world community (for an introduction to some of the issues here, see Montes 2021).

But perhaps we may be guardedly optimistic. The wheels of history are spinning fast, and big Ideas are clearly needed. Given this, Mia Mottley's proposal may be cut off exactly the right cloth and at the very least may serve to reignite the discussion about a substantial and believable source of ongoing climate finance. Without such a source, the conversations in the UNFCCC around the new collective finance goal risk once again resulting in a low-ball number that is completely disconnected from the actual need, rendering it all but useless. In this context, the recent findings of the Standing Committee on Finance are instructive; it noted 1,782 costed actions by developing countries across just 78 NDCs, and estimated the articulated finance need at $5.9 trillion for the period up to 2030. And this isn't anything like a complete list![24] Given this scale and recalling the debacle of the $100 billion, achieving anything like trust that the new collective finance goal is not only going to be meaningful but also funded, isn't a problem that can be left to the climate negotiators, who simply don't have the necessary political power. The finance ministers and heads of state are going to have to get involved, and they're going to have to think big.[25]

Making Support Concrete

A key step forward, if we wish to make the idea of international support on the necessary scale plausible, must be to make it concrete and purposeful, turning it into something other than a vague notion of cheques being written to distant and unaccountable governments for unknown purposes.

An initial step toward this end could use *conditional* pledges in a transformative way. For example, in a coordinated response to the Glasgow Call for stronger NDCs to be submitted in 2022, a bloc of developing countries could prepare ambitious conditional NDCs that clearly laid out national plans for transitions to zero-carbon climate resilient pathways, and, critically, included explicit needs assessments that clearly tied their plans to the necessary capacity building, financial resources, and

[24] See the discussion of the "New collective quantified goal on climate finance" in Schalatek (2021).

[25] For an intriguing story of how this might happen – it's climate fiction but it will help to clarify your thinking – see Kim Stanley Robinson's Ministry for the Future (Robinson 2020), especially chapter 42, wherein a plan is hatched for a new international currency – "carbon coin" – designed to incentivize decarbonization around the world, and the institutional support (globally coordinated central banks, working within UNFCCC-enabled processes) needed to support it is imagined in non-trivial detail. Complete with real references to real research papers!

technological cooperation. If this were to happen, the prospect of meaningful and effective international cooperation on the basis of fair shares could very quickly cease to be hypothetical.

One can imagine, for example, a fully elaborated version of the most recent (July 2, 2021) Nigerian NDC, which explicitly declares itself as being "consistent with the level of emissions reductions proposed for Nigeria by the Climate Equity Reference Calculator to on a global 1.5°C pathway" and which states that, in addition to facilitating deeper reductions than pledged in the original NDC, "*[m]obilization of the requisite international support and private sector investment would enable Nigeria to peak GHG emissions this decade*" (Nigeria 2021, emphasis added). While the updated NDC contains some details on the scale and type of finance, capacity building and technology transfer required to implement the NDC, including its conditional component, one could imagine elaborating this into an actual, detailed plan that would serve to "make support concrete" and could be used to not only mobilize the required resources but also as a tool for accountability vis-à-vis provider countries.

Such an approach could encourage the rapid proliferation of well-considered and very specific conditional asks in the NDCs, perhaps built initially upon those NDCs referenced in the Standing Committee report cited above, and the many hundreds of proposed actions therein. And built upon others, too, modeled after the "Just Energy Transition Partnership" that South Africa is negotiating with a group of wealthy countries, a partnership that is explicitly joined to its recently strengthened NDC. This is another example of a potentially major step forward in realizing North-South cooperation toward transformative national development pathways. It's a step, but by no means is it the whole of the issue. The $8.5 billion that was negotiated under the South Africa deal can certainly underwrite a lot of important actions in South Africa's energy sector, but it is still a far cry from the $35 billion that has recently been estimated as the cost of actually transforming the sector from fossils to renewables (Ray 2021).

If, in fact, 2022 sees the submission of significantly strengthened NDCs, many of them could consist of similar fair share-consistent conditional pledges. But will such pledges be achieved? Obviously, we do not know whether the support Nigeria and South Africa will need to achieve the level of emissions reduction they've offered will be forthcoming, or if the accompanying trust and cooperation which will also be necessary will somehow materialize. It would be understandable if developing countries were reluctant to actually undertake the substantial effort required to undertake concrete development planning for extremely ambitious conditional NDCs, along with comprehensive needs assessments. Skepticism would be understandable given the long history of delayed, inadequate, and diluted climate finance so far. To quote former UNFCCC executive secretary Yvo de Boer, who remarked in reference to the idea of matching developing countries' "nationally appropriate mitigation actions" (NAMAs) of the pre-Paris period with developed countries' assistance to implement them: "What's the point of taking your NAMA to a dry watering hole?" (Deccan Herald 2009)

Ultimately, much more ambitious developed country NDCs are needed, and at the same time developing countries' NDCs have to be scaled to the transformational challenge, and shaped into concrete, specific, and elaborated plans with explicit needs assessments, and rapidly put into motion. Moreover, the same must be done for the many even vaguer net-zero promises and other "long-term low emissions development strategies" that proliferated in the run-up to Glasgow. Concrete details will be needed, and as soon as possible, but providing them will not be a trivial matter. This is an essential point and cannot be overstated. The necessary degree of planning requires real engagement and detailed analysis, and large expenditures of scarce political capital, and these may not be the developing world's top priorities, not amidst the current disruption and distrust. We're going to have to

move forward as best we can, but it's hard to believe that we'll see success if the developing world's planners can only expect that, whatever they bring to the watering hole, they're only going to find it dry.

North and South, developed and developing, rich and poor

This fair share framework explicitly quantifies each country's responsibility and capacity, and thus its fair share. It thus places all countries along a continuum, from those with least responsibility and capacity, to those with most, and it correspondingly allocates fair shares of the total mitigation effort to countries along that same continuum. In doing so, it explicitly differentiates among countries, including among developing countries. This isn't unexpected, and indeed any principle-based effort to allocate fair shares based on quantitative indicators would do likewise.

For strategic reasons arising from UNFCCC negotiating dynamics, the history of multilateral negotiations, and global geopolitics writ large, this issue of differentiation among developing countries raises complex and controversial issues. Specifically, the question of how this differentiation among countries should be embodied in a multilateral climate regime is extremely controversial. For some, the prospect of South-South differentiation threatens hard-won gains and southern solidarity, and risks legitimizing further delay and deflection by the wealthy countries. In the UNFCCC, particularly, the absolutely essential differentiation among countries based on the overall level of development is thankfully acknowledged, albeit by means of the coarse categorizations among "Annex -1" and "non-Annex 1." Efforts to revisit this imperfect means of differentiation are seen as a threat to differentiation altogether.

For others, a finer South-South differentiation is a virtue. It acknowledges the globalization of wealth and consumption, and the elevation of some countries into a global middle income status. It also, one might easily surmise, responds to northern apprehension about the changing world order, and in particular the emergence of some developing countries as powerful economic and geopolitical actors, to greater or lesser degrees.

How South-South differentiation is managed is clearly a critical strategic question, both inside and outside the formal negotiations. Different actors will make different judgements, including judgements about the larger dynamic differentiation approach modeled by this fair shares framework. For the purposes of civil society fair share campaigns outside the formal negotiation, the key question is *how can fair shares be most helpful in achieving equitable and ambitious climate action?*

Clearly, different messaging strategies will be appropriate in different contexts.

In the North, in general, it helps to highlight the fact that this approach defines countries' fair shares in a wholly consistent way: wealthy people – whether in the North or the South – are treated alike, as are poor people, whether in the North or the South. Their income and emissions contribute to their national capacity and responsibility according to the exact same equity assumptions. Moreover, this approach fully recognizes the fact that wealth and consumption have been rising in the South, and that the world doesn't look the same now as it did in 1990. Within the non-Annex 1 group are some of the countries with the highest income levels in the world, and some of those with the highest per capita emissions.

This fact is obvious, and clearly must be accommodated within any effort-sharing approach that aspires to be considered fair. But it must be accommodated cautiously, because it is invoked all too often – by Northern negotiators in particular – as if to suggest that all countries should now bear

comparable obligations (e.g., voluntary pledges), and face equivalent goals (net-zero emissions), by essentially the same timeframe (2050, plus or minus a few years). With or without international "means of implementation."

In the South, finer South-South differentiation, can helpfully reinforce demands for stronger domestic climate policy *providing it is framed within a fair share framework.* This fair share framework, which recognizes the central importance of inequality *within* countries, is very much fit to purpose here, for it helps to support efforts to target Southern elites, and also to militate for equitable *domestic* implementation of climate actions, which is essential if these actions are to benefit the poor, and to not unduly burden them with the costs of climate action.

Finally, it is important to stress that while this fair share approach treats all individuals of a given level of income and consumption equivalently, whether they be in the North or in the South, it still unsurprisingly finds that wealthier countries together have a much larger share of the global capacity and responsibility than poorer countries.

Chapter 7. Equity & Fair Shares – Strategic challenges and invitations to reflection

To this point, this report has focused on national fair shares, i.e., how planetary climate burdens *ought* to be divided between nations – though chapter 6 reached beyond national fair shares to draw some larger conclusions. There are many more to be drawn, but it is also clear that not all climate equity challenges are properly illuminated by the fair shares framework. There's more to climate justice than fair shares.

This last chapter will expand the discussion, and ask what light the fair shares approach sheds on some of the larger equity-related *strategic* challenges posed by the climate emergency. It is one thing to agree, for example at CAN International's strategy meetings in Arusha in 2019, that equity is a cross-cutting challenge, but it is quite another to identify the specific points where a focus on equity might be strategically decisive.

Consider these four CAN's strategic priorities, from the Arusha outcomes and CAN's website:

- Centering people and climate impacts
- Ending Fossil Fuels
- Transformative national climate action in a global context
- Multilateral action and advocacy

All of these involve, or implicate, or entrain, the challenge of fair shares effort sharing, but in none can the climate justice challenge be reduced to it. "Ending Fossil Fuels" illustrates this point nicely, because, as *A Fair Shares Phase Out*, the 2021 report of the Civil Society Equity Review makes clear, the "supply side equity" challenge can best be considered in terms of "dependence on fossil fuels and vulnerability to transitional disruption" on the one hand and "capacity to manage the challenges and support a smooth transition" on the other (Civil Society Equity Review 2021). The second of these terms – capacity – suggests the fair share framework needed to assess countries' efforts, but the first – dependence – suggests all the rest: the critical, nationally specific, equity-centered issues that arise whenever vulnerable communities and their advocates rise to face the challenge of, not just rapidly phasing out fossils, but doing it fairly.

Some key equity questions

Here we will very briefly note a few overarching strategic questions, all of which are directly relevant to the global climate justice reckoning. We don't presume to have proper replies to any of these questions, but we do presume that they are all critical, and that any honest attempt to stabilize the climate system must engage the deeper challenges that, taken together, they clearly imply.

1) What can CAN-I members do to spotlight the role that extreme inequality – between countries and within them – plays as a defining impediment to the transformative cooperation that will be needed to achieve the "rapid, far-reaching and unprecedented changes in all aspects of society" which the IPCC tells us will be necessary to achieve 1.5°C (IPCC 2018).

2) How can CAN-I members help ensure that the climate transformation itself reduces inequality at both the local and global levels, including by helping to reduce injustice *within* countries, such that national elites cannot easily hide behind the needs of their poorer citizens, and cannot use the

climate emergency to further strengthen existing forms of oppression?

First, note that inequality, and injustice more generally, and their relationship to the climate transformation, are both number one and number two on our question list. This properly reflects its importance in this defining challenge.

The CERP framework stresses inequality within countries, and the keystone importance in understanding countries' relative capacity and responsibility. For this reason, it reflects the crucial fact that our world is divided between rich and poor, and simultaneously between North and South. The latter division is salient within the formal negotiations, but the former is just as important. This is for the simple reason that the societies suffering the poisons of extreme inequality are not primed to embrace the domestic transformations now needed, and even less so to embrace climate internationalism. In fact, just the contrary is true – extreme inequality polarizes society, and breeds both dysfunction and distrust.[26]

A poor woman from the U.S. South cannot justly be asked to bear the costs of the climate transition in Africa, or in Latin America, or in South Asia. Yet such a fear will be encouraged by the right, and it's not clear that the solidarity she might naturally feel with poor people elsewhere will win the day. The challenge here is sometimes known as going "from the local to the global," but such a journey is easier to take if it is clear from the onset that the burdens of international solidarity will land most squarely on wealthy shoulders. The simple truth here is that domestic equity is the key to internationalism. There will be no *global* equity without more equity *within* countries. Otherwise, the question of effort-sharing among countries would degenerate into a question of effort-sharing among the world's poor, and this simple truth should be far, far more prominent in the movement's vision than it is today.

3) How can greater and more effective support for an equitable global transition and a rapid fossil phaseout be built? How can today's anti-fossil campaigners best engage with the global equity challenges highlighted by the fair shares issues spotlighted in the 2021 Civil Society Equity Review?

The fossils-to-renewables transition is going to be hugely and often unpredictably disruptive, and, unless this disruption is countervailed by strong and well-designed just transition policies, it will not be good news for poor and marginalized communities.

If there is any doubt about just how pressing this challenge will be, consider only that fossil fuel producing countries are on track to expand oil, gas, and coal production over the course of this decade to a level that is *twice* as high as one consistent with a 1.5°C pathway (SEI et al. 2021). In consequence, national fossil fuel production plans and projections are even *farther off course* than are national emissions, according to current NDCs.

The COP26 endgame – the kerfuffle around the "phase out" vs "phase down" language – in addition to the hordes of fossil fuel lobbyists walking the halls of the COP – should have put to rest any illusion that the fossil producers will go softly into the night. And given that the COP26 language ended up singling out coal, it's also worth remembering that, as India's Thiagarajan Jayaraman, a seasoned negotiator and climate equity expert took pains to recall in a COP26 post-mortem, India's coal emissions are (today, in absolute terms) smaller than even just US emissions from oil and gas (Jayaraman 2021) – two fossil sources that escaped mention in the final COP text.

[26] For an illuminating discussion of how extreme inequality engenders political polarization and strengthens the hold of right-wing ideology, see Edsall (2022).

As noted above, these challenges are highlighted in *A Fair Shares Phase Out*, the 2021 report of the Civil Society Equity Review. One of the key topics in that report is the pressing need for financial and technology support for fair fossil phaseouts. Because just as poorer countries seeking to rapidly cut emissions need finance and technology in order to succeed, so too do those seeking to cut fossil fuel production. But the discussion around finance for just transitions from fossil fuels is terribly immature; indeed, it is practically stillborn due to its association with "response measures," and the patently obstructionist use of this negotiating issue by countries like Saudi Arabia.

Still, the issue here is critical. What kind of phase-out support could the international community provide to a poor country that is heavily dependent on fossil fuel production? How can such support help provide investment and training, to create good jobs to replace existing jobs in the fossil sector? How can developing countries replace the public revenue currently earned through fossil exports? Which countries should provide finance and technological cooperation, and which deserve to receive them? How, and on what terms can they most successfully do so? The answers, if the phaseout to be equitable—and if it is to happen quickly—must reflect both the depth of a country's dependence and its capacity to undertake a just transition, both at home and abroad.

The questions here are strategically decisive and will have a terrific influence on future history. But even though the world's anti-fossil campaigners have got the just transition question firmly in their sights, it is still not getting enough attention. Not even close. Part of the problem is that the mitigation challenge is usually considered in technical and investment finance terms, and the social difficulties of extremely rapid infrastructural change – think disruption and lock in – are passed quickly over. In this regard, the events of the COP26 closing plenary were a welcome wake up call.

4) How can civil society help to facilitate a finance / support breakthrough? One idea, which CAN might usefully promote, is "making support concrete." What are the opportunities here? Now that the elites have centered the net zero strategy, which puts ambitious emissions reductions by *all* countries front and center, how best can the movement "call their bluff," showing that radical reductions are possible, but only if there is simultaneously an international public finance breakthrough?

This question could soon become extremely pressing. For example, it could arise under the pressure of the Glasgow call for stronger NDCs in 2022, and along with the unrelenting expectation that all countries join the "net zero club." One could imagine a coordinated developing country resolve to do so, but in the form of conditional NDCs that clearly signal their commitment to economy-wide transformation, and only in the context of the necessary finance and technology assistance.

We will hear again, including from good-faith, would-be allies, that delivering the necessary finance and technology "is just not practical." These doubts may be expressed as a concern that there's not enough money, or that the institutions that could support international cooperation on the necessary scale simply don't exist, or that the recipient countries don't have the "absorptive capacity," or by way of any number of other objections. The preceding chapter, under "making support concrete," discusses some of them and suggests some productive ways of thinking about them.

CAN could help avoid a stalemate and facilitate a support breakthrough by developing strategies appropriate to its members' particular constituencies for responding to these easily anticipated concerns. Members could develop, for example, comparisons to other items in their domestic budget that are extravagant, or unnecessary, or harmful – and as the last chapter demonstrated, there are lots of such items to choose from (fossil fuel subsidies are always a suitable example). They could, in

particular, highlight the luxury consumption of their elites. They could draw on historic examples that are seen in their national context as good models (such as, for many in the US, the Marshall Plan).

In developing countries, CAN members could advocate for very ambitious conditional NDCs, and coordinate with social movements and grassroots allies to develop detailed proposals for economy-wide plans for decarbonization, fair fossil phase outs, and properly scaled adaptation and loss & damage responses. These exercises, driven by local climate action and social justice advocates, could build on the technological analyses that constitute most mitigation plans, but place them in the context of a just and equitable domestic transformation.

5) Emerging discussions about "climate reparations" should be tied much more closely to the campaign for a just global climate transition. There is potential here for a win / win encounter in which practical ways forward are tied to systemic change in new and powerful ways. Can loss & damage strategy potentially advance this sensitive discussion productively?

It's useful to note a few lessons from the transitional justice movement, which emphasizes that reparative justice is not intended as a way of "getting even," but rather as a way of "facing history," and – most importantly – of opening paths forward (see Klinsky and Brankovic 2019). But these paths forward must substantively benefit the people and communities who were harmed, and who continue to be harmed. The desire to rush forward (to say, "implementation") is easy to understand, but rushing forward without actually addressing past harms, and honestly moving to ensure they will not be repeated, is not the way.

The absolute necessity of facing history is reflected in the emphasis the fair shares framework places on historical emissions – one indicator of historical responsibility. But history cannot be reversed. And just as "negative emissions" cannot straightforwardly erase the emissions of the past, the industrial revolution cannot be retrospectively made to have flowed down different courses. The bloodbaths of colonialism – written as though they were in the emissions account books – cannot be "offset." Historical responsibility must be reckoned with, but how then to open paths forward? This is where capacity offers a critical complement to responsibility, and why a focus on present day capacity – who actually has the money, now, and how can it be very quickly moved to where it is needed? – is a core part of the answer.

Consider here the "liability" dispute (as reflected in, for example, paragraph 52 of the Paris COP decision text, which explicitly rejects any notion of liability). How can this dispute ever be resolved in a fair and forward-looking manner? The answer must be a climate transition in which impacts and adaptation are taken very seriously indeed. This would involve the transfer of a lot of money, and the reallocation of major resources, but it would also involve non-financial social changes having to do with everything from education policy to migration policy to food policy. And these, ultimately, will only come to pass if they are based more on solidarity and a recognition of needs than on a legalistic conception of liability *per se*.

Ultimately, the question is what climate reparations – which we will all be hearing more about in the years ahead – actually means. In practice, the answer may be hard to distinguish from the establishment of a climate stabilization regime that takes both historical responsibility and capacity – to pay, to change, to face the future and ensure it is fairer than the past – into very serious account. This may, as a storm sweeps away your home, seem an empty recompense, compared to the fiercer justice many of us would prefer, but if it would reopen the future, it just might be enough. It is, in any case, necessary.

6) Looking forward to the post-2025 finance debate, it's hard to believe the differentiation question is not poised to come roaring back. In fact, this would be a fine development, because the alternative is a future in which "common and differentiated responsibilities and respective capabilities" is replaced by "shared responsibilities," and by the failures such a strategy implies. How can equity be finally and properly refocused as an instrument of greater ambition?

It's important here to realize the Paris Agreement establishes a "pledge and review" regime, and that such regimes cannot be expected, in and of themselves, to yield high ambition outcomes, especially absent an effective "review" part of the equation. The good news here is the green technology revolution, which, at least where mitigation is concerned, will make many things possible, but we're also going to need "ambition ratchets," and equity assessment is crucial to their proper functioning.

Also, the differentiation question is an immensely difficult one, and it entrains questions – think for example of China, which is no longer simply a developing country – that take us far beyond the political capacity of the UNFCCC negotiations. Fortunately, these questions do not absolutely have to be resolved to make a breakthrough on post-2025 finance. Finesses of various kinds are possible, and if the "old rich" began to pay their fair shares, or to contrive international institutions to do so, the diplomats could no doubt do the rest.

Meanwhile, civil society is going to have to do some heavy lifting, for it enjoys political latitudes that the Parties do not share. In particular, the formal terms of reference of the Global Stocktake do not allow for the equity assessment of individual NDCs, but it is essential that this assessment take place, in the real world if not in the negotiations.

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