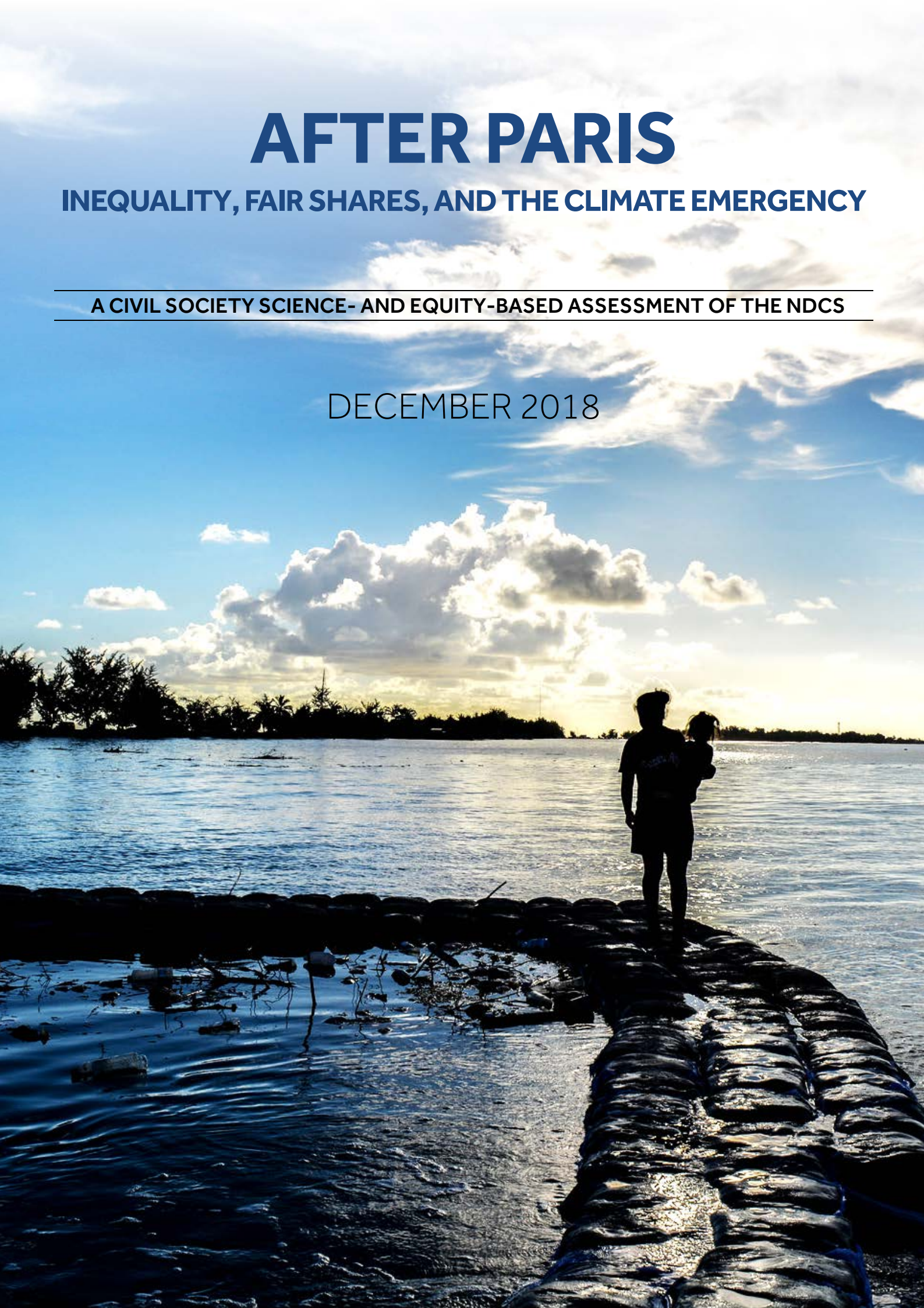


AFTER PARIS

INEQUALITY, FAIR SHARES, AND THE CLIMATE EMERGENCY

A CIVIL SOCIETY SCIENCE- AND EQUITY-BASED ASSESSMENT OF THE NDCS

DECEMBER 2018



SIGNATORIES

The following groups, organisations and movements support the analyses, findings and recommendations of this Civil Society Equity Review:

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- Change Partnership, Belgium

- Climate Revolution, United Kingdom
- Coordination Office of the Austrian Bishop's Conference for International Development and Mission (KOO)
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- Climate Action Network Canada – Réseau action climat Canada
- Climate Action Now, Canada
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- Climate Justice Project, USA
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- University of Toronto Environmental Action, Canada
- Vegans & Vegetarians of Alberta, Canada
- Windfall Ecology Centre, Canada
- World Federalist Movement – Canada

OCEANIA

- Blacktown & District Environment Group, Australia
- Climate Change Balmain-Rozelle, Australia
- Human Rights Foundation Aotearoa New Zealand
- New Zealand Climate Action Network
- New Zealand College of Public Health Medicine
- OraTaiao: New Zealand Climate & Health Council

INTRODUCTION

The Paris Agreement's bottom-up approach combines with the severity of the 1.5°C challenge to make the equity and fair shares debate absolutely critical. Equity is not a moral or academic nicety, but a practical necessity in meeting the Paris goals. Yet the Talanoa Dialogue, like most other post-Paris attempts to gain traction and momentum, has sidestepped any substantive discussion of equity: How did we get here? Do we actually intend to meet the Paris temperature goals? How do we understand countries' pledges, compared to their fair shares of the necessary global effort? What would a 'just transition' to a 1.5°C world look like? These questions are not being clearly asked, or clearly answered. Unsurprisingly, there has also been no meaningful progress in ratcheting up countries' ambitions.

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In this context, our *Civil Society Equity Review* (CSER) coalition has attempted to show how a transparent articulation of the UNFCCC's core equity principles – even within a general framework that encompasses a broad range of perspectives – can help us to understand the fairness, or unfairness, of individual national pledges. The point here is not “finger pointing,” nor is it to let any country off the hook. It is that any truly ambitious global climate mobilization will require a broadly shared sense that all people – including the wealthy wherever they may live – are doing their fair share. This is why, if we don't engage the equity challenge, a high-ambition

mobilization will remain out of reach. And why we reject claims that equity is ‘too political’ and ‘too dangerous,’ that it risks the hard-won balance that gave us the Paris Agreement.

This balance is worth little if it leaves us without a path to the Paris goals.

Crucially, this report draws attention not only to the inequality *between* countries, but also the inequality *within* countries, between the rich and the majority poor. If we are to achieve the critical outcome of limiting global temperature rise to 1.5°C, the wealthy (individuals and companies) in all nations must take the greatest action to both reduce their own emissions and to support the global transition. The global elites must not pass this burden onto the world's poorest and most vulnerable individuals, nor onto the so-called ‘global middle class.’ The wealthy must not be able to hide from their responsibilities.

We conclude that the wealthier countries must urgently and dramatically deepen their domestic mitigation efforts, and that, if they are to contribute their fair shares to the common effort, they must also support additional actions outside their own borders. We also conclude that, while many developing country pledges do meet or exceed their fair shares, this is not universally true, and that in any case, they too will have to do much more, though as a general rule they will simply not be able to do so without significant levels of international financial support. The 1.5°C objective requires profound action in developing countries that cannot realistically, or fairly, be expected without meaningful levels of international support.

A NEW CONTEXT: RESPONDING TO THE IPCC 1.5°C REPORT

On 8 October 2018, the IPCC published a *Special Report on Global Warming of 1.5°C*. There are many messages in this report, but its core is surely that the Paris temperature goal – keeping “the global average temperature to well below 2°C” while “pursuing efforts to limit the temperature increase to 1.5°C” – cannot be a merely aspirational one.¹

Indeed, warming of 2°C, which was long regarded as a relatively safe guardrail against apocalyptic disruption of the climate system, is now officially recognized by the IPCC – and this is new – as being potentially catastrophic. We must, together, do all that is necessary to achieve the 1.5°C goal, and this can only be done if we face the equity challenge.

The good news is that the IPCC very clearly recognizes that 1.5°C can be achieved, though doing so will be very difficult. However, only those pathways that manage the climate transition while simultaneously improving the lives of people everywhere have even a remote chance of being viable. This transition really is, as the optimists say, a terrific opportunity, but it is very much a challenge as well. Achieving the 1.5°C goal requires taking action urgently and across the entire global economy, which inevitably means unwelcome costs, disruptive shifts, and deep anxieties about loss, displacement, and social insecurity. Facing these challenges, honestly and robustly, is going to be essential to averting a climate catastrophe.

In principle, the Paris Agreement offers the prospect of securing increased ambition, specifically by way of the Global Stocktake, which Parties are charged to undertake “in the light of equity.” And indeed, urgency cannot trump equity, as the IPCC agrees. It carefully notes, and with high confidence, that “social justice and equity are core aspects of climate-resilient development pathways that aim to limit global warming to 1.5°C.”

In this report, we examine the potential for reaching a 1.5°C future that explicitly takes the universal attainment of a ‘decent living standard’ as a fundamental design criterion. We do so using the “Low Energy Demand” scenario², one of the four illustrative pathways in the IPCC’s special report on 1.5°C. Also, in this report, unlike our previous ones, we explicitly examine inequality within nations. To be sure, the primary job of the UNFCCC is to help us address the international side of the climate inequity challenge, which we must do if we’re to stabilize the climate system. But the challenge of inequality within countries has much to do with the dark character of the current political moment, and will have everything to do with our ultimate success, or failure, both within nations and globally.

The Paris Agreement charted a new course forward, but it is very much unfinished. The most obvious problem is that, even though all countries are now expected to act (even those who opt out of the Paris Agreement can’t escape this expectation), Paris is failing to deliver the scaled-up action needed to meet its necessarily ambitious goals. Under the Paris Agreement, countries regularly submit NDCs (Nationally Determined Contributions), or pledges, which include proposed reductions in domestic greenhouse gas emissions. The first round of NDCs, mainly submitted in 2015, put us on track for a planetary warming of more than 3°C,⁵ an unimaginable threat to both people and the planet as we know it, and indeed to human civilization. Nor will an exclusive focus on ‘the opportunity’ and the rhetorical insistence that “we all have to do more” succeed in bridging the gap to 2°C, let alone 1.5°C. Nor does it help us face today’s deadly deficits of adaptation and loss & damage support.

Indeed, this misleading – or at best incomplete – framing of the situation is part of the problem. The opportunities are real, but they will not be seized while we sidestep the fact that it is *specific* countries – overwhelmingly wealthy industrialized countries – which are failing to make their fair share of the global effort. And this fact carries profound political implications.

Undeniably, current political trends make difficult matters like this extremely challenging to face.

BOX 1: THE IPCC REPORT – IT’S IMPERATIVE TO DO EVERYTHING POSSIBLE TO REACH 1.5°C, INCLUDING TAKING EQUITY SERIOUSLY

The IPCC’s October 2018 report on Global Warming of 1.5°C sets the stage for a new honesty about ambition. Here, very briefly, are some of the most critical takeaways:

- Even 1.5°C of warming will be very dangerous, but 2°C would be much worse than 1.5°C, and much worse than we used to think. 2°C is no ‘guardrail.’ Rather, it would be a terrible disaster, since 2°C of warming would bring a staggering increase in the heat waves, droughts, storms and sea level rise that are already battering people, places and economies the world over, and will expose hundreds of millions of people to higher risks of displacement, water shortages and poverty.
- 1.5°C is achievable, though doing so will be very difficult. As the report’s *Summary for Policymakers* tells us, keeping warming below 1.5°C “would require rapid and far-reaching transitions in energy, land, urban, infrastructure ... and industrial systems” that are “unprecedented in terms of scale.” Still, it’s important to realize that, geophysically, technically, and economically, 1.5°C is achievable, and moreover without assuming excessive levels of negative emissions.
- However, 1.5°C is only achievable if equity is prioritized, because it means vigorously pursuing a low energy demand civilization, and success on this front will only be possible if we’re simultaneously prioritizing poverty eradication and the protection of the vulnerable. In fact, the IPCC’s 1.5°C report is notable for the detail in which it discusses the centrality of climate equity. For example:

“D6.1. Social justice and equity are core aspects of climate-resilient development pathways that aim to limit global warming to 1.5°C as they address challenges and inevitable trade-offs, widen opportunities, and ensure that options, visions, and values are deliberated, between and within countries and communities, without making the poor and disadvantaged worse off (high confidence).” (See the appendix for more of the IPCC’s equity-related conclusions.)

The IPCC is constrained to be over-cautious in its scientific judgments. In particular, the *Summaries for Policymakers* that begin its reports are negotiated consensus documents that lean hard to the lowest common denominator. Given this, it’s important to keep in mind that the dangers we’re now facing could be much worse than suggested by the 1.5°C report, and this despite that fact that this report presents them with startling clarity.

With regard to such dangers, recall the ‘Hothouse Earth’ paper, which was published by a team of eminent climate scientists in August 2018.³ The IPCC’s 1.5°C report essentially ignores the research behind this paper, which argues that “a planetary threshold could exist at a temperature rise as low as 2°C.” Or, as one of its authors, Hans Joachim Schellnhuber, the long-time director of the Potsdam Institute for Climate Impact Research, put it:

“What we do not know yet is whether the climate system can be safely ‘parked’ near 2°C above pre-industrial levels, as the Paris Agreement envisages. Or if it will, once pushed so far, slip down the slope towards a hothouse planet.”⁴

EQUITY AND AMBITION

Why is equity necessary?

We have long asserted that equity is the pathway to ambition. This is because the urgency of the climate crisis demands coordinated global action and international cooperation at an unprecedented scale. No single country can solve “its own” climate problem, even if it rapidly drives its own emissions to zero. Rather, countries must act together to protect our shared climate. And for any country to launch itself into the truly radical transition that is now necessary, it must do so in concert with others. Action on the necessary scale will only come when, everywhere, countries are not only acting in their own interests, but also looking outward to a world in which other countries are also prepared to shoulder their fair shares of the global challenge.

It is not enough for national pledges to be based on climate science; they must also be fair. They must take account of the fundamental fact that high-consuming individuals – most of them in wealthy countries – have disproportionately contributed to the global emissions burden. Even more importantly, national pledges must take account of the fact that wealthy countries have greater economic and institutional capacity to act than other countries do, and that their obligations are appropriately greater than those of lower-

emitting, developing countries that despite having little economic and technology capacity still face the overbearing need to prioritize developmental challenges. Only when the majority of countries recognize these disparities, and then act in line with them, will we be able to honestly hope for action on the scale necessary to meet the Paris Agreement goals.

These realities, of course, have always been recognized in the

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climate negotiations – and are known by the name “common but differentiated responsibilities and respective capabilities” – but the wealthy countries, in particular, have determinedly shied away from facing up to what these words actually *mean* in today’s dynamic, rapidly changing world.

Equity among nations and among individuals

Our conviction that “equity is the gateway to ambition” goes beyond the UNFCCC and the rules of a global climate regime. What can be said about *inequity among countries* at the international level can just as surely be said about *inequality*

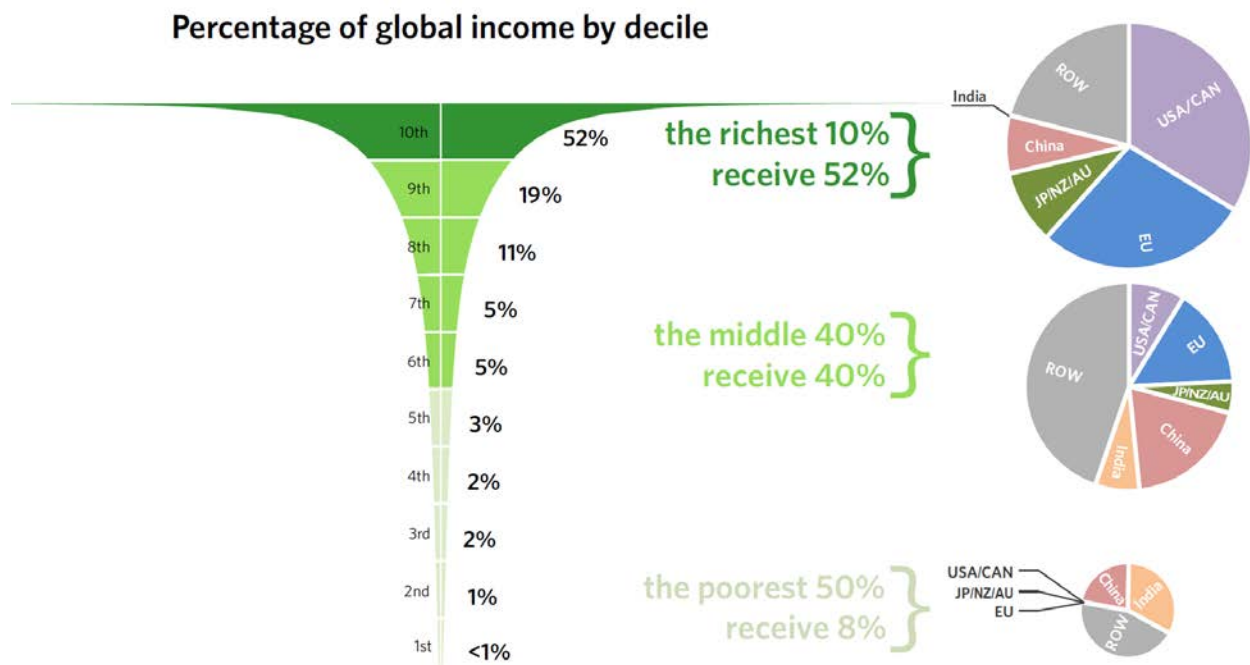


Figure 1: The Twice Divided World. The ‘champagne glass’ represents the share of global income received by each decile (i.e., one tenth) of the world’s population, from the wealthiest (the top decile, receiving more than half of the world’s income) to the poorest (the bottom decile, receiving less than 1% of the world’s income). ‘Global income’ is the sum of all countries’ GDP, adjusted to account for purchasing power parity (PPP) and attributed to individuals using each countries’ internal income distribution. The three pie charts to the right represent, by their sizes, the share of global income that goes to the top 10%, the middle 40%, and the bottom 50%. The pie charts show the countries where that income is received. JP/NZ/AU=Japan, New Zealand and Australia; USA/CAN= United States and Canada; ROW=Rest of the world.⁶

among individuals at the national level. To undertake deeper national climate efforts, a broader consensus within national populations is absolutely necessary, as the IPCC recognized in its 1.5°C report, where it said that:

“Public acceptability can enable or inhibit the implementation of policies and measures to limit global warming to 1.5°C and to adapt to the consequences. Public acceptability depends on the individual’s evaluation of expected policy consequences, the perceived fairness of the distribution of these consequences, and perceived fairness of decision procedures (high confidence).”

The international fair shares challenge is thus, inevitably, a national debate as well, one that must occur everywhere where populations suffer stark economic inequality. Obviously, such inequality within nations raises issues that sprawl far beyond the ambit of the climate negotiations, where equity among nations is the primary point of contention. But looking at equity among individuals when considering equity among nations can clarify the stakes, at both the national and the global levels.

The global injustices are striking. The diagram below shows the obscene disparities that characterize today’s global income distribution. The richest 10% of the global population receives *more than half* of global income (the dark green bar). And that income is received overwhelmingly in the wealthy countries, primarily in the US and EU (see the pie charts on the right of the diagram).

In contrast, the poorest half of the world receives less than one-tenth of the global total income (see the five light green sections). The wealthiest people in every country live starkly different lives from the poor, many of whom survive on less than \$2 per day and generate almost no greenhouse gas emissions.

Between them, with 40% of the global income, is the group that many call the ‘global middle class,’ though the term, with its connotations of comfort and security, is hardly appropriate. Nor is this group globally homogenous. In fact, the chief point to note here is that most of the people in the ‘global middle class’ are quite poor. Consider, for example, an income threshold of \$20 per day – it may be ten times higher than the abject poverty threshold but income below this threshold is often entirely taken up with meeting basic needs and the struggle to establish some modicum of economic security. Fully two-thirds of the human population falls below this \$20 threshold, including nearly half of that middle 40% shown in the chart (In poorer countries, such as India, most income is distributed sparsely among the members of the global lower- and middle-income groups).

These disparities are very closely paralleled by disparities in emissions. The richest 10% of the world’s population, for example, is responsible for over 50% of global greenhouse gas

emissions.⁷ And, again, wealthy people overwhelmingly reside within the world’s wealthy countries. Their emissions support lifestyles that simply cannot, without some far-fetched technological revolution, be shared by all. Clearly, in any fair approach to international cooperation, these wealthy countries, with their concentrations of ‘luxury emissions,’ must be treated very differently from poorer countries where a far larger fraction of total emissions is associated with basic and ‘global middle class’ living standards.

In all this, it’s important to stress that the widely differing capacities of countries are directly linked to real differences in human development outcomes such as infant mortality, malnutrition rates, and life expectancy. Likewise, widely differing levels of national historical emissions are directly linked to differing levels of travel, fuel consumption, food consumption, access to electricity, and so on. Given this, it’s no surprise that the wealthy countries were committed, in UNFCCC’s 1992 agreement, to “take the lead in combating climate change”.

So yes, we must all take responsibility for the climate mobilization. But the rich must take responsibility in very different ways than the poor, or even the 40% of the human population that is in the ‘global middle class.’ They must take responsibility for their consumption, for their historical and present-day emissions, and for the environmental impacts they impose on the planet and its people. They can far more easily afford to lessen their footprint than those whose impacts are already minimal.

It follows that the economies of the wealthy must be radically transformed. The reconstruction of the rich world’s energy systems will be a key beginning, but if the climate system is to be stabilized, we will need to achieve a stronger kind of sustainability as well, and this must be sustainability for all. Thus, the larger patterns of production and consumption must also change, just as the wealthy must provide their fair share of the financial and technological resources that will be necessary to make a high ambition transition possible. The ‘ways and means’ needed to support these transformations are absolutely available. In our world of extreme disparities, the claim that ‘we’ can’t afford an urgent global climate mobilization is a malign fiction. Only by discarding this claim can we hope to rapidly close the very real and increasingly terrifying ambition gap.

The climate mobilization we need is of course far greater than decarbonization alone. The three other great equity challenges – adaptation and loss & damage on one side and just transition on the other – are no less critical. And while the cost of solar electricity is falling fast, the same can’t be said about the costs of adaptation, or the costs of addressing loss & damage, or the costs of just transition assistance, all of which will be great in every country of the world, and all of which will only grow more

urgent and daunting with further delay. Here, especially, both the truth and the limits of the ‘opportunity’ narrative become clear. Communities everywhere must now do their best to remake themselves, to become resilient in the face of the coming disruption, but they will not be able to do enough without the support of the wealthy.

A recent opinion piece in the *New York Times* put the situation with admirable simplicity, arguing that “there are no technological limits to supplying modern lifestyles to eight billion, or even to 11 billion, people, with far less harm than we’re currently causing to the one planet all of us must live on.” Of course, there is a problem, which is that the required transformation is far-reaching and profound, and thus, inevitably, costly:

“Extremely costly, because rebuilding energy systems to make them carbon neutral, ensuring that land, water and other resources are used sustainably, adapting to climate change and cleaning up pollution don’t come cheap. But there is one hard limit. No better future will be possible if those most able to bear the costs — those who’ve benefited the most, the wealthy and the vested interests of this world — don’t step up to pay for it.”⁸

THE LOW ENERGY DEMAND 1.5°C PATHWAY

In order to place a fair-share discussion of national mitigation pledges firmly in the context of the climate challenge, it’s

necessary to have a proper 1.5°C scenario. Such a scenario must not only specify a path that keeps warming below 1.5°C, it must do so in a manner that is fair with respect to energy access, consumption, and other critical aspects of human well-being. To reflect such a future, we’ve chosen the Low Energy Demand scenario as our illustrative scenario. The LED scenario is the source of one of the four featured pathways (P1) in the IPCC’s 1.5°C report. This scenario was developed at the International Institute for Applied Systems Analysis and is explicitly designed to be equitable in just these ways – by taking the universal attainment of a ‘decent living standard’ as one of its design criteria – but also to avoid the problem, endemic in mainstream mitigation scenario modellings, of excessive reliance on negative emissions technologies.

The Low Energy Demand (LED) scenario incorporates many current major trends in energy demand, trends that are already observable and expected to intensify, including urbanization, digitalization, the decentralization of the energy system, the shift from ownership-based to use-based consumption of services, and the emergence of a circular economy to limit material use and waste. These trends, together with other substantial increases in energy efficiency across all sectors, lead to very low energy demand projections (e.g. 42% below 2020 levels in 2050), despite population growth and a global increase in end-use energy services, including temperature-controlled housing, adequate and nutritious diets, and accessible transportation services. The point here is not to endorse all details of the LED scenario but rather to note that, in an energy system that’s meant to satisfy this comparatively low overall future energy demand, it becomes much less daunting to

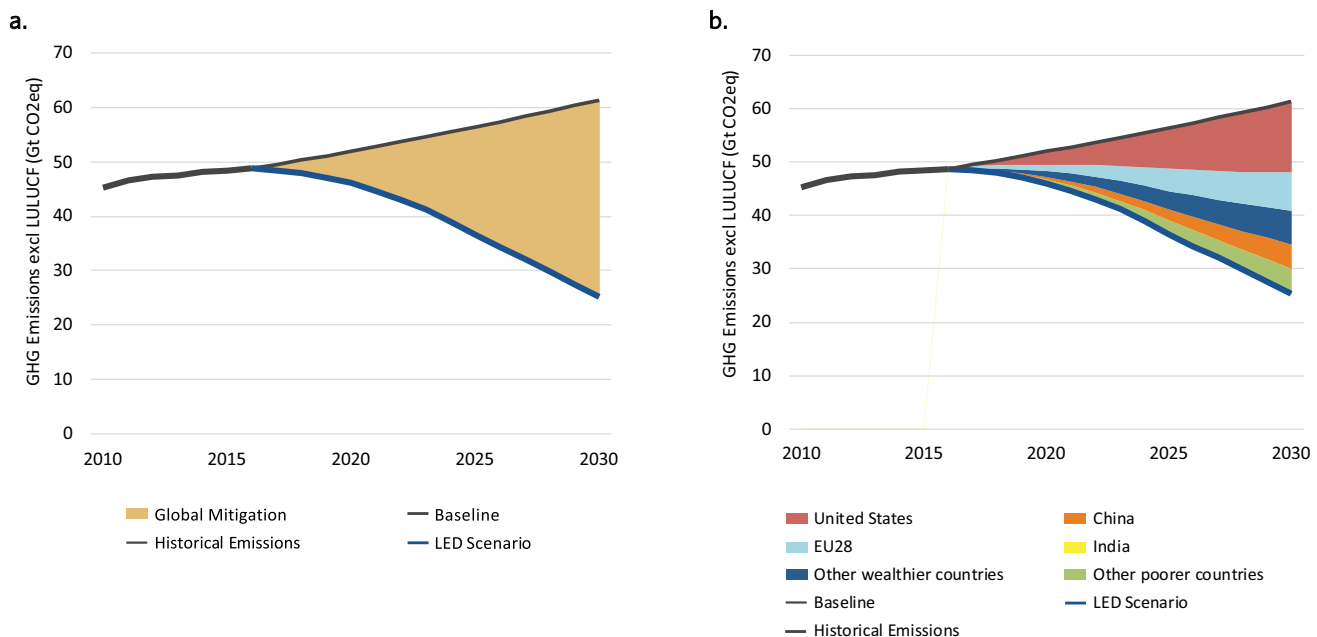


Figure 2: The LED Pathway, and fair shares of the global effort. a. LED Pathway and baseline, showing necessary global mitigation (orange shading). b. LED Pathway and baseline, showing necessary global mitigation divided into the national shares of the selected countries and groups

rapidly retire fossil-fuel-based generation and transition to renewables.

Because of these features, the LED scenario can satisfy humanity's energy needs without, like many ostensible 1.5°C scenarios, assuming a heavy future reliance on negative emissions, for example through large-scale bioenergy with carbon capture and storage (BECCS), the feasibility and sustainability of which have not been proven at scale. It's ability to do so derives, in part, from the fact that the global forest sink can be enhanced significantly when there is reduced competition for land from bioenergy crops.

Compared to current (2016) global greenhouse gas emissions of about 50 gigatonnes of carbon dioxide equivalent (GtCO₂eq), the LED pathway enables very stringent reductions, eliminating half of current emissions by 2030 (these reach 25 GtCO₂eq), only about 10 GtCO₂eq in 2050, and a mere 1.5 GtCO₂eq, primarily for agriculture, in 2100. It's important to note, however, that even more could be done. The LED pathway assumes that the economies of even the developed countries continue to expand, with incomes nearly tripling by the century's end. Clearly, even deeper reductions – and a less threatened climate – could be achieved if steadily accelerating growth was not assumed.

Figure 2a shows that, under the LED scenario, the world would need to have reduced its greenhouse gas emissions by over 36 GtCO₂eq by 2030 compared to current global emission trends. This amount of mitigation exceeds by more than five-fold the mitigation that has so far been pledged under the Paris NDCs.⁹ The fundamental question of how to equitably share the global mitigation effort can thus be posed as follows: which countries should be required to mitigate, or support the mitigation of, what share of these tonnes? The required effort is represented in Figure 2b, which shows how the mitigation requirement in 2a (the widening orange area) might be divided into national shares.

EQUITY BETWEEN COUNTRIES: THE FAIR SHARE ASSESSMENT OF NDCs

Under the UNFCCC, countries have committed to act in accordance with their responsibility for causing the climate problem and their capacity to help solve it. The principles of capacity and responsibility are both well established within the climate negotiations and built into both the UNFCCC and the Paris Agreement. And indeed, it is only fair that countries share the effort required to transition to a 1.5°C future in proportion to their relative capacity and responsibility. And, again, while

Figure 2b illustrates mitigation effort, a livable 1.5°C future is not simply a matter of mitigation. Adaptation, and loss & damage, and just transition support are all global challenges, and there will be no robust global climate mobilization unless these too are shared fairly.

Invariably, it is wealthy countries that have the highest levels of capacity and historical responsibility, and thus should take on the largest share of the required effort. Notably, a wealthy country's fair share of the mitigation effort can be greater than its domestic emissions. Similarly, all countries, even poorer ones, have some enclaves of wealth and comfort, and thus all countries have some obligation, even without support, to share in the global effort to stabilize the climate system. These may be small, and in poor countries – given that we define fair shares to take the demands of poverty alleviation into account – they generally are.

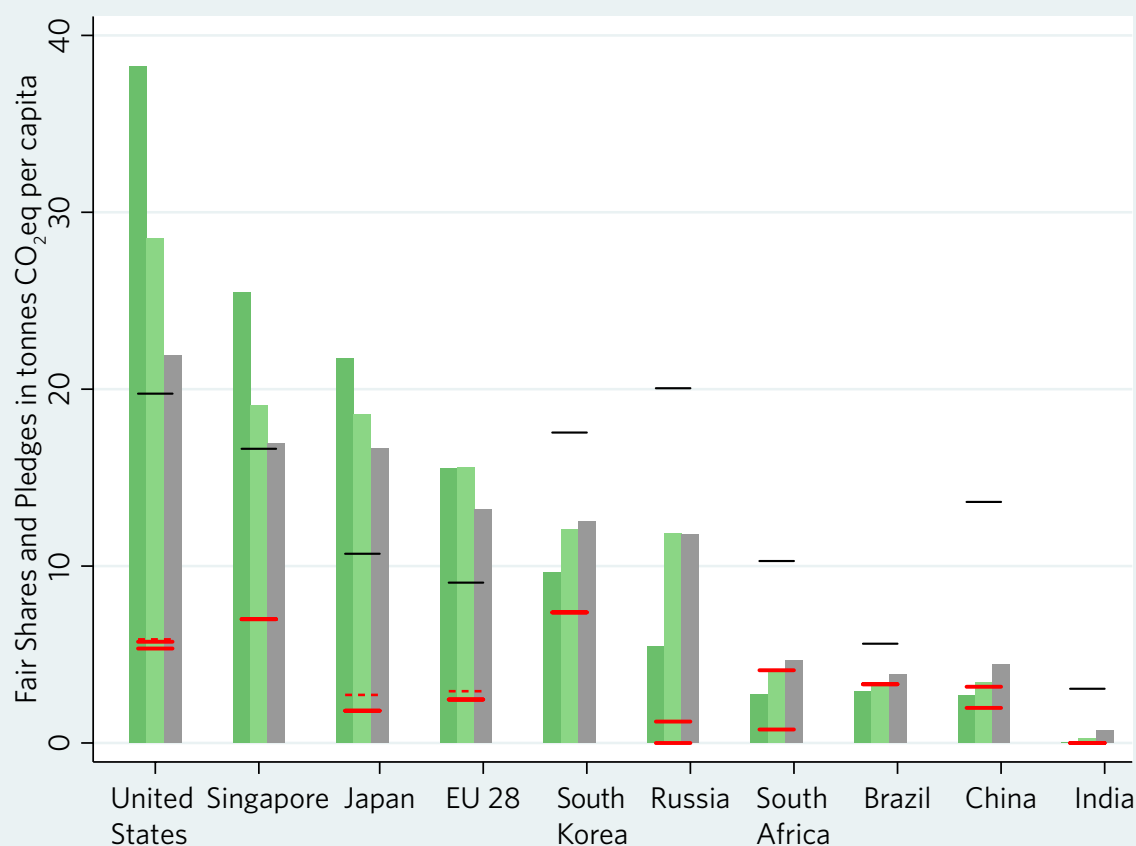
But the brutal reality is that, particularly in poorer countries, the capacity to act without support is often far smaller than the national mitigation potential, especially in the context of the need to ultimately reduce domestic emissions toward zero in all countries.

Even poorer countries – which do not, on their own, have the capacity to draw their domestic emissions to zero – nevertheless will ultimately have to do so, when provided with the necessary finance and technology and capacity building support. In this context, large amounts of conditional action is absolutely necessary if we are to have any real hope, and the design and embrace of a proper 'matching facility' to facilitate such action is an absolute priority.¹⁰

We have here assessed countries' NDCs against the demands of the LED pathway using a range of 'fair share' benchmarks. As in the previous reports of the *Civil Society Equity Review* (CSER) coalition, this 'fair share range' is bounded by two CSER equity benchmarks. On the one end is the '1950/Medium Progressivity' equity benchmark and on the other the '1850/High Progressivity' equity benchmark. (See the box Equity Settings Explained on page 9 for further explanation of these and other benchmarks.) One substantive change to our approach to assessing NDCs is that we are for several reasons now excluding land use emissions, which we previously included, from our analysis.¹¹

Figure 3 shows our assessment of the 2030 pledges for nine countries and the EU, entities with widely varying levels of development. For each country, the black horizontal line indicates the amount of emission reductions implied by the country's NDC. The dark green bar gives the fair share of mitigation under the 1850/High Progressivity equity benchmark, and the light green bar gives the fair share under the 1950/Medium Progressivity equity benchmark. (The grey

Selected national pledges, against three benchmarks



	United States	Singapore	Japan	EU 28	South Korea	Russia	South Africa	Brazil	China	India
1850 / High Progressivity	38.2	25.5	21.7	15.5	9.6	5.5	2.7	2.9	2.7	0.03
1950 / Medium Progressivity	28.5	19.1	18.6	15.6	12.1	11.8	4.1	3.2	3.4	0.24
1990 / Low Progressivity	21.9	16.9	16.7	13.2	12.5	11.8	4.7	3.8	4.4	0.69
Low End of Pledge Range	5.3	7.0	1.8	2.5	7.4	0.0	0.8	3.3	2.0	0.00
High End of Pledge Range	5.7		1.8			1.2	4.1		3.2	
...plus Mitigation Finance ¹²	5.9	---	2.7	2.9	---	---	---	---	3.2	---

Figure 3: Comparison of mitigation fair shares and pledges (in tonnes of CO₂eq per capita per year of mitigation below baseline in 2030). For each country or region, the dark and light green bars show the fair share of the global mitigation effort according to the two CSER equity benchmarks, and the grey bar shows the 'political' benchmark. The horizontal red lines show the amount of effort actually pledged in the NDCs, and the dotted red line shows an estimate of the additional mitigation which could potentially be achieved through international financial support. The solid black line shows projected per capita emissions in 2030 for reference. The table below the chart shows the same results in numerical form.

bar shows the 1990/Low Progressivity 'political' benchmark for reference.) Our equity range appears here as the range bounded by the first two bars. As an additional point of comparison, the black horizontal line shows projected 2030 per capita emissions; mitigation ambition at that level would equate to complete decarbonization. This of course is not expected to take place by 2030, although substantial progress toward full decarbonization will certainly be necessary if – as indicated by the IPCC's report on the 1.5°C target – global decarbonization

by 2050 is required to preserve even a modest chance of keeping warming below 1.5°C.

The wealthier countries are, by and large, falling far short of their fair shares. This is true not only of the US, the EU, and Japan, but also of Singapore, South Korea, and Russia, as shown. Several of these countries are more than 10 tonnes per capita away from even the more lenient edge of their fair share range. Comparing their fair shares to their total national emissions, it's clear that even assuming these countries substantially increase

their mitigation pledges, which they indeed must do, they cannot possibly meet their full fair shares through domestic action alone. *For these countries, their fair share of the global effort can only be met by enabling mitigation in other countries.* By providing substantial finance, technology and capacity support, they can enable poorer developing countries to go well beyond their fair shares, and thus to mitigate at a level consistent with a 1.5°C transition.

The poorer countries, on the other hand, are generally pledging action on the same scale as their fair shares, and in some cases are actually pledging to meet their fair share of the very demanding LED pathway. However, for poorer countries, their fair share is – appropriately – small, and generally much smaller than their total 2030 mitigation potential, to say nothing of the even larger effort that would eventually be needed for full decarbonization. Pledges representing their full fair shares would therefore not be large enough to support a global shift toward a wholesale 1.5°C transition and decarbonization. Only with real finance and technology support for *additional mitigation beyond their fair shares* will it be possible for them to achieve this. India is a good example. Its NDC falls short of its fair share, and should be unconditionally strengthened. But even if India were to meet its fair share, much more of its domestic mitigation potential must still be unlocked through international support if we are to keep warming to 1.5°C, or even 2°C.

China's position is notable as well, for it exemplifies the problem of countries where the needed mitigation greatly exceeds the fair share of the effort. In China's case, although the high end of its pledge meets its fair share, more is needed to scale its action toward a 1.5°C pathway, and eventually toward full decarbonization. And yet, as Figure 1 shows, much of China's capacity (and its emissions as well) corresponds to its 'global middle class' population, rather than to its rich, and certainly the members of the Chinese middle class cannot realistically be asked to bear more weight than their equivalents in other countries. The inconvenient truth here is that unless the full mitigation potential of all countries is realized, it will be quite impossible to achieve the 1.5°C global temperature goal, or even the well below 2°C goal that we now know to be a desperate fallback. Given this, we can hope that such countries will find reasons to do even more than their fair shares, though it's hard to see how this could possibly happen while the richer countries continue to expect a free ride.

More generally, it is encouraging that many developing country governments have made mitigation pledges that are at scale with their fair shares. Still, this is not enough. The developing countries that have not yet pledged to unconditionally undertake at least their fair share of mitigation must – as all countries must – do so as soon as possible, and if they decide to do even more they should absolutely be commended as leaders. But at the same time, it's obvious that, without a major

breakthrough in international support, we will collectively fail to meet the Paris temperature goals.

The bottom line is that, if the world is to avoid catastrophic climate change, poorer countries that had little or no role in creating the climate crisis now have no choice but to shift to alternative development trajectories at an extremely rapid pace. While we aspire to this shift in order to achieve equitable, thriving societies, there is an enduring injustice in the fact that the poor must face the now unavoidable climate reckoning with a narrow set of options and on a terribly challenging timeline. Still, the goal has to be a just, systemic transformation, which is simply not going to happen without the necessary finance. Which is why civil society and people's movements in developing countries are pressing their governments to fulfill their pledges, with decisive moves away from fossil-fuel-dependent and growth-oriented economies that perpetuate inequality. This means planning for and supporting ambitious leapfrogging to zero-carbon societies, and doing so by way of development trajectories that enhance well-being and provide meaningful economic development.

Mitigation Finance

Even today, the money is there to be found. Various innovative mechanisms can generate revenue in equitable ways, without increasing the burden on the poor people of the wealthy world. Possibilities include aviation levies, financial transaction taxes, progressive carbon taxes, progressive consumption taxes more generally, special drawing rights, and so on. The redirection of private finance is critical, of course, but it's not the whole story. Public finance has a critical role to play in empowering developing countries to go beyond their fair shares and rapidly shift to zero-carbon energy, while building democratic, renewable energy systems for people and communities. It is short sighted to pretend otherwise.

All told, almost half of the global mitigation need consists of reductions that must be supported if they're to occur at all, a fact which underscores the necessity of greatly scaled-up institutions for effectively delivering international finance, technology sharing, and capacity-building support. This in turn highlights the importance of a deeply cooperative approach to enable scaled-up ambition.

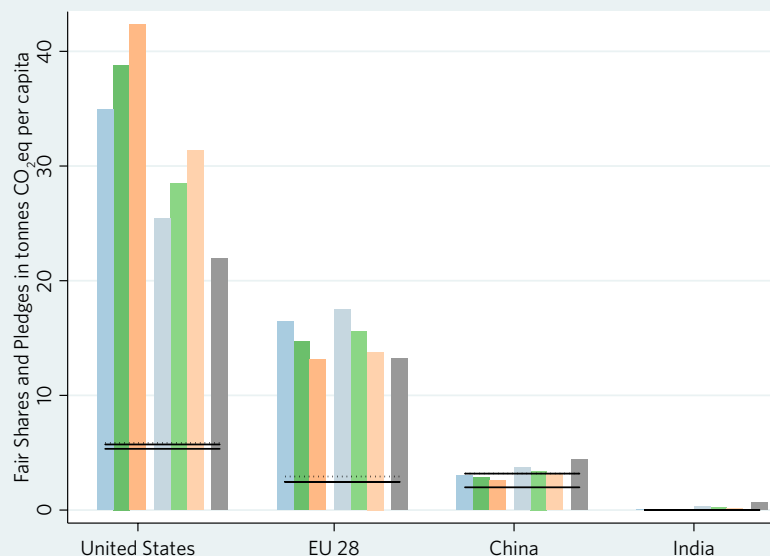
As already noted, for wealthy countries to do their global fair shares, in addition to making very deep domestic reductions, they must also enable a considerable amount of emissions reductions in developing countries. It is much harder for them to do so while they are riven by inequality and inflamed by the toxic and often racist political narratives that define the new nationalism. At the moment, in the United States, to give one obvious example, many people cannot easily afford proper

BOX 2: EQUITY SETTINGS EXPLAINED

The benchmarks used in this report are all based on the core equity principles of the UNFCCC: capacity and responsibility. While their ethical underpinnings are clear, their precise operational definition has never been negotiated within the UNFCCC. Thus, as a guide to discussion and an aid to greater consensus, the Climate Equity Reference Framework, upon which this report is based, allows the quantification of a broad range of capacity and responsibility benchmarks, including some that are not defensibly fair.

Capacity – a nation’s financial ability to contribute to solving the climate problem – can be captured by a quantitative benchmark defined in a more or less progressive way, making the definition of national capacity dependent on national income distribution. This means a country’s capacity is calculated in a manner that can explicitly account for the income of the wealthy more strongly than that of the poor, and can exclude the incomes of the poorest altogether.

Similarly, responsibility – a nation’s contribution to the planetary greenhouse gas burden – can be based on cumulative greenhouse gas emissions since a range of historical start years, and can consider the emissions arising from luxury consumption more strongly than from the fulfilment of basic needs, including by excluding the survival emissions of the poorest altogether. Of course, the ‘right’ level of progressivity, like the ‘right’ start year, are matters for debate.



	USA	EU 28	China	India
C only (High Progressivity)	34.9	16.4	3.0	0.05
C and HR (High Progressivity/1850)	38.8	14.7	2.8	0.04
HR only (1850)	42.3	13.1	2.6	0.02
C only (Medium Progressivity)	25.4	17.5	3.7	0.33
C and HR (Medium Progressivity/1950)	28.5	15.6	3.4	0.24
HR only / (1950)	31.4	13.8	3.1	0.15
C and HR (Low Progressivity/1990)	21.9	13.2	4.4	0.69

Figure 4: The benchmarks used in this report. Orange benchmarks are based on national capacity alone (with bright orange representing a high progressivity setting and the dim orange representing a medium progressivity setting). Blue benchmarks are based on national historical responsibility alone (with bright blue representing a high responsibility setting and dim blue representing a medium responsibility setting). Green benchmarks are the two CSER equity benchmarks, reflecting both capacity and responsibility equally – note how they fall evenly between the capacity and responsibility benchmarks. The two green benchmarks define the equity range used to assess the fairness of the national NDCs. The grey bar represents a ‘political’ benchmark based on low progressivity and low responsibility settings which are here judged to be inequitable – it is shown for illustrative purposes. “HR”=Historical Responsibility; “C”=Capacity.

Note that the upper and lower bounds of the ‘equity range,’ that we use to evaluate national NDCs is defined by the two CSER equity benchmarks which are illustrated here as green bars. The dark green benchmark uses a responsibility start date of 1850 and calculates national capacity in a progressive manner, based on a \$7,500 development threshold and a \$50,000 luxury threshold. The light green benchmark uses a responsibility start date of 1950 and calculates national capacity in a less progressive manner, relying only on the \$7,500 development threshold. The third (grey) benchmark, which uses a much later responsibility start date of 1990 and a much lower development threshold of \$2,500, is included because of its political salience, even though we do not consider it to be defensibly equitable.

In each of these benchmarks, historical responsibility and capacity are treated as equally important principles and thus weighted equally (i.e., by averaging the responsibility and capacity indicators). Illustrating the implications of different weightings, Figure 4 adds orange benchmarks based 100% on a country’s capacity with responsibility not considered at all. (The darker orange corresponds to the more progressive definition of capacity, and the lighter one corresponding to the less progressive definition.) Also, it shows blue bars based on a country’s historic responsibility, with capacity not considered. (The darker blue corresponds to the 1850 historic emissions start date, and the lighter blue to 1950.) Note how the green bars fall evenly between the blue and orange bars to their sides.

For more details, including how progressivity is calculated and a description of the standard data sets upon which our calculations are based, see *About the Climate Equity Reference Project Effort-sharing Approach*.¹³ For an interactive experience and a finer set of controls, see the *Climate Equity Reference Calculator* (calculator.climateequityreference.org).

housing, or healthcare, or higher education or early childhood education. Given this, and given its now visible consequences, it's obvious that justice within nations is the flip side of justice between nations, and that we will not have one without the other.

“ It is obvious that justice within nations is the flip side of justice between nations, and that we will not have one without the other. ”

EQUITY WITHIN COUNTRIES

The fair shares challenge extends deeply into our societies. Just as the global effort must be fairly divided among the world's nations, so too each country's fair share of that global effort must be divided fairly among its communities, households, and individuals. To illustrate this challenge, we show the national fair shares, as calculated above, but this time we focus on how that effort should be distributed within each country. Specifically, for each global benchmark, we ask how much of each nation's fair share would be allocated to its richest, poorest, and middle income classes, relative to the global population, as defined in Figure 1 above.

At its root, this question is about how much the wealthy in each country contribute, compared to its middle classes and its poor. Any answer that threatens to add to the widening disparities cannot be seen as fair.

The figure below illustrates the implications of three different scenarios, among countries and within them. The dark green bars correspond to the 1850/High Progressivity equity benchmark, the light green bars to the 1950/Medium Progressivity equity benchmark, and the grey bars to the 1990/Low Progressivity benchmark. For each benchmark, we assume that each country's share of the global effort is further shared by its citizens in accordance with their income level (i.e. reflecting individuals' capacity to contribute to fulfilling their nation's total fair share). This within-country sharing is comparably progressive to the corresponding global benchmark (i.e., high progressivity or medium progressivity; as defined in the *Equity Settings Explained* box, though for the 1990-based political benchmark, we show an allocation that is proportional – or 'flat' – with respect to income).

The first thing to note is that the first two of the global benchmarks, the ones that define our equity range, both essentially relieve the poorest 50% of the global population of any share of the global effort, so that they might focus on their immediately pressing development priorities. This is by design, and is fundamental to fair effort sharing, which must not burden the poor. Recall that the poorest 50% is populated entirely by individuals earning below (and often well below) \$20/day.

The second thing to note is that exactly the opposite occurs among the richest 10%. The more progressive the benchmark, the higher the fraction of the effort that is assigned to the rich. This, again, is by design. An equitable national allocation of effort does not merely protect the poor from efforts that they cannot reasonably be expected to bear, it also takes care to

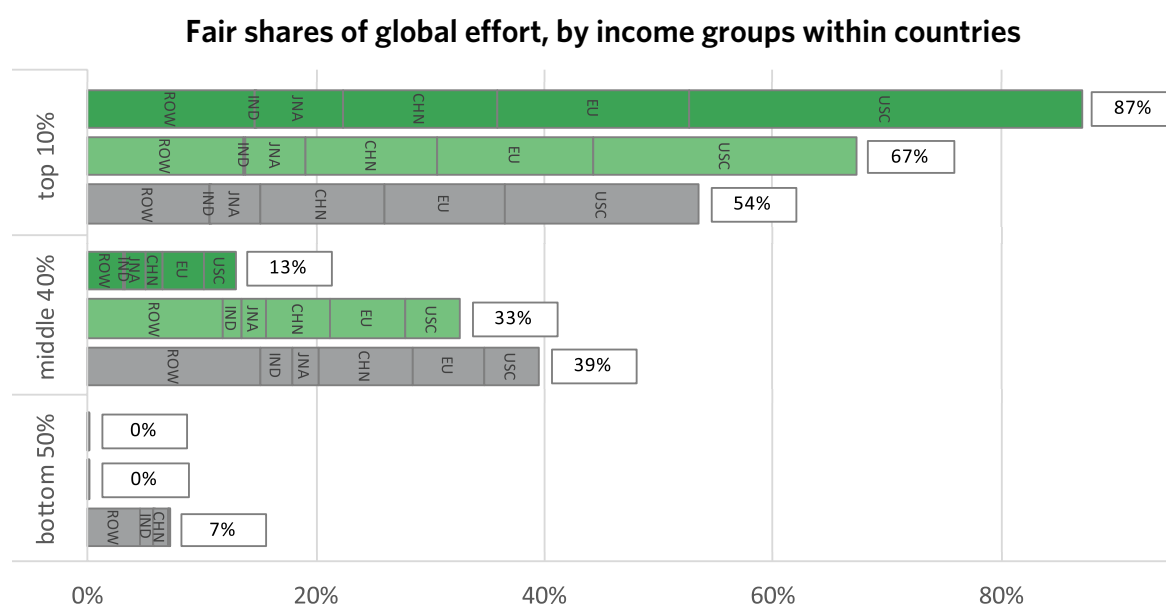


Figure 5: Distribution of the global mitigation effort to countries, shown by income group. Dark and light green bars show global effort distributed according to our CSER equity benchmarks as in Fig. 3, 1850/High Progressivity and 1950/Medium Progressivity, with effort sharing within countries according to income (not responsibility) using the same progressivity choices. Grey bars show the 1990/Low global benchmark, with internal effort sharing proportional to income (no progressivity). USC=USA/Canada; EU=European Union; CHN=China; JNA=Japan, New Zealand, Australia; IND=India, ROW=Rest of the world.

assign the bulk of the effort to those with the bulk of the capacity.

Under the 1990/Low Progressivity benchmark, in contrast, a substantial amount of the global effort is shifted from the middle-income and rich subpopulations to the poorest group, even though this group, the poorest half of the global population, has a mere 8% of the global income. Correspondingly, and not surprisingly, this benchmark shifts effort from the wealthier to poorer countries.

Comparing the most progressive benchmark (the dark green bar) to the least progressive (the grey bar), there is a major shifting of the effort from the richest 10% to the middle 40%. The implied fair share of the richest drops by more than one-third, while the effort of the middle class rises more than three-fold. And of course, effort is also shifted from wealthier countries to poorer ones.

The overall point here turns on the fundamental fact that the richest 10% of the global population commands more than half of the global income (as Figure 1 shows). In this context, any properly progressive climate agreement would allocate a very large proportion of the global obligation to the richest 10%, who reside overwhelmingly in the wealthy countries. Indeed, if this wealthiest 10% of the global population were obliged to deliver their fair share of climate action, this alone would amount to 67-87% of the total 2030 mitigation requirements for 1.5°C, based on the range set by our equity benchmarks. Or, as Kevin Anderson, Deputy Director of the Tyndall Centre for Climate Change Research, similarly points out, if the emissions of the richest 10% were reduced to the European average, then, all else being equal, global emissions would drop by 30%.¹⁴

These indicative numbers show what different allocations might imply for different income groups and countries, and by so doing they illustrate the stakes here. Equity matters, and a fair global effort-sharing system must also be fair in its impact at different points on the intra-national economic ladder. It is difficult to believe that poorer countries, and especially the poorer individuals within them, will agree to be saddled with obligations that wealthier countries and individuals would much more easily – and properly – bear.

IMPLICATIONS AND RECOMMENDATIONS

Any climate response that does not recognize that the overriding priority for many peoples and countries remains poverty eradication and economic and social development will only further impoverish the poor. More generally, any approach that abandons the demands of international equity – that does

not recognize today's stark income disparities among and within countries and then differentiate expectations accordingly – will only exacerbate these inequalities. And any approach that does not require the wealthy (whether as individuals, corporations or countries) to contribute to an extremely rapid climate transition, supporting poor people and poor countries as they seek to develop along low-carbon paths while at the same time adapting to the worsening impacts of climate change, is doomed to fail.

We need dramatically more ambitious NDCs from all countries. No country's current pledge even remotely reflects a future consistent with a 1.5°C pathway. We need fair-share pledges that are explicitly designed to support a rapid phase-out of fossil fuel consumption and production, an equally rapid transition to proper 100% renewable energy for all, and concerted efforts to anticipate and prepare for impending climate impacts. We need strong pledges that launch the immediate transformation needed to prevent warming rising above 1.5°C, not weak pledges that have us vastly overshooting 1.5°C while pretending to believe that uncertain future negative emissions will bring the temperature down again. Clearly, this all adds up to a big ask, but the time is late and it cannot be avoided. Improved pledges mean a future in which economies are driven by new kinds of investment patterns, not growth as usual but the dual goal of creating more equitable, healthier and safer communities while also supporting those that are being battered and destroyed by the impacts of climate change.

In the short term, the wealthy must provide the financial and technological support that developing countries will need to follow through with sufficiently ambitious pledges. Though they are morally and legally obliged to provide such support, the wealthy countries have sought to weaken their obligations under the climate regime and focus UNFCCC processes almost exclusively on each country's own domestic mitigation. International support has been increasingly side-lined, with the bulk of the "cooperative implementation" efforts aimed at promoting carbon markets and offsets systems, which have simply not proven effective at mobilizing substantial resources or meaningfully reducing emissions.

The elements of a new approach could include:

- Commitment to domestic mitigation pledges in line with fair shares and a 1.5°C pathway.
- Adoption by wealthy countries of explicit *quantified* commitments to support mitigation and adaptation in developing countries.
- More clearly specified developing country support needs, relative to conditional or more ambitious targets, either as part of NDCs or as supplementary information.

- Creation of a mechanism under the UNFCCC for matching offers of support with needs and requests.
- Arrangements under Article 6 of the Paris Agreement that go beyond emissions trading to effective non-market approaches to facilitate scaled-up cooperation, which could involve support for projects, policies, and programs that result in concrete and quantified emissions reductions and enhanced climate resilience.

A rapid climate transition is of course essential, but there is also

the overarching imperative of ensuring that it is a just transition, an imperative that begins with support for the most vulnerable, and includes fossil-fuel-dependent workers and communities. In this context, implementation in all countries must be premised on bold and visionary plans for social protection, and must set the course toward more just and inclusive societies. And this must be done in ways that not only protect but indeed strengthen affected and vulnerable communities. A politically viable transition will be based on democratic dialogs at all levels, in which all can envision themselves thriving.¹⁵

CONCLUSION

The greatest effort of the climate transition must ultimately be borne by the people who have the wealth, and this has to be true both within countries and between them. Whatever international support the wealthy countries provide to the poorer ones must, by necessity, be provided by wealthy people and the corporations that they largely own and control. This is, obviously, not going to happen if the wealthy people who reside within, or who have hidden their wealth within, poorer countries somehow manage to get a pass. That wealth helps constitute the capacities of the nations within which they reside. Nor is it going to happen if the poor people of the wealthy world, who are already feeling angry and aggrieved, are stuck with the bill.

To be sure, climate equity – among countries and within them – might well be shunted aside in favor of the interests of the elites. After all, inequalities in wealth are directly paralleled by inequalities in power. Elites are able not only to set frames and agendas, but also to overbear fragile democracies with their preferences, engineer trade relations that undermine community resilience around the world, spread disinformation at will, and sabotage all efforts to mobilize at scale. This power, indeed, is a big part of the story of how we've arrived at our current reckoning. And there could still be worse to come. Societies, particularly when under environmental pressure,

“The greatest effort of the climate transition must ultimately be borne by the people who have the wealth, and this has to be true both within countries and between them.”

stumble toward collapse when their elites, those who set collective priorities and allocate resources, distance themselves from the realities and afflictions of the population as a whole, and come to act so much by the logic of narrow self-interest that they become blind to the larger predicament.¹⁶ And the same can be said, it seems, of a world in which rich countries let poor countries fall to famine and rising seas, blind to the near certainty that their own fate will ultimately be the same.

The challenge now is to mobilize within the bottom-up Paris architecture. This means an equitable global regime that is underpinned by transformative national action. There is no trade off here. Unless the transition is broadly experienced – by countries and by the communities within them – as being fair, there is not going to be a transition at all. An effective climate response can only be one that recognizes the lived reality of a twice-divided world, in which inequality within countries and inequity between them are only two sides of one single coin

ABOUT THE CIVIL SOCIETY EQUITY REVIEW GROUP

As social movements, environmental and development NGOs, trade unions, faith and other civil society groups, we have come together to assess the commitments that have been put on the table through the UN climate negotiations. We seek to identify which countries are offering to do their fair share and which need to do more, and to present

recommendations on how to close the emissions gap.

Analytical support is provided by the Climate Equity Reference Project, an initiative of EcoEquity and the Stockholm Environment Institute. www.ClimateEquityReference.org

ONLINE METHODOLOGY APPENDIX

The methodology appendix of our 2017 report further explains the methodology we use, see <http://civilsocietyreview.org/report2017>. It applies here with the exception of the mitigation pathway description (see instead “LED Pathway,” above).

APPENDIX: THE IPCC 1.5°C REPORT ON EQUITY. SOME QUOTES FROM THE SUMMARY FOR POLICYMAKERS

"D2.2. The consideration of ethics and equity can help address the uneven distribution of adverse impacts associated with 1.5°C and higher levels of global warming, as well as those from mitigation and adaptation, particularly for poor and disadvantaged populations, in all societies (high confidence)."

"D4.2. 1.5°C pathways that include low energy demand... low material consumption, and low GHG-intensive food consumption have the most pronounced synergies and the lowest number of trade-offs with respect to sustainable development and the SDGs (high confidence). Such pathways would reduce dependence on CDR [carbon dioxide removal]. In modelled pathways, sustainable development, eradicating poverty and reducing inequality can support limiting warming to 1.5°C. (high confidence)"

"D4.5. Redistributive policies across sectors and populations that shield the poor and vulnerable can resolve trade-offs for a range of SDGs, particularly hunger, poverty and energy access. Investment needs for such complementary policies are only a small fraction of the overall mitigation investments in 1.5°C pathways. (high confidence)"

"D5.6. Public acceptability can enable or inhibit the implementation of policies and measures to limit global warming to 1.5°C and to adapt to the consequences. Public acceptability depends on the individual's evaluation of expected policy consequences, the perceived fairness of the distribution of these consequences, and perceived fairness of decision procedures (high confidence)."

"D6.1. Social justice and equity are core aspects of climate-resilient development pathways that aim to limit global warming to 1.5°C as they address challenges and inevitable trade-offs, widen opportunities, and ensure that options, visions, and values are deliberated, between and within countries and communities, without making the poor and disadvantaged worse off (high confidence)."

"D6.3. The large majority of modelling studies could not construct pathways characterized by lack of international cooperation, inequality and poverty that were able to limit global warming to 1.5°C. (high confidence)"

"D7.3. International cooperation is a critical enabler for developing countries and vulnerable regions to strengthen their action for the implementation of 1.5°C-consistent climate responses, including through enhancing access to finance and technology and enhancing domestic capacities, taking into account national and local circumstances and needs (high confidence)."

"D7.4. Collective efforts at all levels, in ways that reflect different circumstances and capabilities, in the pursuit of limiting global warming to 1.5°C, taking into account equity as well as effectiveness, can facilitate strengthening the global response to climate change, achieving sustainable development and eradicating poverty (high confidence)."

ENDNOTES

- 1 IPCC (2018) *Global Warming of 1.5°C, an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. October 2018, <https://www.ipcc.ch/report/sr15>
- 2 Grubler, Arnulf; Charlie Wilson; Nuno Bento; Benigna Boza-Kiss; Volker Krey; David McCollum; Narasimha D. Rao; et al. (2018) 'A Low Energy Demand Scenario for Meeting the 1.5°C Target and Sustainable Development Goals Without Negative Emission Technologies' in *Nature Energy*, 3, 515–527. <https://doi.org/10.1038/s41560-018-0172-6>
- 3 Will Steffen et. al. (2018) 'Trajectories of the Earth System in the Anthropocene,' *Proceedings of the National Academy of Sciences of the United States of America*, August 6, 2018, <https://doi.org/10.1073/pnas.1810141115>
- 4 Hans Joachim Schellnhuber quoted in David Spratt (2018) 'IPCC's political fix on 1.5°C will undermine its credibility,' *Climate Code Red*, <http://www.climatecodered.org/2018/08/ipccs-political-fix-on-15c-will.html>. Also, for detailed criticism of the IPCC's scientific conservatism, see David Spratt and Ian Dunlop, *What lies beneath? The scientific understatement of climate risks*, which features a forward by Schellnhuber, https://docs.wixstatic.com/ugd/148cb0_a0d7c18a1bf64e698a9c8c8f18a42889.pdf
- 5 Climate Interactive (<https://www.climateinteractive.org>)
- 6 Countries' internal income distribution is estimated by way of their Gini coefficient which is taken from: United Nations University World Institute for Development, *World Income Inequality Database*. <https://www.wider.unu.edu/project/wiid-world-income-inequality-database> For more details on the log-normal algorithm that is used, see Kemp-Benedict, Eric, Tom Athanasiou, Paul Baer, Christian Holz, & Sivan Kartha (2018) *Calculations for the Climate Equity Reference Calculator (CERc)*. Stockholm Environment Institute; EcoEquity. <https://doi.org/10.5281/zenodo.1748847>
- 7 See, for example, a widely cited 2015 report from Oxfam International: The "Extreme Carbon Inequality" report: https://www.oxfam.org/sites/www.oxfam.org/files/file_attachment_s/mb-extreme-carbon-inequality-021215-en.pdf
- 8 Ellis, Erle C. (2018) 'Science Alone Won't Save the Earth. People Have to Do That', *The New York Times*, August 11, 2018, <https://www.nytimes.com/2018/08/11/opinion/sunday/science-people-environment-earth.html>
- 9 UNFCCC (2016) *Aggregate Effect of the Intended Nationally Determined Contributions: An Update. Synthesis Report by the Secretariat*. Bonn: UNFCCC. <http://unfccc.int/resource/docs/2016/cop22/eng/02.pdf>.
- 10 World Wide Fund for Nature (WWF) (2018) Conceptualizing a "Matching Facility" to help countries meet the goals of the Paris Agreement. Working Paper. 7 September.
- 11 One substantive change from the previous three Civil Society Equity Review Group Assessments (2015, 2016, 2017) is that this assessment excludes emissions from land use, land-use change, and forestry (LULUCF) from national emissions. There are several reasons for this. First, the available data for national land use emissions are partial, inconsistent, and contain well-known inaccuracies, a problem that is only compounded by the various well-known opportunities for accounting mischief. A second

reason is that, even with accurate data and accounting, a strict fungibility between fossil carbon and land-based carbon is deeply problematic, in that it falsely equates the scope for labile, limited, and multi-purpose stock of carbon on the land to substitute for the permanent and secure stock of fossil carbon deep underground. Third, the extremely close link between land use and other sustainability and human rights concerns suggests that land must be managed within a substantively different type of regime than the UNFCCC, one that focuses on human rights, food security, indigenous rights, biodiversity, and watershed protection, lest it risk seriously undermining these other objectives. This is not to suggest that action on land-related emissions is unimportant or does not warrant science- and equity-based assessment, but rather to argue that such actions should be placed in their holistic context.

- 12 Wealthier countries have not made specific 2030 mitigation finance pledges, even though this information is crucially needed so that poorer countries can plan for implementing the mitigation activities that such finance could enable. Nonetheless, given the commitment by developed countries to a yet-unspecified collective goal above their current \$100bn goal, it is reasonable to assume that some climate finance will be provided. In our 2016 report, "Setting the Path Towards 1.5°C" (<http://civilsocietyreview.org/report2016>) we conducted a detailed analysis of wealthier countries' 2020 finance pledges including the estimated mitigation impact of these pledges. The mitigation impact of climate finance estimated in this report, is based on this analysis and assumes that wealthier countries' ambition regarding climate finance increases in proportion to the increase in their emissions reductions ambition.
- 13 <https://climateequityreference.org/about-the-climate-equity-reference-project-effort-sharing-approach>
- 14 See for example Anderson's lecture, delivered at the University of Edinburgh on October 30, 2018, soon after the release of the IPCC's special report on *Global Warming of 1.5°C*. <https://youtube.com/watch?v=fsrrzK9qNxM>. Note that Anderson derives this result from the analysis in *Carbon and inequality: from Kyoto to Paris, a paper published by Lucas Chancel and Thomas Piketty* just before the Paris climate summit in 2015. See <http://piketty.pse.ens.fr/files/ChancelPiketty2015.pdf>
- 15 Much more could be said about the details of a just transition, but excellent resources are to be found at <https://www.ituc-csi.org/climate-change>; (<https://www.ituc-csi.org/just-transition-where-are-we-now>)
- 16 This point was put forward by anthropologist Jared Diamond in his 2005 bestseller, *Collapse: How Societies Choose to Fail or Succeed*.

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Analytical support provided by the Climate Equity Reference Project, an initiative of EcoEquity and the Stockholm Environment Institute.

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Sandbag walls used to prevent coastal erosion
succumb to king tides in Kiribati.

