

THE US FAIR SHARE

TOWARDS A USCAN WORKING CONSENSUS

On July 17th 2020, a long USCAN alignment process, led by ActionAid USA, North Carolina Interfaith Power and Light, the Center for Biological Diversity and EcoEquity led to the adoption of the following statement:

USCAN believes that the US fair share of the global mitigation effort in 2030 is equivalent to a reduction of 195% below its 2005 emissions levels, reflecting a fair share range of 173-229%.

These figures, as explained below, reflect the true scale of the US climate effort necessary to hold the global temperature rise to 1.5° Celsius, without placing an undue and unjust burden on people around the world living in poverty. By making this statement, the USCAN network aligns itself with the rising demand for a top-line US climate target that actually corresponds to the scale of the climate challenge. It thus seeks to invite reciprocal action on the same scale by other countries, and to make the stabilization of the climate system possible.

This statement also serves two other major purposes:

1. It communicates, with the weight of a rigorous methodology and broad acceptance from US and global civil society, a level of necessary action that is well beyond any previously adopted US policy (e.g. the Obama administration pledge to the Paris agreement was 26-28% reductions 2030). It is, indeed, more ambitious than the Sanders Green New Deal plan, which—using our same methodology but slightly different ethical assumptions—aimed for the equivalent of 161% reductions by 2030. ¹
2. It asserts that the US fair share is too large to be met through domestic emissions reductions alone. Therefore, it casts the provision of finance and technological support for additional reductions in poorer countries as an integral part of the US climate obligation, without which we have no hope of meeting the 1.5°C goal. For instance, if we hold the position embodied in USCAN's Vision for Equitable Climate Action ², that the US must reduce domestic emissions by 70% from 2005 levels by 2030, then it implies that we must do the rest of our fair share (the equivalent of reducing emissions by 125% by 2030) by way of international support.

This methodology behind this analysis was developed by the *Climate Equity Reference Project* and is documented on its website. ³ This methodology considers countries' historical greenhouse gas emissions and their capacity for climate action (proxied by income) in calculating their respective fair shares of the necessary global climate action, relative to a given global temperature goal. In this case, that global temperature goal is 1.5°C, but it should also be said that the global mitigation pathway used in this analysis can also be considered as a relatively strong 2C pathway. This is true of any legitimate 1.5°C mitigation pathway.

The long process behind this position focused on determining ethical principles that everyone within USCAN, and many people in the larger climate movement, could agree on for determining the US fair share. Thus it considered key question in detail, such as “how much should historical emissions play a role in a country’s fair share?” and “how should we determine a country’s capacity for climate action – how do we count the incomes of the poor relative to the incomes of the rich in this calculation?”

This brief statement explains the logic of our proposal in more detail, while also noting key ethical and political matters that are outside its scope. Most importantly, this proposal says nothing about **how** the US should reach its fair share. That said, we are absolutely clear that the USCAN network only supports proposals that center justice and equity. What we seek to do here is build consensus around an ethical stance and a top-line target that are complementary to the still-necessary efforts to design policies to achieve that target while ensuring justice and dignity for all. We are determined to achieve a position that is fair to Black, Brown, Indigenous and other historically marginalized communities here in the US, while at the same time centering the needs of marginalized communities around the world.

INTRODUCTION

We envision a stable climate where humans live in right and just relationships, interconnected with a healthy, thriving, natural world. With regards to achieving that stable climate, the climate movement has, since the publication in 2018 of the IPCC’s *Special Report on Global Warming of 1.5°C*, reached a working consensus: “net zero carbon emissions by 2050” is now understood as our common global goal. ⁴

This working consensus marks a new beginning. It also marks a challenge, for as the news feeds remind us daily, we live in a world of nations. If we are to have any chance of achieving the goal of limiting warming to 1.5°C, or even the backstop goal of “well below 2°C,” then individual nations, certainly including the US, will have to do at least their fair shares of the collective global effort required to implement those goals. And not only because “fairness” is a virtue. Fairness, or justice, or equity—different communities use different words — is also a matter of realism.

The climate crisis is a global commons problem, and such problems can only be solved when each sees the others as doing their best to do their fair share. Equity, as international activists have long said, is “the pathway to ambition.”

SOME GROUNDING POINTS

GLOBAL INEQUALITY / INEQUALITY IN THE UNITED STATES

- **We have to try to keep the warming from exceeding 1.5°C. This will be almost impossible and cannot be done in a manner that is not widely – globally – accepted as fair.** Ultimately, this means that we have to reckon with the global distribution of wealth and income. The global distribution of the latter⁵, income, looks like this.

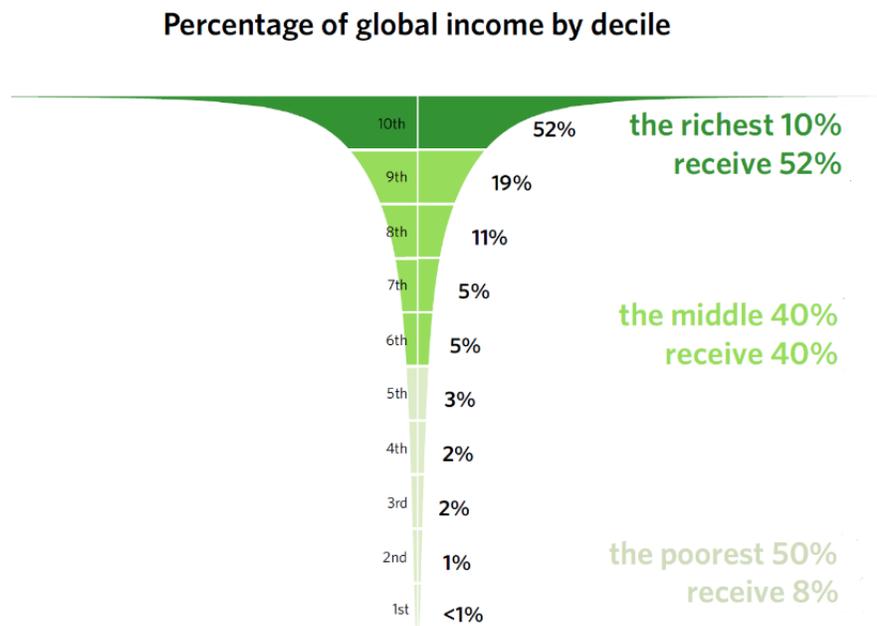


Figure 1: This “champagne glass” figure pointedly ignores nations and shows the income distribution of humanity as a whole. It is built of ten deciles, each representing the income of one tenth of the human population. Notice that it is drawn to be reasonably accurate, and thus has an extremely sharp edge—you would not want to put this champagne glass to your lips. The richest 10% of the human population (the dark green decile) receives 52% of all global income, and as you move closer to the very top the same pattern repeats over and over again. By the time you get to the top hundredth of the top one percent, and then to the top hundredth of that top hundredth, the income distribution defines a razor-sharp edge indeed.

- **This extreme global inequality makes anything like global climate justice very, very difficult to achieve, for it is composed of both inequality among countries and inequality within countries.** Consider, for example: Everyone in the richest 20% of the US population is included in the global top 2%, and a full 64% of the US population is included in the global top 10%. There are many poor people in the US, but only a small number are poor by global standards. (See below).
- **Given that the US is an extremely rich country with a large population of poor people, it perfectly exemplifies the challenge that inequality poses to the project of global climate justice.** How can the US undertake its fair share of the global effort without, as it so often does, freighting most of the burden onto Black, Brown and Indigenous communities and onto the US poor? This is a very important question that cannot be addressed without social support regimes (like the ones imagined in various Green New Deal proposals), more progressive tax systems and, ultimately, a great deal more social and racial justice. The challenges here are sprawling ones, and it’s worth noting that they’re not just US

challenges. Such systems are needed in all countries, and they must be nationally specific in their design, for what it means to be disadvantaged and marginalized varies by country.

NATIONAL DOMESTIC REDUCTIONS VS. NATIONAL FAIR SHARES OF THE NECESSARY GLOBAL REDUCTION

- **To have any real chance of holding the warming to 1.5°C, we have to reduce global emissions by about 50% (below 2020 levels) by 2030.**⁶ What's the US fair share in this reduction? This is the question we are proposing to answer.
- **The US fair share is NOT the same as its domestic reduction target.** In the VECA, we agreed to provisionally estimate the US 2030 domestic emissions reduction goal as 70%, but a *domestic reduction target* is NOT the same as a *fair share of the global effort to stabilize the global climate system*. The 70%, about 4 billion tons of annual reductions, is just an informed estimate of the size of an extremely ambitious effort to reduce *domestic* emissions in the US. In practice, this would mean transforming, as quickly and in as justice-forward a manner as possible, the ways we produce, transport, and consume energy, food, goods, and services.
- **Fair shares are about sharing *global* emissions reductions based on fundamental equity principles.**⁷ The principles are Capacity (to help deal with the climate crisis, a function of wealth), Responsibility (historical responsibility for causing climate change, a function of emissions), and Need (to safeguard a decent standard of living for all) and they can be defined for all countries. To properly consider Need, you have to think globally, and measures of Capacity and Responsibility must take nations' internal inequality into account.
- **Squaring the circle.** The domestic reductions that must ultimately take place in each country if the world altogether is to keep warming below 1.5°C may be *very* different from its fair share. Typically, poorer countries are sites of great mitigation opportunity, which can far exceed their Capacity and Responsibility-based fair shares, while richer countries typically have fair shares that exceed even the effort that would be required to totally decarbonize their economies. This conundrum can best be resolved by **international cooperation**, whereby the rich support reductions in poorer countries, so that the latter can do all that they must do if we are to have any real hope of stabilizing the climate system in time. The additional international effort needed for a wealthy country such as the US to fulfill its fair share does not reduce the need for it to undertake domestic effort that is extremely ambitious and grounded in justice.
- **When it comes to national capacity, the key point is that a rich's person's dollar is not the same as a poor person's dollar.** The two are bound up with very different kinds of activities, and very different purposes — think of a spectrum with luxury consumption at one end and the fulfillment of very basic needs at the other. Furthermore, poor people's emissions much less likely result from discretionary consumption.

THE GREEN NEW DEAL CONTEXT – TOWARDS A GLOBAL GREEN NEW DEAL

- **The Green New Deal strategy gives us a way of facing the devastating inequality and social justice crises and the environmental crisis at the same time.** This is crucial, because it means that the Green New Deal (unlike the original New Deal) can support pathways to truly transformational change, the kind of change required if we're to actually rise to the climate challenge, without further exacerbating the perverse racial and social inequalities that currently plague the world and the US.

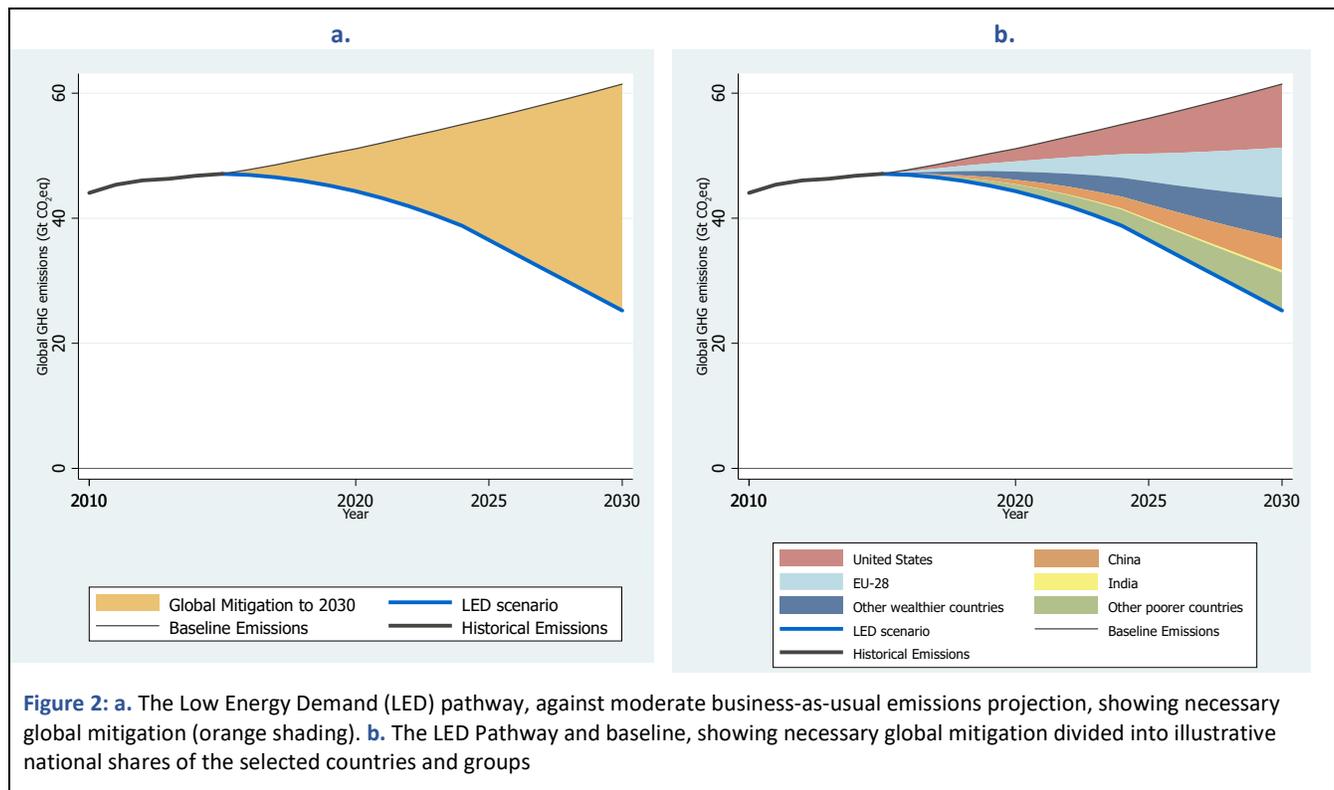
- **The Green New Deal strategy is proliferating around the world, but even this is not enough if they remain purely national.** The climate challenge can only be successfully met if the world's wealthy (countries and people) support the world's poor (countries and people) in their efforts to decarbonize while at the same time achieving just and sustainable development paths. International cooperation at unprecedented levels will be needed to make this a reality.
- **Our national Green New Deals must expand their already challenging agendas, and embrace international cooperation – and not just to address the climate crisis, which will not be “solved” on its own. We need a *Global Green New Deal* in addition to the national ones.** Which is where global fair shares come in.

NATIONAL FAIR SHARES ARE JUST A PIECE OF THE PUZZLE

- **Taking a position on the US fair share does NOT imply any decision about how much of it would be met domestically, or how it would be achieved.** In particular, we are proposing a decision that spotlights the capacity of the rich people, and it is that capacity that we are proposing to mobilize for climate action. The most important point here is that the weight of the transition cannot be freighted on the poor. Just the opposite! If the climate transition is to succeed, it must lift up the poor in all countries, whether they be wealthy or developing ones.
- **We are NOT here addressing the great challenges of adaptation and loss & damage.** We're confining ourselves, for the moment, to mitigation alone, even though we're fully aware of equally consequential judgments to be made when considering the climate reckoning as a whole, and the still larger problems of economic justice and human rights.
- **We are NOT trying to solve all the problems of global public climate finance.** We do know that these must be faced soon, and that getting the fair shares challenge into the public debate can help make this happen. Today, the discussions around national climate action on one hand and international climate finance on the other are largely bifurcated. Only when the two sides of the puzzle are fit together will action on the necessary global scale be possible.

THE FAIR SHARES PROBLEM

Consider the following image, of the global emissions over time, from 2010 to 2030, or rather two such images. On the left, the orange wedge shows the total global mitigation that would be needed through 2030 to reduce emissions from the baseline (the top of the wedge) to the Low Energy Demand (LED) pathway⁸ that played a key part in the IPCC's *Special Report on Global Warming of 1.5°C*. There's a lot to say about the character and political implications of this pathway. For the moment, just know that it would be extremely challenging, and that it well illustrates the scale of the global climate challenge. Under the LED pathway, global emissions would fall to about 25 billion tons of carbon dioxide equivalents (GtCO₂eq) by 2030 relative to baseline.



On the right, you see the same global mitigation wedge, but this time it's divided into multiple wedges, each for an individual nation (or region) and representing its fair share of the overall (global) effort. The resulting 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 Ethical Basis of this Analysis

The ethical basis of the fair shares analysis here is well documented elsewhere. You can easily drill down into the details by consulting the websites of the *Climate Equity Reference Project*⁹ and the *Civil Society Equity Review*.¹⁰ Or, if you want that ethical basis in a nutshell, you can just consider the words of a younger Al Gore, who in 2007, as Vice President-turned-climate advocate, penned a *New York Times* op ed that said,

“Countries will be asked to meet different requirements based upon their historical share or contribution to the problem and their relative ability to carry the burden of change. This precedent is well established in international law, and there is no other way to do it.”¹¹

Two equity principles are being invoked here, fundamental principles essential in a wide range of contexts:

- **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 it is very highly correlated with national wealth and income. In this exercise, as is typical in many analyses, a nation’s capacity is defined in terms of the income of the people who live within it. However, some people have very little, while some have a great deal. The ethical and political debates invariably revolve around one central question – how to we gauge the obligations and rights of those who have a lot, compared to those who have little?
- **Responsibility** – a country’s contribution to the global mobilization should be proportional to its responsibility for the emergency. For the purposes of this exercise, this responsibility is defined as the sum of emissions since some point in the past. But which point? Should it be 1850, a year that precedes most all industrial activity? Or 1950, when the great global economic boom began in earnest? Or 1990, when our governments were drafting the UN Framework Convention on Climate Change? Or 2015, with the Paris Agreement? Here, the key questions tend to revolve on our attitudes towards history -- how far back do the responsibilities of today’s countries extend? And there is a second critical question, analogous to the one that complicates the capacity case: how should the emissions associated with a meager living compare to luxury emissions?

In both of these areas, inequality—between countries and within countries—is decisive. The fact that some people are rich and some are poor, and that this was true as well in the past, must be taken into proper account. A poor person’s dollar is not the same as a rich person’s dollar, nor are their emissions.

Moreover, we have to decide how to balance the relative moral importance of capacity and responsibility. Some people, when asked to take a specific position on national fair shares, prefer benchmarks that are based exclusively on national capacity to act, disregarding responsibility for the climate crisis. Most people decide to balance capacity and responsibility within combined benchmarks, and by so doing to affirm the salience of both principles. Some choose pure responsibility benchmarks.

The CAN discussion, and how we got here

Considering all these issues, the objective here is for USCAN reach a consensus position on a US fair share. Agreement on all the fine points needn’t be the objective, though hopefully the group can reach an agreement that generally does justice to each member’s overall ethical and political sense, something that everyone would consider to be “fair enough.”

What follows is a proposed consensus position for USCAN. The process leading up to it involved open webinars and a roundtable discussion where the ethical questions raised above were discussed with the aim of converging on a set of equity benchmarks that participants felt reflected their various perspectives. Those benchmarks are presented below, and a final US fair share is defined that reasonably represents the group of benchmarks as a whole.

THE PROPOSAL

USCAN believes that the US fair share of the global mitigation effort in 2030 is equivalent to a reduction of 195% below its 2005 emissions levels,¹² reflecting a fair share range of 173-229%, based on the following fair shares benchmarks.

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

Table 1: Ethical choices for the Capacity component of the fair shares benchmarks and associated fair share results for the five benchmarks of the equity range.¹³ Horizontal bars show the fractions of the entire combined global income that are exempted, fully included, or partially included when estimating the national financial capacity that can be mobilized for climate action. 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.

The key factor distinguishing the five benchmarks is how they define national Capacity and Responsibility. Specifically, how money earned by the relatively poor contributes, in principle, to the national capacity, and how this compares to the money received by the relatively rich. And how, analogously, the emissions caused by the consumption of the relatively poor contribute to the national responsibility, and how this compares to the emissions coming from the consumption of the relatively rich. The equity question, then, is how are “relatively poor” and “relatively rich” defined? Each of the five benchmarks reflects a perspective on this question, which is represented by one of the bars above. Each bar shows the global economy divided up, so that the portion that is earned, spent, and supports the welfare of the relatively poor is on the left (grey), that going to the relatively wealthy is on the right (blue), and that going to those between these two groups is in the middle (gradually turning from all grey to all blue).

Notes:

- The global mitigation need assumed in this analysis is as per the 1.5°C “P1” pathway from the IPCC Special Report on *Global Warming of 1.5°C*, also known as the “Low Energy Demand” (LED) Scenario (see above). It amounts to a reduction of roughly 36 billion tons in greenhouse gas emissions in 2030 (below our baseline projection), which means that about half of “current” emissions need to be cut.
- In this graphic, the percentile figures refer to the global population, ordered by their annual income. So, for example, in the third benchmark, the “Bottom 70%” are being defined as the relatively poor, compared to the “Top 2%” who are relatively wealthy.
- It is important to understand just how different the income distribution in the US are from the global distribution. For example, the global Bottom 70%, an *extremely* economically disadvantaged stratum,¹⁴ includes the poorest 17% of the US population (receiving \$21,000 or less per US household income per year, in PPP-adjusted 2014 dollars). The Bottom 90% of the global population includes the poorest 36% of the US population (receiving less than \$74,000 per US household per year), approximately a third. At the top end, the figures are equally startling. 64% of the US population is in the global Top 10%, 33% of the US population is in the global Top 5% (\$127,000 or more per US household), and 20% of the US population is in the global Top 2% (\$183,000 or more per US household).
- Why these five benchmarks? What equity perspectives do they reflect?
- All of them take 1950 as the start date for Responsibility, as it captures about 85% of emissions since the beginning of the industrial age, and marks the beginning of “the great acceleration” during which the North invested in a massive infrastructure build-out and quickened its pace of economic expansion. (see Appendix I, which discusses 1850, another year that was considered).
- As mentioned above, these five benchmarks differ in their treatment of different levels of income when considering a nation’s capacity (and emissions when considering responsibility):¹⁵
- For the 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 ~\$20 per day (expressed in PPP-adjusted 2005 dollars). This income is meant to reflect a “development threshold” that reflects the income levels at which the classic plagues of poverty – malnutrition, high infant mortality, low educational attainment, high relative food expenditures – begin to disappear, or at least become exceptions to the rule.
- 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 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%.
- These benchmarks take substantively different perspectives on these questions. However, it is notable that these differences do not lead to fundamentally different results, in terms of the what they imply for the size of the US fair share. For this reason, and for the sake of simplicity, we are proposing to adopt the average of the fair shares implied by these benchmarks, rounded to the nearest 5%, as the US fair share target. This final number, for 2030, is 195%.

GLOBAL BENCHMARK OVERVIEW

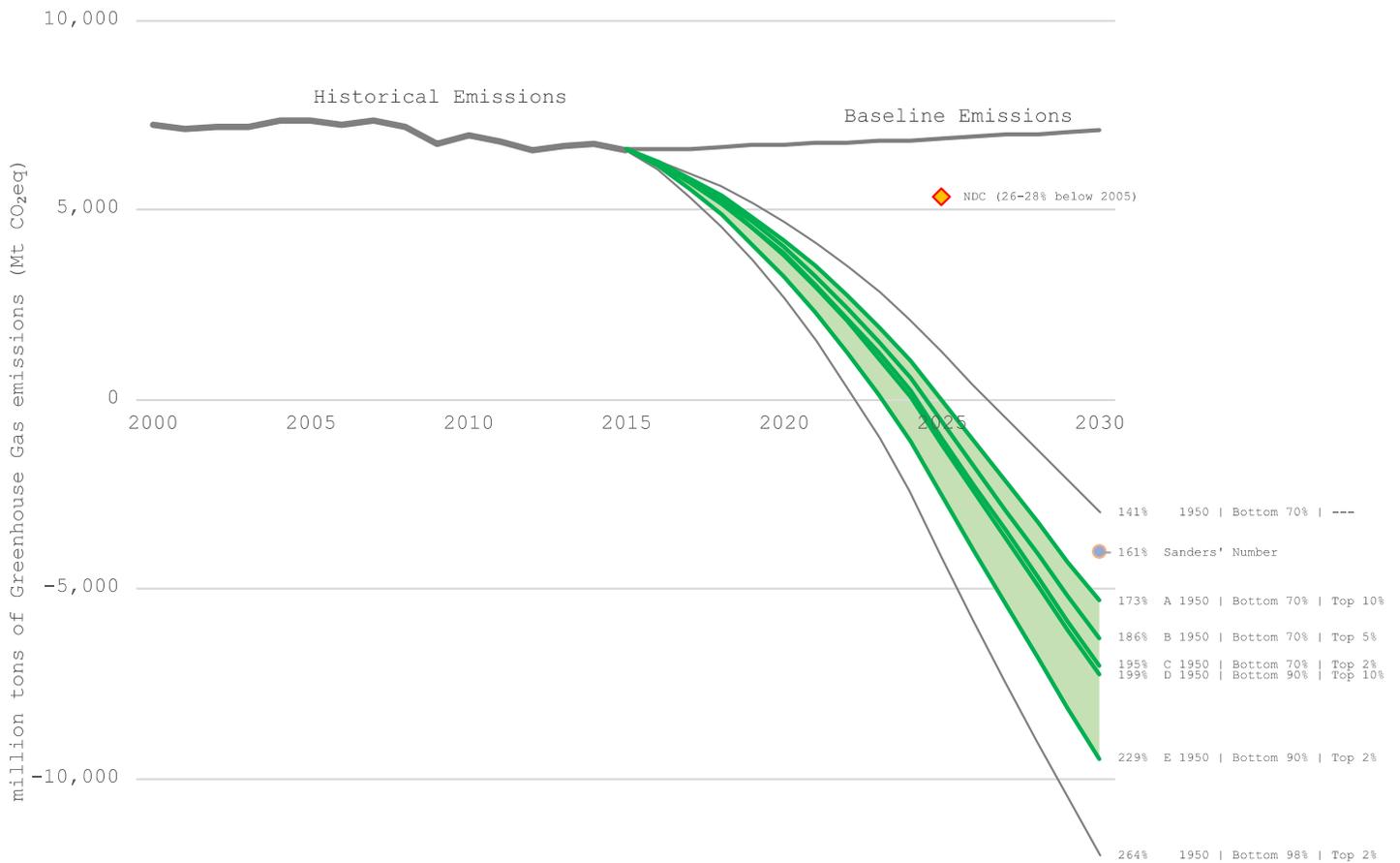


Figure 3: Annual greenhouse gas emissions in the USA under a range of fair shares benchmarks, showing historical and projected US emissions (top grey lines), how emissions would fall under the five fair shares benchmarks (green line and green shaded area) and two additional illustrative benchmarks (grey lines). Also shows, for context, the current US mitigation pledge (“NDC;” yellow diamond) and the total fair shares reduction proposed in Bernie Sanders’ Green New Deal platform (blue dot).

APPENDICES

Appendix I: Impact of Considering Historical Emissions from 1850 vs 1950

Although, for the reasons stated, the benchmarks above all reflect a historical responsibility start date of 1950, many people, particularly in the global South, do believe it is ethically appropriate to spotlight the legacy of colonialism. And in the climate justice discourse, this often means reckoning responsibility from 1850, the beginning of modern industrial capitalism. This is a perfectly ethically defensible position, and was, indeed, preferred by several of the USCAN groups engaged in this process.

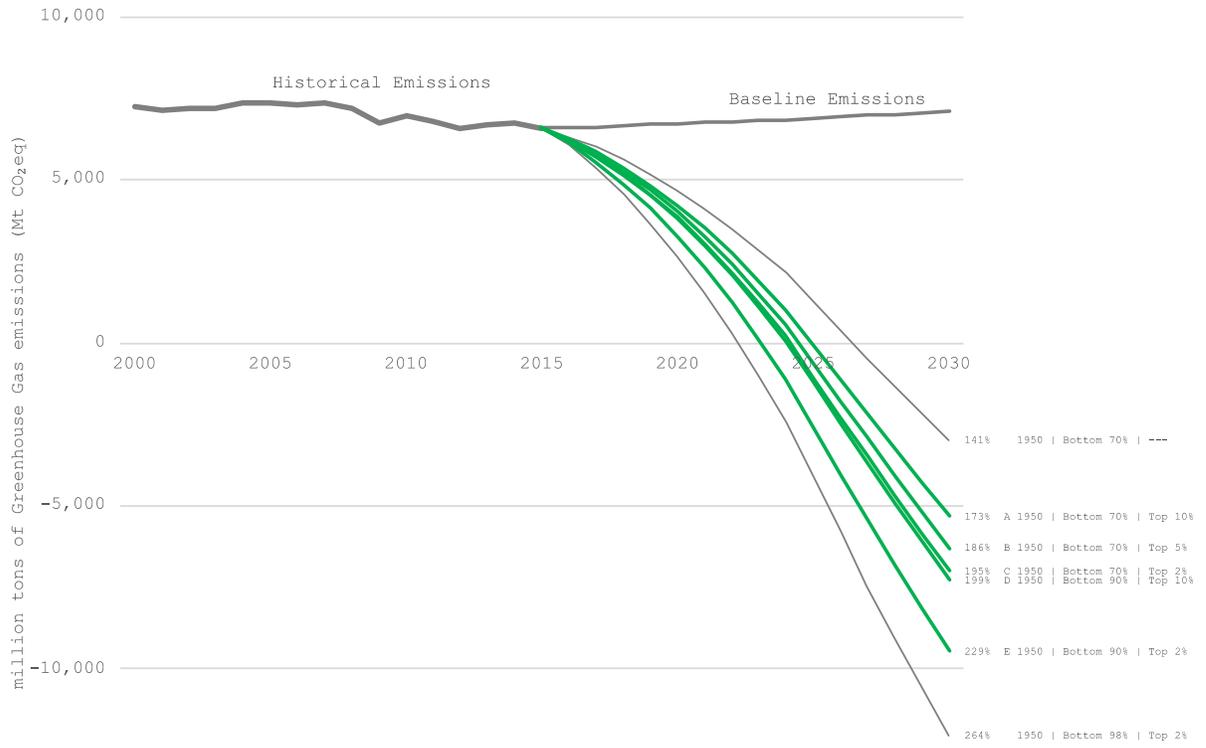
Interestingly, for many countries, including the US, the results of 1850-based fair shares calculations are not very different from 1950-based numbers, particularly in the case of benchmarks like those chosen here, which make suitable allowances for the exclusion of the survival emissions of the poorest.

To illustrate the impact of choosing 1850 instead of 1950 as the start date for historical responsibility, for otherwise identical benchmarks, see below the benchmarks from Figure 3 reproduced (grey and green lines in Fig 4a) as well as an additional set of results (blue and grey lines in Fig 4b) that differ from the first set only in that they utilize 1850 instead of 1950 as the start date for consideration of historical responsibility. For the US, the difference is very small for all benchmarks—at most 4 percentage points, and in some cases too small to even cause a change in the rounded result. (see below.)

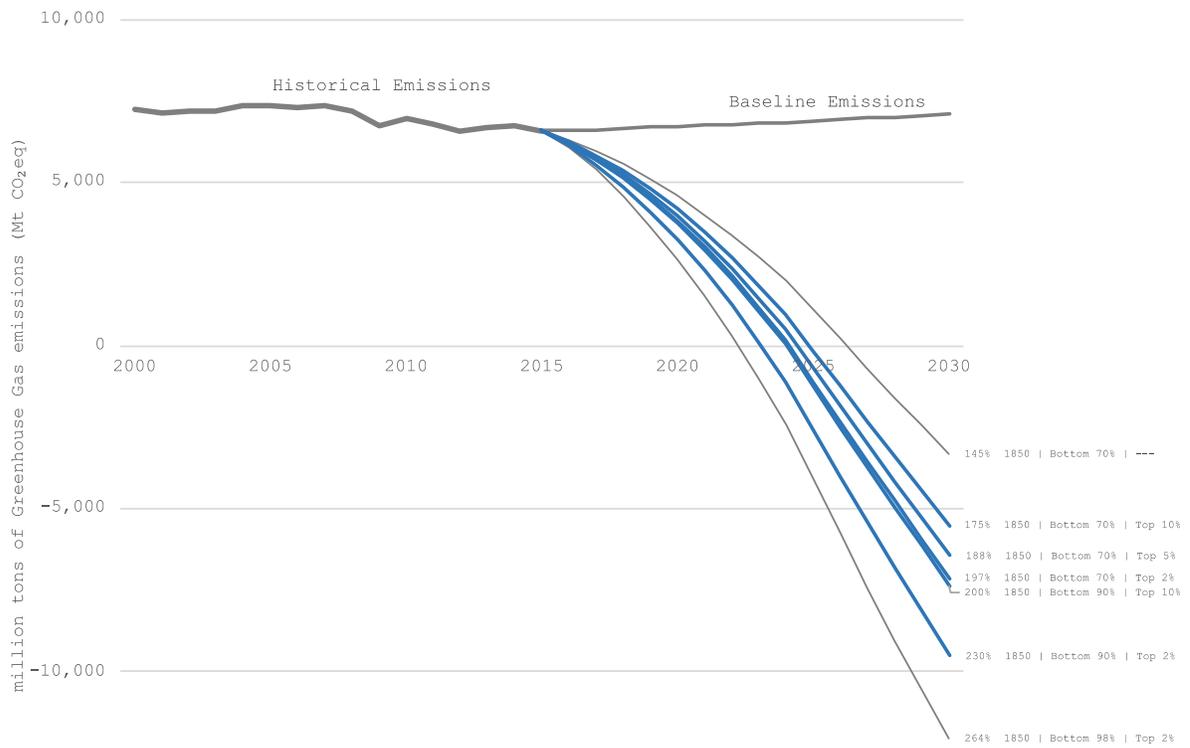
The groups involved in the webinars and roundtable agreed to confine the analysis to equity benchmarks that use the 1950 start year for reasons of simplicity (it avoids proliferation of benchmarks). Also, experience suggests that people are quick to assume that the distribution of national fair shares is mainly determined by the responsibility start date, when in fact the current distribution of income, and the different treatment of different levels of incomes and emissions associated with consumption at those income levels, tends to have a much stronger influence, particularly in wealthy and highly unequal countries like the US.

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4a.



4b.



Appendix II: Detailed Settings and Thresholds for Fair Shares Benchmarks

Benchmark Label	Responsibility considered?	Lower Threshold				Upper Threshold			
		defined as	percentile (USA)	percentile (World)	income (household, USA)	defined as	percentile (USA)	percentile (World)	income (household, USA)
		A - 1950 Bottom 70% Top 10%	Since 1950	\$8,500 (PPP)	17	70	\$ 21,000	Global top 10%	36
B - 1950 Bottom 70% Top 5%	Since 1950	\$8,500 (PPP)	17	70	\$ 21,000	Global top 5%	67	95	\$ 127,000
C - 1950 Bottom 70% Top 2%	Since 1950	\$8,500 (PPP)	17	70	\$ 21,000	Global top 2%	80	98	\$ 183,000
D - 1950 Bottom 90% Top 10%	Since 1950	Global bottom 90%	36	90	\$ 74,000	Global top 10%	36	90	\$ 74,000
E - 1950 Bottom 90% Top 2%	Since 1950	Global bottom 90%	36	90	\$ 74,000	Global top 2%	80	98	\$ 183,000

Table 2. Settings for each of the benchmark shown in the above charts. Each row describes one benchmark (note color key), with the benchmark settings as follows:

Heading	Meaning
Responsibility considered?	Is Responsibility principle considered in fair share? (If so, then year from which historical emissions are counted toward Responsibility)
Lower threshold	Income threshold (PPP) below which an individual's income does not contribute to national capacity
- Defined as	Definition of the lower income threshold (expressed either as PPP income per capita or percent of global population exceeding threshold)
- percentile (US)	Percentile of US population below lower threshold
- percentile (World)	Percentile of World population below lower threshold
- income (per household, USA)	Income per household (PPP) corresponding to lower threshold (for average USA household size).
Upper threshold	Income threshold (MER) above which an individual's income contributes fully to national capacity
- Defined as	Definition of the upper income threshold (expressed either as income per capita or the percent of global population exceeding threshold)
- percentile (US)	Percentile of US population below upper threshold
- percentile (World)	Percentile of World population below upper threshold
- income (per household, USA)	Income per household (MER) corresponding to upper threshold (for average USA household size).

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- 1 Tom Athanasiou, “The Green New Deal as a step towards Emergency Internationalism,” <https://www.ecoequity.org/2019/09/bernie-sanders-secret-weapon/>
 - 2 <https://equitableclimateaction.org/>
 - 3 <https://climateequityreference.org>
 - 4 The term “net zero” is both problematic and contested. Many people in the climate movement (including in CAN International) are arguing for a new term. That said, the term is good enough for our purposes here.
 - 5 The data behind this global income distribution graph is from the Climate Equity Reference Calculator Database (<calculator.climateequityreference.org>)
 - 6 The IPCC 1.5°C special report actually says 45% below 2010 levels. This is for the “no or low overshoot scenarios” in the report. Expressing the same scenarios’ reductions relative to 2020 yields 48%.
 - 7 We went through this in detail during the webinars and at the roundtable. Recordings of the webinars are available:
 - https://zoom.us/rec/play/u8Ikfrj8_Tk3GdLHuASDA6R_W467fPqshyJL86YOyUfkVnBSZIKuZLdBYeqJbqA5SPZNAoxgcyb5lon6
 - https://zoom.us/rec/share/70IcDO-q7FIOboXd60iCUYJ-IK_KT6a8g3JLqPIImEjEnjeXxTAHLE4ZaJiftS18
 - 8 Grübler, A., Wilson, C., Bento, N., Boza-Kiss, B., Krey, V., McCollum, D., et al. (2018), “A Low Energy Demand Scenario for Meeting the 1.5°C Target and Sustainable Development Goals Without Negative Emission Technologies.” *Nature Energy*. <https://doi.org/10.1038/s41560-018-0172-6>
 - 9 See <https://climateequityreference.org/>
 - 10 See <http://civilsocietyreview.org/>
 - 11 Al Gore, “Moving Beyond Kyoto,” *The New York Times*, July 1, 2007. www.nytimes.com/2007/07/01/opinion/01gore.html
 - 12 Which is equivalent to about 205% below current (2020) levels.
 - 13 To view each of the benchmarks in the Climate Equity Reference Calculator, where fair shares results for these benchmarks for all countries can be calculated, use the following links: Benchmark A: http://bit.ly/USFS_BM_A, B: http://bit.ly/USFS_BM_B, C: http://bit.ly/USFS_BM_C, D: http://bit.ly/USFS_BM_D, E: http://bit.ly/USFS_BM_E.
 - 14 In the US, a hugely disproportionate number of the people in this stratum are Black, Brown, and Indigenous. The numbers here are contested, and go from bad to worse. By some estimates, African Americans have approximately one-tenth the household wealth of white Americans. For a recent instance of this commonly-cited statistic, see Tami Luhby, “US black-white inequality in 6 stark charts,” *CNN Politics*, June 3, 2020, <https://www.cnn.com/2020/06/03/politics/black-white-us-financial-inequality/index.html>. In other estimates, the ratio is much higher. For example, Chuck Collins and colleagues at the Institute for Policy Studies (*Dreams Deferred: How Enriching the 1% widens the racial wealth divide*, https://ips-dc.org/wp-content/uploads/2019/01/IPS_RWD-Report_FINAL-1.15.19.pdf) 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.”
 - 15 For more detail on these benchmarks, see the Climate Equity Reference Calculator documentation at <https://climateequityreference.org/calculator-about/> For a more extensive discussion, see the 2nd edition of the Greenhouse Development Rights book, at <https://www.ecoequity.org/2009/02/second-edition-of-the-greenhouse-development-rights-book-now-available/>