

Are governments doing their “fair share”? - New method assesses climate action

Climate Action Tracker update

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Summary

The Climate Action Tracker has developed a new method to assess “comparable efforts” and the “fair share” of governments’ national greenhouse gas reduction proposals. Such a comparison is essential for the successful completion of an agreement on climate change in Paris in December this year, as some governments have made their offers conditional on comparable action by others.

For the first time, the method we have developed provides a comprehensive overview of many different viewpoints on what could be considered a “fair” contribution for each of over 30 countries, and for the periods 2020, 2025, 2030 and 2050. It is based on a very wide range of literature from researchers from the north and south that was initially collected for the IPCC Fifth Assessment Report (AR5).

The Climate Action Tracker does not itself assign emission reduction proposals of countries to a specific concept of “fairness”, but instead locates a country’s emission proposals within the full range of academic analyses of the issue. The “sufficient” category means that if all governments adopted the same level of effort, warming would be held below 2°C with a likely probability. Where a government is rated “medium”, its emission reduction proposals could be compatible with limiting warming below 2°C, but only if other countries compensated for that by reducing their emissions *more* than their medium category.

In order to span the full range of literature, the Climate Action Tracker’s team—from four research organisations—has complemented IPCC AR5 with new literature, alongside the CAT’s own, new calculations. The new method includes estimates for “fair” emissions levels for each country based on range from different approaches:

- **Responsibility:** Emissions reductions below a reference are determined by the level of historical emissions of a country.
- **Capability:** Emissions reductions below a reference are determined by the level of economic capability of a country, often measured by GDP/capita or the human development index.

- **Equality:** Emissions per capita converge to, or reach immediately, the same level for all countries.
- **Equal cumulative per capita emissions:** Emissions need to be reduced so that cumulative emissions per capita reach the same level during this century.
- **Responsibility/capability/need:** A range of studies have explicitly used responsibility and capability as the basis for distributing emissions reductions
- **Capability/cost:** A range of studies use equal costs or welfare loss per GDP as a basis. This is essentially a combination of mitigation potential and capability.
- **Staged:** A suite of studies have proposed or have analysed approaches where countries take differentiated commitments in various stages. Assignment to a stage and the respective commitments are determined by indicators using many equity principles.

Introduction

Under the UNFCCC, all governments “in a position to do so” have been asked to submit an “intended nationally determined contribution” (INDC) to a future international climate agreement by the end of the first quarter of this year.¹

In practical terms, it seems more likely that most proposals will be submitted by October rather than in the first quarter of 2015. Ideally, all governments transparently present their proposed action, so that, during the course of 2015, proposals can be adjusted and strengthened if they are—in aggregate—insufficient to meet the globally agreed long-term goal of limiting warming below 2°C. One of the key challenges in 2015 is that there has not been a formal process agreed to do this.

Comparing the proposed contributions is essential to the success of the new international agreement, because governments will want to ensure that their peers undertake comparably stringent efforts. Some even explicitly make their action conditional on others making similar or comparable efforts. Some already argue they’re doing their “fair share.” But are they? How can one compare the different proposals when all countries are very different in their emissions profile, economic development, capability to act and historical responsibility for the problem?

Since 2009, the Climate Action Tracker has been assessing governments’ emissions reduction proposals. We have now comprehensively updated our assessment methodology for what is considered a “fair” share. In the coming weeks the Climate Action Tracker will complement this with a comparison of proposed action, mitigation potential, and sector-specific details for countries.

Essential for the assessment of a 2015 agreement

As governments submit their emissions reduction offers during 2015, they will look at what others are doing, and decide whether it is comparable. They may all have their own interpretation of what is their fair share.

For the first time the CAT now gives a fully transparent way of comparing proposals with the many interpretations of what is fair. We hope that it helps governments, the media and observers to interpret the offers made in the run-up to the Paris UNFCCC conference in December where governments are expected to agree a new, global agreement to combat climate change.

New method to rate ambition

Assessing what is fair depends on the viewpoint. Some consider it fair that those who have made a bigger contribution to the problem, or have a higher capability to act, should do more. But even if that were agreed, how much more should they do?

¹ On a regular update when countries plan to submit see: <http://files.newclimate.org/indc-preparation-progress/>

In our Effort Sharing assessment, we have compiled a wide range of literature on what researchers would consider a “fair” contribution to greenhouse gas reductions. The “effort-sharing” studies in the CAT’s database include over 40 studies used by the IPCC (chapter 6 of WG III²) plus additional analyses the CAT has performed to complete the dataset. They cover very different viewpoints of what could be fair, including considerations of equity, including historical responsibility, capability, and equality. We only include those results from studies that are compatible with the 2°C limit.

We do not decide what is fair, but take the full range of the estimates from the literature. On the most aggregated level we show the full range of all possible effort sharing approaches (the coloured bars in Figure 1 and Figure 2).

If a government’s proposal results in emissions above that range we rate them “inadequate” (coloured red in the bar): the proposals would be not in line with a 2°C pathway under any interpretation of what is “fair.”

If they are below that full range they are rated “role model” (dark green). Such proposals are even more ambitious than any interpretations of what would be “fair”.

Within the full range of what could be considered “fair” we differentiate between a “medium” (yellow) and a “sufficient” (pale green) rating: if all governments were to choose the least ambitious end of the range, the aggregate of all the proposals would result in emissions well above what is required to keep warming below 2°C. Only if all governments were at the intersection of “medium” and “sufficient” - or lower - would global emissions be compatible with the 2°C limit.

Therefore a government is only rated “sufficient” if the emissions resulting from its proposal are in the lower half of the range of what could be considered as “fair”. If the emissions resulting from its proposal are in the upper half of that range they are rated “medium. Such proposals are heading in the right direction with room for improvement.

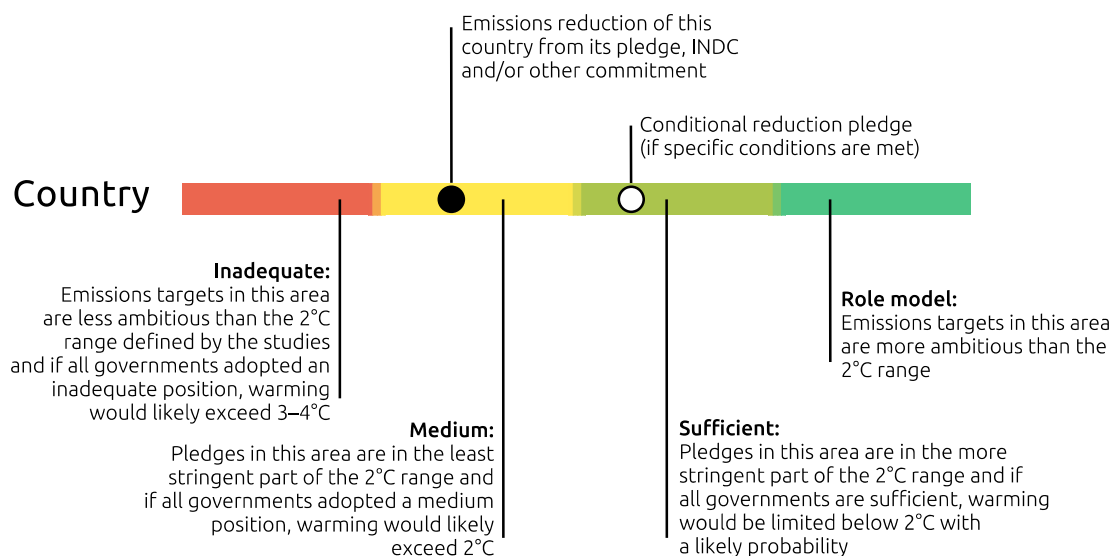


Figure 1. The Climate Action Tracker’s rating system

² The figures in the IPCC chapter are based on Höhne, den Elzen, Escalante, 2014: Regional GHG reduction targets based on effort sharing: a comparison of studies, Climate Policy, Vol. 14, Iss. 1, 2014

In the example in Figure 2 we find that the range is substantial, in this case for 2025. It ranges from a reduction of around a few per cent below current levels to less than zero emissions. This means that in some interpretations of what is fair, this example government would have no emissions allowances left in 2030 and would have to compensate its remaining emissions with reductions elsewhere, for example through reduction projects in other countries.

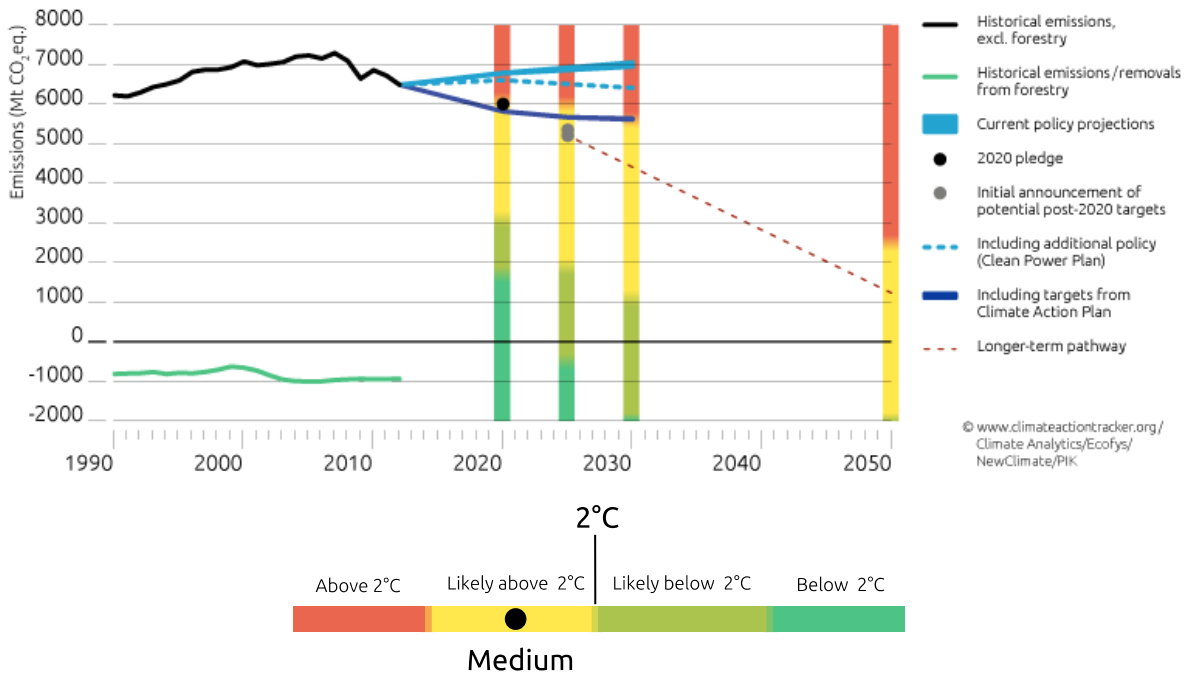


Figure 2 Example illustration of the ratings (example US)

Taking all possible sharing approaches into account

For each country and year we show full the ranges that result from specific categories of approaches (Figure 3), based on the definitions used in the IPCC report. Each category puts emphasis on one particular aspect and therefore results in different outcomes from other categories:

- **Responsibility:** Emissions reductions below a reference are determined by the level of historical emissions of a country. E.g. the original Brazilian Proposal of 1997 would fall in this category.
- **Capability:** Emissions reductions below a reference are determined by the level of economic capability of a country, often measured by GDP/capita or the human development index.
- **Equality:** Emissions per capita converge to, or reach immediately, the same level for all countries.
- **Equal cumulative per capita emissions:** Emissions need to be reduced so that cumulative emissions per capita reach the same level. These approaches are sometimes called “carbon budget” approaches.
- **Responsibility/capability/need:** A range of studies have explicitly used responsibility and capability as the basis for distributing emissions reductions. This would include the “greenhouse development rights” approach.
- **Capability/cost:** A range of studies use equal costs or welfare loss per GDP as a basis. This is essentially a combination of mitigation potential and capability.

- **Staged:** A suite of studies have proposed or have analysed approaches where countries take differentiated commitments in various stages. Assignment to a stage and the respective commitments are determined by indicators using many equity principles.

Using the detailed representation (see Figure for an example), a user can discern the possible results of a category that he/she considers as fair.

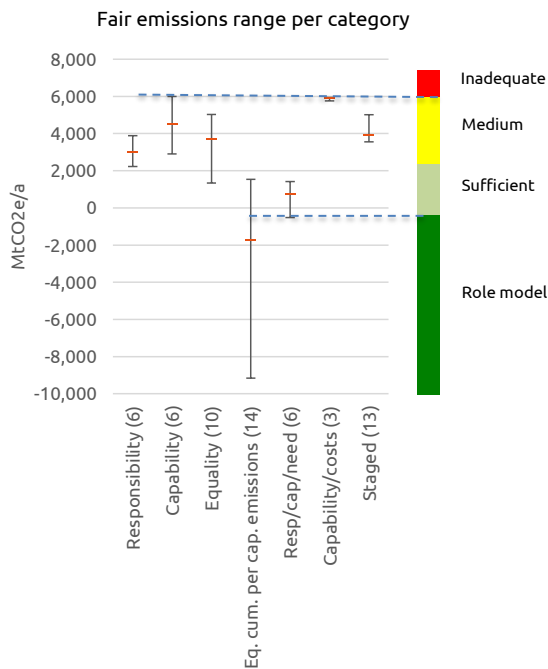


Figure 3. Detailed results of effort sharing approaches and how they are used to construct the range for the US in 2025. The left hand graph shows the range of emission levels expected for the US under each of the seven different sharing approach categories. The coloured bar shows the translation into the four rating categories used by CAT (inadequate, medium, sufficient, role model). The one but highest and one but lowest end of a category defines the medium plus sufficient range.

The effort sharing results based on capability/costs and capability define the top end of the range for the US in 2025 (Figure 3). According to these approaches US Government's proposal to reduce emissions by 26–28% by 2025, resulting in a 2025 emission level of 5205-5350 MtCO₂e/a, would be considered a "fair share." These calculations assume that costs to reduce emissions in the US are high and that larger emissions reductions would have to be made by other countries for overall compatibility with a 2°C pathway.

The bottom end of the range is defined by the approaches based on equal cumulative per capita emissions and the responsibility / capability / needs category. These approaches assume that the US has used its carbon budget already and has so much responsibility and capability that it should actually have zero emissions in 2025 (if necessary compensating its real emissions with allowances from elsewhere). With this perspective the US proposal for 2025 is well outside of what is considered fair.

The Climate Action Tracker is an independent science-based assessment that tracks the emission commitments and actions of countries. It is a joint project of the following organisations:

Climate Analytics

Climate Analytics is a non-profit organisation based in Berlin, Germany. It has been established to synthesize climate science and policy research that is relevant for international climate policy negotiations. It aims to provide scientific, policy and analytical support for Small Island States (SIDS) and the least developed country group (LDCs) negotiators, as well as non-governmental organisations and other stakeholders in the 'post-2012' negotiations. Furthermore, it assists in building in-house capacity within SIDS and LDCs. Contact: Dr. h.c. Bill Hare, +49 160 908 62463

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Ecofys – Experts in Energy

Established in 1984 with the mission of achieving “sustainable energy for everyone”, Ecofys has become the leading expert in renewable energy, energy & carbon efficiency, energy systems & markets as well as energy & climate policy. The unique synergy between those areas of expertise is the key to its success. Ecofys creates smart, effective, practical and sustainable solutions for and with public and corporate clients all over the world. With offices in Belgium, the Netherlands, Germany, the United Kingdom, China and the US, Ecofys employs over 250 experts dedicated to solving energy and climate challenges. Contact: Prof. Kornelis Blok, +31 6 558 667 36

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Potsdam Institute for Climate Impact Research (PIK)

The PIK conducts research into global climate change and issues of sustainable development. Set up in 1992, the Institute is regarded as a pioneer in interdisciplinary research and as one of the world's leading establishments in this field. Scientists, economists and social scientists work together, investigating how the earth is changing as a system, studying the ecological, economic and social consequences of climate change, and assessing which strategies are appropriate for sustainable development. Contact: Dr. Louise Jeffery, louise.jeffery@pik-potsdam.de

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NewClimate Institute

NewClimate Institute is a non-profit institute established in 2014. NewClimate Institute supports research and implementation of action against climate change around the globe, covering the topics international climate negotiations, tracking climate action, climate and development, climate finance and carbon market mechanisms. NewClimate Institute aims at connecting up-to-date research with the real world decision making processes. Contact: Dr. Niklas Höhne, +49 173 715 2279

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