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Systematic bias found in prominent “fair share” assessments of global climate action

Quantifications of fair shares under the Paris Climate Agreement tend to favour wealthier, higher emitting countries and lack transparency

In a new perspective, leading climate social scientists argue that influential studies that attempt to quantify different countries’ “fair share” of climate action are presented as ‘neutral’ but convey unreflected and unintentional bias. Reducing equity to derivative benchmarks is an oversimplified view of what is primarily a political and ethical discussion.

The perspective titled [“Ethical choices behind quantifications of fair contributions under the Paris Agreement”](#) published in *Nature Climate Change* recently, comes as countries are expected to update their national plans for climate action ahead of COP 26 to be held in Glasgow in November 2021. In South Africa, cabinet approved the nationally determined contribution (NDC) for public consultation, which started on 30 March. Each country has to explain how its NDC is “fair and ambitious”.

The perspective evaluates a selection of recent effort-sharing studies to determine whether they are explicit about the ethical choices underlying their analysis or not. Reviewing sixteen studies that quantify equitable effort sharing between countries under the Paris Agreement, the authors find that ten studies present themselves as neutral or value-free, despite being limited to a small and biased subset of ethical perspectives on effort-sharing that tend to favour wealthier countries.

“Calculating fair shares by putting data and assumptions through a ‘statistical meat-grinder’ is not value-free. Equity is a normative matter and should be treated using a wide range of tools, including moral and political philosophy,” said Professor Harald Winkler of the University of Cape Town’s Faculty of Engineering & the Built Environment and co-author of the perspective.

“We took a close look at quantitative studies and found evident bias. For example, some include ‘grandfathering’ – which is not an ethically defensible principle – it rewards high emitters. It is incompatible with poverty eradication and the right to promote sustainable development. While well-intentioned, it would be better to state ethical values upfront, and then conduct the analysis. My co-authors and I argue grandfathering should not be included in equity assessments of global climate action.”

Winkler said other studies claim objectivity by averaging a spectrum of equity approaches, commonly choosing a subset that exclude important ethical concepts.

“For instance, when many analyses quantify a country's capacity to allocate resources to a global climate effort, they routinely treat a dollar earned by a poorer household as wholly equivalent to a dollar earned by a richer household. Even though an additional rand or dollar is worth much more in poorer communities. Merging several indicators into a ‘derivative benchmark’ obscures at least as much as it reveals,” he said.

One prominent assessment, the Climate Action Tracker (CAT), generates a “fair share” range of emissions allowances for each country that is widely used by media, academia, civil society and some governments to assess countries’ mitigation ambition. The CAT method excludes a large number of studies for being statistical “outliers”, excluding whole categories of ethical positions.

“Indicators that rank nations on their effort, like the influential CAT with its green, yellow and red symbols and “inadequate” type labels, actually hide some of these grandfathering indicators deep in their engine rooms. They say they're about equity, but there's still a systematic bias in favor of the biggest historical polluters. As we review efforts in the ‘global stocktake’ of the Paris Agreement, these kinds of indicators must be transparent. Otherwise, they are anti-equity,” said Professor Timmons Roberts from Brown University and director of the Climate Social Science Network.

Lead author of the perspective and research fellow at the University of Melbourne, Dr Kate Dooley, said: “Studies should be explicit about the ethical and moral implications of their underlying assumptions, and equity assessments of countries’ climate action must be based on ethically defensible principles, such as responsibility, capacity and need.”

The authors propose new guidelines that emphasize transparency in communicating the ethical underpinnings of assessments of climate action and suggest guidelines for developing policy-relevant, but not ethically neutral-equity research.

The guidelines are: studies of equitable distribution of climate efforts should not claim value-neutrality; analysis needs to ensure that the losses of those who are potentially marginalized remain clearly visible; and analytical work should aim to inform rather than supplant the political process.

ENDS

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