Climate policy: equity and national mitigation

Climate policy
Equitably determined contributions not enough

A focus on burden-sharing, rather than contributions based on national interest and local benefits of climate action, will delay meeting the Paris goals.

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Since the United Nations Framework Convention on Climate Change, a key element of international negotiations on climate policy has been equity, often expressed as "common but differentiated responsibilities and respective capabilities". This is used to determine the 'fair' allocation of costs between countries based on individual historical responsibilities, relative capabilities among countries and the impact of climate change. Various proposals have been put forward that differ in terms of the principles and formulas applied in determining how the costs and burdens should be shared between countries (1). Writing in Nature Climate Change, Yann Robiou du Pont and colleagues uses a robust methodology to assess the implication of adopting a variety of equity principles to guide national mitigation plans (2).

The debate around equity has proven often to be divisive and can result in the search for a minimum acceptable level of individual action. The study by Robiou du Pont et al presents interesting results, for example, the counter-intuitive finding that the USA and the EU are more in line with the average of the five equity principles used than India and China (ref). It is difficult to know how to interpret this finding and it shows the shortcomings of the approach used; namely that the normative application of the equity principles predetermines the results. Using a similar set of equity and 'atmospheric rights' approaches applied using the model operated by the then UK Department of Energy and Climate Change, a study in 2014 yielded a very different ordering of necessary country contributions(1).

But the problem runs deeper than narrow issues of structural specifications and model assumptions. A common challenge with studies in this area is keeping up with how climate negotiations evolve. Excessive emphasis on 'burden-sharing', the 'right to emit' and costs, associated with the language of shared sacrifice, reduces incentives to secure ambitious national action to limit climate change and take advantage of low-carbon finance and technologies. It encourages free-riding on others' commitments to resolve a global problem.

Because of this, the UN agreement reached in Paris last year made a conscious effort to move away from a policy paradigm in which countries bargained over the establishment of international regimes consisting of enforceable commitments to reduce greenhouse gas emissions. This approach proved ineffective with respect to the outcome that mattered most: reducing greenhouse gas emissions (2). Instead, the agreement established a schedule of voluntary national contributions toward meeting an ambitious climate stabilisation goal. This included a commitment to a five-yearly process of progress review where countries are expected to increase the ambition of their national

contributions. The Paris Agreement noted the significant gap between current ambition levels and what is required to meet the long-term temperature goal and adopted an ethical narrative that values collective benefits from climate action in terms of justice and human rights.

This marks a shift from principles of fairness defined in terms of 'burden-sharing' to harnessing the potential benefits from climate action. It reflects the pragmatic understanding that national mitigation pledges are determined by domestic political agendas and the need to satisfy popular opinion, local institutional and industrial interests. This means that contributions must reflect not just 'fairness', but also national circumstances. These include i) the cost of action, taking into account natural endowments, such as reserves of fossil fuels, or the energy intensity of production (for example the presence of industry dependent on coal); (ii) anticipated local damages from climate change, and—crucially—(iii) the benefits that accrue from policies that aim to reduce emissions and attain other policy goals. To overcome domestic opposition and make for a credible international pledge, climate action must be recognised to deliver local benefits in the direct self-interest of the country taking the action.

China and others signed up to the Paris Agreement on the basis of growing recognition that there are significant social and economic returns from investment in emissions reduction for many developed and developing countries that are not captured in narrow cost assessments.

It has recently been shown that more than half of emissions reductions required to meet an ambitious target generate co-benefits, such as reducing the costs of air pollution, improving energy efficiency, and creating new export markets in fabricating energy efficient kit and renewables (3). By contrast, locking into fossil fuel extraction or carbon-intensive transport and energy infrastructure is a risky economic strategy, risking the loss of access to future markets and the potential stranding of assets.

Another recent study cites a valuation of the health impacts of air pollution (including premature deaths) in China that amounts to more than 10 percent of annual GDP (4). If such factors are fully accounted for, China's anticipated net benefits of meeting its mitigation pledges would rise considerably. Overlooking this is not just a technical omission; it is an omission of the key drivers of policy action to reduce emissions at the global level. Most Integrated Assessment Models of the kind used by the authors, by their own admission, fail to fully account for these benefits, but when it comes to voluntary NDCs these are the key drivers of agreement. It was recognition of such benefits, rather than a need to meet externally imposed equity principles, which arguably led to agreement in Paris in the first place.

Equity approaches are supported in the Paris Agreement and Robiou de Pont *et al*. show that to meet the 2 °C warming target, national targets are currently insufficient and assign the additional commitments needed to the G8 and China. But success in meeting the long term global goals of the Paris Agreement requires building trust and corporation. Focussing exclusively on sharing burdens through equitable contributions seems

needlessly subjective, considering the significant opportunities associated with early emissions reductions. This omission risks misleading policymakers and unnecessarily breeding distrust – something the world can ill-afford at this time.

(1) Averchenkova, A., N. Stern and D. Zenghelis. 2014, "Taming the Beasts of "Burden Sharing": An Analysis of Equitable Mitigation Actions and Approaches to 2030 Mitigation Pledges", Policy Paper, Centre for Climate Change Economics and Policy and Grantham Research Institute on Climate Change and the Environment.

(2) Robiou du Pont, Y. et al. Nat. Clim. Change 7, 38–43 (2017).

(3) Stavins, Robert et al. 2014. "International Cooperation: Agreements & Instruments." In Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, eds. O. Edenhofer et al. Cambridge, UK: Cambridge University Press, 1001–82.

(4) Global Commission on the Economy and Climate, 2014. Better Growth, Better Climate: The New Climate Economy Report, Chapter 2, [online] Available at: http://newclimateeconomy.report/2014/cities/

(5) Hamilton, K., Brahmbhatt, M., Bianco, N. and Liu, J.M. 2014. 'Co-benefits and Climate Action', New Climate Economy contributing paper, World Resources Institute, Washington DC, http://newclimateeconomy.report