



Climate Justice and Ambition under the Paris Agreement

Hèctor Isern¹, Cindy Ramírez¹, Olga Alcaraz¹, Bàrbara Sureda¹

1. Group of Governance on Climate Change (GGCC), Universitat Politècnica de Catalunya, Escola d'Enginyeria de Barcelona Est (EEBE). Campus Diagonal Besòs, Edifici A. Av. Eduard Maristany, 16, 08019, Barcelona

Key words: climate change, Paris Agreement, Global Carbon Budget, NDC, justice, ambition

Justice and ambition are key concepts concerning the efforts for mitigating climate change (CC) amongst countries. This effort sharing should suit all the Parties while meeting the Paris Agreement (PA) goals. However, although the PA enunciates that it must be “applied in a way reflecting equity” [2], it lacks the basis on how this equity should be operationalized. Moreover, the Paris Rule Book (PRB) indicates that the Nationally Determined Contributions (NDC) must reflect fairness and the highest level of ambition reachable by a country [3]. In the absence of an international reference methodological framework in these matters, this paper aims to propose a methodology to assess the degree of justice and ambition of a country’s NDC.

This work begins by defining the concepts of ambition and justice. These two concepts are handy in the approach of the principles of equity and “common but differentiated responsibilities” established within documents of the United Nations Framework Convention on Climate Change (UNFCCC) such as the PA and the PRB [4]. Although the concepts of justice and ambition are often used juxtaposed, these have different meanings. Justice refers to a set of conditions that determine the procedure that makes possible to achieve the distribution of mitigation effort sharing that satisfies all of the Parties [5], defining with this procedural and distributive justice. Ambition denotes the degree of fulfillment of an objective or goal.

The Intergovernmental Panel on Climate Change (IPCC) in its Fifth Assessment Report (AR5) identifies four dimensions within mitigation effort sharing [6]: equality, responsibility, capability, and development rights. In addition, the AR establishes that to stabilize the increase of the global mean temperature below 2°C, the cumulative emissions from 2011 onwards should not exceed 1000 GtCO₂. This quantity is known as the Global Carbon Budget (GCB).

This work proposes to measure the degree of ambition within countries’ NDC by calculating the



Category 2 – Intelligent Climate Policy & Governance

percentage of GCB that these contributions utilize. The presented Model of Climate Justice (MCJ) considers equity and countries' historical responsibility to distribute GCB among them [1]. The MCJ distributes the GCB in national Carbon Budgets (CB) and determines the degree of ambition in an NDC by calculating the difference between the mitigation objective proposed by each country and the CB assigned within the model.

It is essential to keep in mind that the GCB distribution in this model depends on the justice criteria used. In this regard, if other criteria are included, the resulting distribution will be different, as we can see in other papers [7–9]. As a result, the national CB could vary, so does the degree of ambition estimated for the country's NDC.

Another aspect addressed within this work is development rights, one of the climate justice dimensions identified in the AR5. Development rights refer to rights that countries have to fulfill their needs in spite of the grievance caused by CC. A correspondence between development rights and the CB of countries is proposed based on the relation between their emission's per capita evolution and their GDP per capita.

It is noted that countries go through diverse stages in their development path (Figure 1). In the first stage, there is a proportional relation between the increase of their emissions per capita and the increase of the GDP per capita. It is proven that, historically, in a context where the primary sources of energy production are fossil fuels, countries increase their emissions while building basic infrastructure such as water supply, sanitation, electrical grids, etc. [10]. In a second stage, a level of stabilization is reached, leading to a third stage where emissions decrease while GDP continues to grow. The stabilization of CO₂ emission levels has been noted when economies reach an industrialized/post-industrialized status. Thus, it is noteworthy that the reduction of emission per capita levels can only be achieved when GDP levels are high enough, and basic needs are covered. In the context of multilateral governance of climate mitigation, this means that developing countries are very likely to continue increasing their emissions per capita. Therefore, they must be able to expend from their CB (assigned with climate justice criteria). It should also be remarked that it is vital for countries to utilize their CB share in development projects that lead to transitioning towards carbon-free eco-societies [11].

Concluding that is not only a justice matter that developing countries can use their CB (they have lower historical and current lower emissions and less capability than developed countries), but also a matter of necessity since without this CB, these countries will not be able to reach a development equal to other countries.

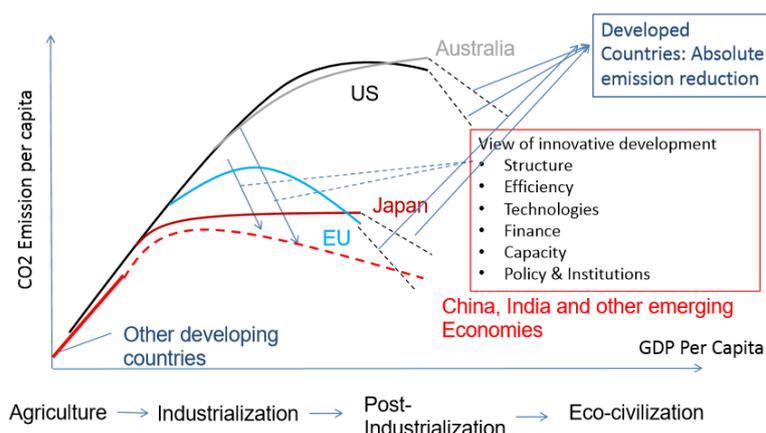


Figure 1. Relation between economic growth and CO₂ level emissions [12]. The graph shows the relation between GDP per capita and CO₂ emission per capita.

The Group of Governance on Climate Change from the Universitat Politècnica de Catalunya has distributed the GCB applying the MCJ that allocates a CB to each country. Then evaluates the degree of ambition in the mitigation objectives presented by Parties in their NDC, based on the consumption the NDC implies over the CB as-signed upon climate justice criteria. On the other hand, the evolution of these coun-tries' emissions per capita based their income per capita is being analyzed. This anal-ysis allows the identification of different stages of the development process of Latin American countries and endorses the obtained results of the GCB distribution based on development rights.

The analysis carried out leads to conclude that as a whole, the NDCs of the Latin American countries, take less than 40% of the CB allocated to this group of countries using climate justice criteria. Moreover, the evolution of their emissions per capita versus their income per capita shows that this region is still in the first stage of its de-velopment process. For these reasons, the final remark is that mitigation compromi-es for this group of countries, as a whole, are considered fair and ambitious. Com-promises are fair since they result within the limits of the allocated CB and ambitious since they keep 60% of their CB to be consumed from 2030 onwards. Furthermore, this remaining CB should be dedicated to complete the first stage of the development process of this region, providing the basic infrastructures that are still needed.



Category 2 – Intelligent Climate Policy & Governance

References

1. Alcaraz, Olga, Pablo Buenestado, Beatriz Escribano, Bàrbara Sureda, Albert Turon, and Josep Xercavins. 2018. Distributing the Global Carbon Budget with climate justice criteria. *Climatic Change* 149. Springer Netherlands: 131–145. <https://doi.org/10.1007/s10584-018-2224-0>.
2. United Nations. 2015. Paris Agreement. 21st Conference of the Parties: 1–16.
3. UNFCCC. 2019. Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the third part of its first session, held in Katowice from 2 to 15 December 2018: Part two: Action taken by the Conference of the Parties serving as th. Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement Report: 1–65.
4. United Nations. 1992. United Nations Framework Convention on Climate Change: 1–21.
5. Baxi, Upendra. 2016. Towards a climate change justice theory? *Journal of Human Rights and the Environment* 7. Edward Elgar Publishing Ltd: 7–31. <https://doi.org/10.4337/jhre.2016.01.01>.
6. IPCC. 2014. Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Edited by Core Writing Team, Rajendra K. Pachauri, and Leo Mejer. Geneva, Switzerland.
7. Raupach, Michael R., Steven J. Davis, Glen P. Peters, Robbie M. Andrew, Josep G. Canadell, Philippe Ciais, Pierre Friedlingstein, Frank Jotzo, Detlef P. Van Vuuren, and Corinne Le Quéré. 2014. Sharing a quota on cumulative carbon emissions. *Nature Climate Change* 4: 873–879. <https://doi.org/10.1038/nclimate2384>.
8. Kanitkar, Tejal, T. Jayaraman, Mario D'Souza, and Prabir Purkayastha. 2013. Carbon budgets for climate change mitigation-a GAMS-based emissions model. *Current Science* 104: 1200–1206.
9. Gignac, Renaud, and H. Damon Matthews. 2015. Allocating a 2°C cumulative carbon budget to countries. *Environmental Research Letters* 10. IOP Publishing. <https://doi.org/10.1088/1748->



9326/10/7/075004.

10. Chancel, L., and T. Piketty. 2015. Carbon and inequality: from Kyoto to Paris. Paris School of Economics: 48pp. <https://doi.org/10.13140/RG.2.1.3536.0082>.
11. Rao, Narasimha D., and Paul Baer. 2012. “Decent Living” emissions: A conceptual framework. Sustainability 4: 656–681. <https://doi.org/10.3390/su4040656>.
12. Al-Zahrani, Hesham, Qimin Chai, Fu Sha, Yaw Osafo, Adriano Santhiago De Oliveira, Anushree Tripathi, Harald Winkler, and Vicente Paolo Yu III. 2019. Ensuring an Operational Equity -Based Global Stocktake under the Paris Agreement. South Centre.