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Achieving net zero with internationally determined contributions

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Paris Agreement, environmental governance, climate policy, climate justice, climate action, environmental transitions, carbon neutrality, NDCs

1 Introduction

Achieving net zero CO₂ emissions is inevitable by 2050, and parties to the Paris Agreement (PA) have submitted their nationally determined contributions (NDCs) to achieve it, but their submissions lack key information such as how much climate finance, technology transfer, and capacity building needs of developing or least developed countries have been met or are planned to be met under the PA. It shows a fundamental gap in the PA and the scope of climate action. There is a clear mismatch between the PA goal and the action plan. The goal under Article 2 of the PA provides a definite target: “to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels” (United Nations, 2015). However, its action plan under articles 9, 10, and 11 of the PA provides an open-ended scheme to pursue nationally determined targets in the light of the national circumstances of a party country. The principle of “common but differentiated responsibilities” under Article 2 of the PA offers an open-ended action scheme to all parties, which does not match the definite target to leapfrog the business as usual (BAU) scenario at the levels and scales the PA is looking for. To conceptualize this contradiction and pursue efforts for a compatible action plan, I define and distinguish between the approaches taken for the PA goal and action plan: 1) Goal—justice approach—a radical change for keeping fossil fuels underground and transforming economies with significant disruptions in the BAU scenario; 2) Action plan—voluntary approach—a cooperative change by pursuing NDCs on political will. I will expand on these concepts to justify a fundamental gap in the action strategy and to pursue efforts for a compatible lens to choose for climate action.

2 Goal: justice approach

The justice approach is a science-based target to keep our planet livable for all countries, following the guidelines provided by the Intergovernmental Panel on Climate Change (IPCC). Following the justice approach, the PA goal sets a *revolutionary* course toward carbon neutrality. It acknowledges the unjust use of natural resources, emission inequality, and resource disparity. Therefore, it encourages developed party countries to pursue efforts for economy-wide emission reductions as well as to contribute to climate resilience in developing countries. It urges the developed party countries to take the lead as they emit more carbon *per capita* and live in better socioeconomic conditions than those in developing or least developed countries. This puts an ethical responsibility on them to take the lead in emission reductions. However, how much of the climate finance, technology transfer, or capacity building needs of the developing party countries have been met under the PA so far?

The NDCs of developed party countries provide almost nothing about it. On the other hand, the majority of NDC targets of developing and least developed party countries are dependent on external finance, technology transfer, and the fulfillment of capacity building needs by the developed countries (Sattar, 2022). Given the scenario, the justice approach urges a legally binding emission reduction target with a definite dateline in line with the limited flexibility that the scientific data provides us. The developed country parties must go beyond the loss and damage fund and provide the developing country parties with their needs for climate action. The developing countries have more space for such transitions given the fact that their large infrastructures are still in the process of development, so they can potentially choose a cleaner development path from the onset of their development. However, it largely depends on urgent support from the developed party countries under Articles 9, 10, and 11 of the PA. Dependency theory (DT) (Frank, 2018), Treadmill of Production Theory (TPT) (Allen et al., 2018), World Systems Theory (WST) (Wieczorek, 2018), and researchers (Capstick et al., 2022) suggesting civil disobedience is in line with the PA goal—justice approach. Recent studies (Harlan et al., 2015) note that “the most marginalized countries with the lowest CO₂ emissions are the most vulnerable and worst affected by climate disasters” (p. 128) and that “One extremely wealthy person may emit as much carbon as 70,000 poor individuals in the world’s poorest countries” (p. 127). Are we on the road to solving these international differences with a revolutionary action plan in line with the PA goal? A comparison is provided in Table 1 and Figure 1.

TABLE 1 Differentiating approach specifications.

Paris Agreement	Key factors	Approach
Goal	-Well-defined below 2°C	Justice
	-Revolutionary tone	
	-Target specific	
Action plan	-Open-ended scheme	Voluntary
	-Evolutionary tone	
	-Country specific	

opportunity to keep things functioning (CO₂ emissions) in the BAU scenario at the country level. Countries voluntarily decide their country specific NDCs, not science. It gives an advantage to those who are responsible for taking the lead. The developed countries have mature production and consumption systems for energy, food, industry, etc., and any radical disruptions in the economy caused by a sudden regression in fossil fuel consumption would leave many businesspeople and the labor class suffering. They need more time for such transformations, and the open-ended scheme offers them the space to make them slowly as per their will. A similar slow-motion strategy can be followed by developing countries. It provides both developed and developing countries with the room to realize these transitions in an evolutionary way by maintaining the *status quo*, however, with scheduled disruptions over time. For example, Britain has pledged not to allow the sale of new petrol and diesel cars until 2030. Theoretical frameworks like the Environmental Kuznets Curve (EKC) (Muhammad et al., 2020; Shah et al., 2023), Ecological Modernization Theory (EMT) (Buttel, 2000), theories of international cooperation, and researchers (Victor et al., 2022) supporting the idea that non-binding pledges for climate action work better in contrast with legally binding emission targets all fall under the umbrella of the voluntary viewpoint. But are these political pledges stimulating a real-time global response in line

2.1 Action plan: voluntary approach

The voluntary approach is an action-oriented plan to act on political will. The PA sets a country-specific *evolutionary* scheme to hold 2°C without a clear direction on country-specific targets in line with the scientific reports of the IPCC. The NDCs—a country-specific, open-ended scheme—provide a very flexible way forward towards the definite goal of the PA. It allows all countries an

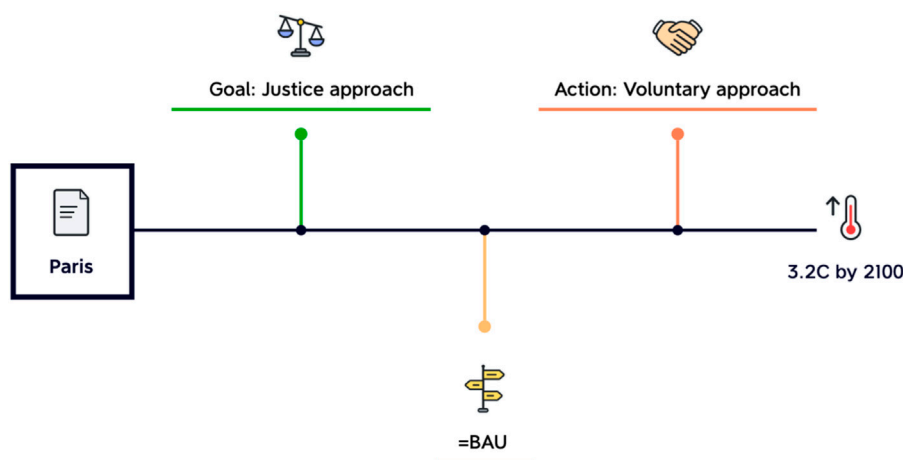


FIGURE 1 A conceptual map of contradictory approaches leading to a BAU scenario.

with the PA goal? Reports are projecting a 3.2-degree world by 2100 (Holder et al., 2017; Capstick et al., 2022), and developing countries, with their large populations at climate change risk, are looking for an urgent solution.

3 Discussion

The PA adopts an unbalanced approach to achieve its goal. It sets a definite goal based on scientific projections, but its action plan suggests an open-ended scheme for all countries—NDCs. Though this open scheme has attracted countries to submit ambitious agendas and bold claims are being made, a target specific action plan is lagging. The NDCs submitted with the principle of “common but differentiated responsibilities” show almost no progress in achieving the net zero target by 2050 and the PA goal by 2100. The NDCs provided by party countries show very little progress on the ground, and it looks like practically nothing has even started yet on what we have set under the PA. Developed countries wish to achieve it without major disruptions to the *status quo*. Developing countries with severe effects of climate change are seeking urgent climate action in two ways: 1) radical interventions in the BAU scenario by developed countries with high *per capita* CO₂ emissions; and 2) climate finance, technology transfer, and capacity building assistance from developed countries to developing countries on the scale and urgency required to meet the PA goal. Is it possible to revisit the action plan in COP28 and move forward from politically motivated NDCs to a science-based justice approach—internationally determined contributions (IDCs)—in the next step? The IDCs can be preliminary defined as all party countries jointly deciding the

emission reduction targets for individual countries based on the best available science agreed upon by all party countries of the PA. This method can potentially promote both climate negotiations and accountability for all at the same time, accelerating climate action for carbon neutrality.

Author contributions

The author confirms being the sole contributor of this work and has approved it for publication.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The reviewer RL declared a past co-authorship with the author to the handling editor.

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