

# DECONSTRUCTING DECLARATIONS OF CARBON-NEUTRALITY

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

At the latest count by the non-profit Energy and Climate Intelligence Unit (ECIU), at the beginning of April, 32 countries had declared, [in some documented form](#), their proposed intention to achieve carbon neutral status by mid-century or thereabouts. Of these, only eight have any firm status, the rest being in the form of proposed legislation or mentions in policy documents. Since some months ago, the UN Secretary General has taken the lead in sparking off an international chorus, led by global civil society organisations based in the developed countries and encouraged by their governments, that is urging all countries, especially India, to make explicit declarations.

The impetus for such declarations arises from Article 4.1 of the Paris Agreement (<https://bit.ly/3wzicF4>) that states that “In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty”.

The temperature goal referred to is the much better known declaration of intent of the Paris Agreement, of limiting temperature rise to well below 2°C and further pursuing efforts to restrict it to 1.5°C above pre-industrial levels.

It is evident that the balance of emissions and removal of greenhouse gases is not sought on a country-wise basis but for the world as a whole. Though both developed country governments and civil society outfits commonly state this as an individual commitment by all countries, the text of the Paris Agreement clearly indicates, based on considerations of equity and differentiation, that this is a global goal.

However, there are two, related and more critical, issues that are often ignored. The first is the compatibility of the intent of Article 4.1 and Article 2. Is the achievement of carbon neutrality compatible with achieving the 1.5°C or 2°C. goal? And whether the mid-century carbon neutrality goals of developed countries are compatible with Article 2.2 that declares that the Paris Agreement “will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances”.

The hard scientific reality is that such a three-way compatibility between temperature goals, carbon neutrality, and equity is not only not guaranteed, but cannot be achieved for the 1.5°C temperature goal at all. And even for the 2°C goal, the current pledges are highly inadequate. This harsh conclusion follows from straightforward scientific considerations, based on the global carbon budget, which indicates the limits on global cumulative emissions, from the pre-industrial era to the time when net emissions cease, that correspond to definite levels of global temperature rise.

According to the The Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5° warming (<https://bit.ly/39Sag8p>), what remains of this global carbon budget

from 2018 onwards, for a 50% probability of restricting temperature rise to less than 1.5°C, is 480 Giga-tonnes (billion tonnes) of carbon dioxide equivalent (GtCO<sub>2</sub>eq). At the current rate of emissions of about 42 GtCO<sub>2</sub>eq per year, this budget would be consumed in 12 years. To keep within the 480 Gt budget, at a steady linear rate of decline, global carbon neutrality must be reached by 2039. While this is quite clearly infeasible, other pathways that either frontload or backload the period of most rapid decline have even greater barriers to realisation.

For a 50% probability of restricting temperature rise to below 2°C, the budget is considerably more generous, amounting to about 1,400 GtCO<sub>2</sub>eq, that provides considerably greater room for manoeuvre.

But the hollowness of nation-level carbon neutrality declarations by developed countries is brought out more starkly when we consider the details, as in the case of the United States and the European Union. Emissions in the U.S. (not considering land use and land use change and forest related emissions) (LULUCF), peaked in 2005 and have declined at an average rate of 1.1% from then till 2017, with a maximum annual reduction of 6.3% in 2009, at the height of a recession. Even if it did reach net-zero by 2050 at a steady linear rate of reduction, which is unprecedented, its cumulative emissions between 2018 and 2050 would be 106 GtCO<sub>2</sub>, which is 22% of the total remaining carbon budget for the whole world — so high, that unless others reduced emissions at even faster rates, the world would most certainly cross 1.5°C warming.

Indeed, if the U.S. has to stay within its fair share of the remaining carbon budget, it would have to reach net zero emissions (with linear reduction) by 2025. It would still owe a carbon debt of 470 GtCO<sub>2</sub> to the rest of the world for having used more than its fair share of carbon space in the past. At a very moderate carbon price of \$30 per tonne of CO<sub>2</sub>, this translates to a carbon debt of over \$14 trillion, that the U.S. owes the world.

Similarly, the European Union, to keep to its fair share of the remaining carbon budget would have to reach net zero by 2033, with a constant annual reduction in emissions. Individual countries will have different dates for a fair net zero — Germany's is 2030. If the EU reaches net zero only by 2050 it would consume at least 71 GtCO<sub>2</sub>, well above its fair share. Either way, the EU owes the world a carbon debt of about \$9.3 trillion (at the same price of \$ 30/tCO<sub>2</sub>) for past emissions.

Regrettably, a section of the climate policy modelling literature has promoted the illusion that this three-way compatibility is feasible through speculative “negative emissions”, ostensibly through dramatic expansion of carbon capture, primarily by the biosphere. They have also been promoting the other illusion that not resorting to any serious emissions increase at all is the means to guarantee the successful development of the Third World.

India clearly should not join this game of carbon neutrality declarations, for a number of reasons. For one, India has to stay focused on development — both as its immediate need as well as its aspirational goal. While sustainability is desirable, the question of how low India's future low-carbon development can be is highly uncertain. India's current low carbon footprint is a consequence of the utter poverty and deprivation of a majority of its population, and not by virtue of sustainability.

Second, India does not owe a carbon debt to the world. India's emissions (non-LULUCF) are no more than 3.5% of global cumulative emissions prior to 1990 and about 5% since till 2018. Nor are India's current annual emissions such as to seriously dent the emissions gap between what the world needs and the current level of mitigation effort, even as India's mitigation efforts are quite compatible with a 2°C target. Any self-sacrificial declaration of carbon neutrality today in the current international scenario would be a wasted gesture reducing the burden of the

developed world and transferring it to the backs of the Indian people.

Much of the argument for India declaring a target year for net-zero derives unfortunately from some form of climate hubris, accompanied by the hype that India risks being “left out” of some imagined global convergence in the climate arena. One variant of the hubris sees India taking the lead in some global ecological alternative driven by frugality, minimal consumption and little technological advance. Another imagines that India will somehow, in very short order, emerge as a global leader of green manufacturing and industry. While the latter is belied by the character of India’s overall growth trajectory, the former is clearly socio-politically infeasible and morally unacceptable.

India’s twin burden of low-carbon development and adaptation to climate impacts, is onerous and no doubt requires serious, concerted action.

India’s approach to eventual net-zero emissions is contingent on deep first world emissions reductions and an adequate and unambiguous global carbon budget. Meanwhile, India must reject any attempt to restrict its options and be led into a low-development trap, based on pseudo-scientific narratives.

*T. Jayaraman is with the M.S. Swaminathan Research Foundation, Chennai. Tejal Kanitkar is with the National Institute of Advanced Studies, Bengaluru*

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