

December 1, 2021

## The Need for An Agreement on Climate Justice

By: Nitin Desai

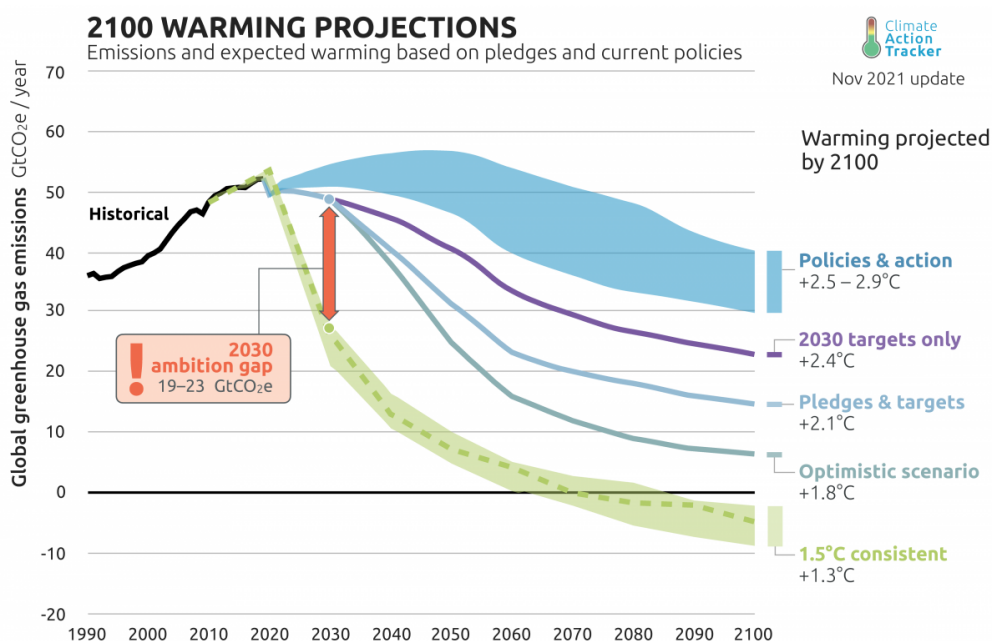
*The primary goal of environmental activists campaigning on climate change should be for an equitable global sharing of the required level of greenhouse gas emissions, which is a precondition for an effective agreement. An analysis of COP26.*

The Glasgow meeting of the Conference of Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC) has resulted in a very modest advance in the global cooperation for coping with climate change risks. The new commitments for emission reduction relative to what was pledged at Paris in 2015 are quite limited and amount to about 3.3-4.7 billion tonnes of CO<sub>2</sub> equivalent.

The Glasgow Climate Pact includes some other commitments on adaptation financing and rules for carbon trading that are a modest advance on the Paris Agreement. There were also some sectoral pledges by groups of countries on methane emission reduction by 30% by 2030 relative to 2020, on exiting from coal-based power mostly beyond 2030, accelerating the move to zero emission road vehicles, and halting and reversing forest loss and land degradation by 2030. These will reduce emissions by 2.2 billion tonnes of CO<sub>2</sub> equivalent.

Quite simply we are not on track for saving our children and grandchildren from a world with many more hot spells, much more rain on fewer days, frequent floods, droughts.

The outcome of this climate diplomacy process must be evaluated against the aspirational goal of limiting the temperature rise to 1.5°C that has now become an agreed goal. This happened because an IPCC report that demonstrated a substantial difference in the impact of a 1.5°C relative to a 2°C increase received wide media coverage. The 1.5°C goal would require the world to reduce its greenhouse gas emissions by 2030 to 26 billion tonnes of CO<sub>2</sub> equivalent. The modest advances at the Glasgow meeting have still kept the potential emissions in 2030 to about 45-50 billion tonnes of CO<sub>2</sub> equivalent, very far from this goal. This is well summarised in the graph prepared by the Climate Action Tracker, a trusted source, after the Glasgow meeting:



This assessment suggests that our present policies and actions are more than 1°C above the goal of 1.5°C and this is the case even if we fulfil all our commitments made for 2030 and the newer pledges and targets, including the net zero commitments. Quite simply we are not on track for saving our children and grandchildren from a world with many more hot spells, much more rain on fewer days, frequent floods, droughts, intrusion of sea waters in coastal areas and more cyclones and storms. (See Box: ‘Climate Change

Dynamics’)

The Glasgow meeting has agreed that all countries will put forward fresh commitments for emission reduction by the next year. However, the current dynamic of climate diplomacy will not deliver any significant advance towards what is needed for the 1.5<sup>0</sup>C goal. The lack of a consensus on what “common but differentiated responsibility’(a principle embodied in the UNFCCC) requires has led to a negotiating process driven largely by the articulation of narrow national interests.

|| [T]he major emitters are the primary source of the problem and leaving the outcome to them would almost certainly give us something even weaker.

The climate negotiations have a three-part power structure. The two big emitters, China and the United States, determine the scale of ambition as their participation is a pre-condition for an effective agreement. In fact, they are arrogant enough to negotiate separate agreements before or during the negotiating session as they did in 2015 in Paris and again in 2021 at Glasgow. The second part consists of about 18-20 countries, each of whom accounts for 1% or more of the global emissions. They do influence the outcome but do not function as a group and, individually, they do not have the de facto veto power that the two big emitters have. The remaining 180 or so countries are largely at the receiving end. However, many who are likely to be very badly affected by the projected climate change, like the small island states, can be vocal and gather support from climate activists.

### Climate Change Dynamics

The earth receives radiation from the sun and radiates it back into the atmosphere. Given its size and location, the temperature at which the incoming and outgoing radiation would balance each other is -19<sup>0</sup> C, a level too low to sustain human and most other life forms. However, gases like CO<sub>2</sub> and methane that are present in the atmosphere radiate back some of the outgoing radiation. This warms the earth and is then re-radiated back. The balancing average temperature with this greenhouse gas effect is at present around 15<sup>0</sup>C. It has gone up and down over the earth’s 4.5 billion years of existence because of natural causes over centuries and millennia.

Our concern about climate change today arises from the fact that our production and consumption is adding to greenhouse gases, particularly CO<sub>2</sub> from the use of fossil fuels like coal, petroleum, and gas. In the post-industrial era and, more particularly since the middle of the last century, the high rate of increase in greenhouse gas concentration in the atmosphere is leading to the temperature rising at a rate that leaves little time for ecosystems and human beings to adjust and this poses major threats of disruption and distress.

It is now clear that within a generation we must reduce these emissions to zero if we wish to limit the likely temperature increase to a manageable level. This will require major changes in virtually all areas of production and consumption and a radical transition in the energy economy. The dialogue, debate and diplomacy about climate change is about the pace and scale of transition and how the responsibility should be shared justly between countries.

It has sometimes been argued that the problem lies in the difficulty in securing an agreement among 200 or so countries and that if one were to rely on a smaller group the result would be better. Any such smaller group is bound to include the major emitters and there is no reason for supposing that they would be less protective of their narrow national interest in such a group. In fact, the major emitters are the primary source of the problem and leaving the outcome to them would almost certainly give us something even weaker than what has been achieved so far. Actually, the participation and presence of the smaller states, particularly those facing grave risks, is the one feature in the process that dilutes the narrow nationalism of the big emitters. An example of this is the inclusion of the 1.5<sup>0</sup> C aspirational goal in the Paris Agreement. The increase in adaptation financing and the agreement to launch a dialogue on loss and damage in the Glasgow Pact are also attributable to the presence of the smaller states.

|| The real problem is that negotiations for an agreement on the use of the atmosphere, which is a global common, is rooted too strongly in the sovereign rights of nations.

The broad-based UN process with thousands of non-government participants has had another very beneficial outcome—rising public awareness about the risks of climate change that humanity faces. This has led to the establishment of many global NGOs who provide an independent assessment of climate risks and the adequacy of the efforts being made to address them. We see now street-based activism in favour of more urgent action on climate risks, mobilisation of opinion through social media, growing scientific research on the issue and even in some places the willingness of the electorate to be in favour of policies and public spending on mitigation and adaptation, though benefits are way out in the future. We also see a growing interest in carbon saving options in the research and investment decisions of corporations. But relying on such voluntary and free market sources will not deliver the required scale of effort. That requires an organised effort to share responsibility that can only come from an agreement between governments who have the monopoly on legislative power.

The diplomatic process is meant to do that. The real problem is that negotiations for an agreement on the use of the atmosphere, which is a global common, is rooted too strongly in the sovereign rights of nations. It is based on the classical negotiating mode of reciprocal concessions rather than that of joint responsibility when the distribution of effort considers both capacity and culpability. This is reflected in the complete absence of any agreed principle of justice in the use of the atmospheric space available for additional greenhouse gases, given the agreed goal for limiting temperature increase.

Consider a rather simple principle of climate justice: every country should ensure that the per capita per year emission of carbon, averaged over the years 2020-2050 is the same as the permissible global average. This does not penalise anyone for excessive emissions in the past but ensures equity in the use of the carbon space available for the entire community of nations to stay below the temperature increase limitation goal. [The most recent IPCC report](#) has estimated that the carbon emissions from 2020 to global net zero should be limited to a total of 500 billion tonnes of CO<sub>2</sub> for a 50:50 chance of staying below a temperature increase of 1.5<sup>0</sup>C, after taking into account the likely emission of greenhouse gases other than carbon dioxide. Taking the projected global population for each year and adding that up gives the number of person years of emissions over these three decades, which, on the basis of the medium estimates of [UN Population Projections](#) amounts to 274 billion. Dividing the 500 billion tonnes limit by 274 billion gives the permissible average per capita per year emission over this period as 1.8 tonnes of CO<sub>2</sub>.

There is no way the major emitters, with the possible exception of India, can reach net zero by the desirable year to stay below 1.5<sup>0</sup>C.

Table 1 presents estimates of the gap between the promises made and what is desirable on the basis of this simple climate justice principle for six major emitters, each of whom accounts for over a billion tonnes of CO<sub>2</sub> emissions per year and who between them account for about two-thirds of global emissions. The estimated cumulative emissions take into account the actuals reported for 2019 and 2020 [in CO<sub>2</sub> data in Our World in Data](#), the promises for 2030 and the target net zero date. (The net zero date is the year by which the countries have promised to reduce their greenhouse gas emissions effectively to zero.) The qualification ‘net’ before ‘zero’ implies that part of the transition to zero could be measures like reforestation or carbon capture from emissions before it reaches the atmosphere and then storing or converting it to some useful product.

In the case of Russia, the 2030 estimate is an average of their 2030 promise that included not just emission reduction but also absorption in forests, and what emissions would be at the average growth rate for 2015-19. In the case of China the net zero date assumes that reduction would start by 2021. If the peak is delayed till 2025 the net zero date comes forward by three to four years. For India emissions are assumed to grow at the average 2015-19 rate to the likely peak year of 2035.

These estimates clearly demonstrate the gross inadequacy of the commitments by the major emitters as their emissions would be more than the total available carbon space. This is for just a 50:50 chance of staying below the 1.5<sup>0</sup>C goal. The gap would look much worse if we wanted a better probability than 50:50. The net zero dates announced by all the major emitters are way into the future of what they need to be.

Table 1: Gap in Net Zero Pledges for 1.5 Degrees Goal, 50% Chance					
	Person years	Emissions 2019 to Net Zero (billion tonne of CO <sup>2</sup> )		Target Net Zero Year	
		2020-2050 (billions)	As promised	As desirable	As promised
China	43.4	303	78	2060	2033
USA	11.0	79	20	2050	2028
EU+UK	15.7	51	28	2050	2037
India	47.7	108	86	2070	2056
Russia	4.4	36	8	2060	2029
Japan	3.6	18	6	2050	2032
<b>Total for six emitters</b>		594	226		
<b>Balance for others</b>		-94	274		

Source: Author's estimates based on data from Our World in Data CO<sup>2</sup> data 11-11-2021 & World Population Prospects, United Nations. 2019

The major problem with the simple principle of climate justice is that it equates the culpability of China and the US though their history of emissions is very different. Table 2 gives the share of the six major emitters in the cumulative global emissions of CO<sub>2</sub>.

Table 2: Share in Cumulative Emissions of CO <sub>2</sub> (in %)		
	Till 1990	Till 2020
China	5.3	13.9
USA	30.9	24.6
EU27 +UK	30.9	21.7
India	1.4	3.2
Russia	8.2	6.8
Japan	5.1	3.0
<b>TOTAL</b>	<b>81.7</b>	<b>73.1</b>

Source: Our World in Data: CO<sub>2</sub> data 11-11-2021

It is clear from this data that to place China and India on the same footing as the US or the European Union for determining desirable emissions to net zero is not entirely appropriate. India is not seriously affected by this, but China is. It can quite legitimately demand that the developed world move even faster than what the simple justice principle requires and leave more room for China and the developing world. The challenge is to put some quantitative commitment to this broader principle and that, in essence, is what the debate about climate justice should be about.

There is no way the major emitters, with the possible exception of India, can reach net zero by the desirable year to stay below 1.5<sup>0</sup>C unless they are able to buy or steal the rights of a few poorer countries whose emissions will stay below the required global average. Prudence requires that it is now best to work towards a world where the temperature rise is likely to be at least 2<sup>0</sup>C. Even here the US and China would have to bring forward their current net zero target dates by 10 years and 13 years, respectively, to stay within the desirable per capita per year emission rate. The more realistic prospect of the temperature rise being 2<sup>0</sup>C or more means that the global negotiations must pay as much attention to cooperation for adaptation and for resilience in the face of extreme climate events.

|| [H]istorical emissions should and can be taken into account in the provision of concessional funding to vulnerable and poor countries.

Taking historical emissions into account in determining the desirable paths of future emissions is unlikely to become an accepted part of a negotiated consensus on climate justice, given the realities of diplomatic power. The only impact may be on accepting that the net zero dates of developing countries would be a decade or two after those of developed countries. However, historical emissions should and can be taken into account in the provision of concessional funding to vulnerable and poor countries for adaptation and resilience. A simple principle here would be that the assessed requirement of concessional finance support for adaptation and loss and damage should be shared by the richer countries in proportion to their cumulative emissions from a particular date, say 1950, when the growth of the rich countries accelerated or 1990, when the threat was recognized in the diplomatic space.

The journey to a carbon emission free world will involve many changes in global and national economies. All countries will need to institute policy changes, like carbon pricing, that will create the incentives to move market economies towards long-term sustainability. They will also need institutional changes to integrate concerns about mitigation, adaptation, and resilience into all areas of development activity. One may also note that the shift in energy sources away from fossil fuels, owned by public or private companies, to renewable energy that draws on freely available solar and wind power will have a profound impact on the global and national economies. But a precondition for this journey is a global agreement on an equitable sharing of the required level of greenhouse gas emissions. That should be the primary goal of environmental activists.