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Twenty fifteen will go down in history as the year when humanity pushed global surface temperatures into an unchartered territory—a one-degree Celsius rise since the industrial revolution.

Unabated greenhouse gas emissions could soon take us over the threshold of the two-degree Celsius limit, a line in the sand that every government agreed to keep the planet within, at the Copenhagen climate summit in 2009.

Between Nov. 30 and Dec. 11 in Paris, the world leaders will once again meet at the United Nations Framework Convention on

Climate Change to hammer out an agreement that will aim to achieve this intended goal.

What is at stake?

A seminal 2015 study by scientific journal *Nature* put a number on the amount of carbon dioxide (CO2) we can further emit to give us a 50-50 chance of averting the two-degree Celsius mark: 1,100 giga tonnes (GT) between 2011 and 2050.

Currently, the world roughly emits about 35 GT of CO2 annually, which would leave us with another 20 years to avoid catastrophic climate change. As the paper starkly puts it, this calls for a third of oil reserves, half of gas reserves and over 80% of current coal reserves to remain unused between 2010 and 2050.

A one-degree Celsius rise has already resulted in a third of the arctic ice to disappear. Extreme droughts and floods are stronger and more frequent, severely impacting the communities that contributed the least to the problem. Loss of human life notwithstanding, climate change is set to shave off at least 23% of the global GDP by 2100 without strong mitigation policies.

"It is life on our planet which is at stake," French foreign minister Laurent Fabias, who will preside over the negotiations in Paris, flatly remarked.

What is the current state of play?

One of the major fault lines in the negotiation process over the last two decades has been the role of the developed versus developing countries. This element is enshrined in the convention text through the phrase "common but differentiated responsibility."

But with China and India now making two of the top three global carbon emitters, the differentiation of responsibility has blurred over the years.

It has now resulted in countries putting forth Intended Nationally Determined Commitments (INDCs)—voluntary commitments from nations, determined domestically, as commensurate to their perceived responsibility in addressing the problem.

But an analysis of all the commitments submitted so far reveals a serious lack of ambition, setting the world on course for a rise in surface temperature between three and 3.5 degree Celsius.

India's INDC has received mixed reviews. The commitment is prefaced with an unequivocal call to the world's developed economies—that carry the historic burden of global warming since they built their economies on the back of high carbon intensive fossil fuels—to finance the necessary technology to transition India's economy to a less carbon intensive one.

But with $2.5 trillion required to make this transition over the next 15 years, it is unclear where this money is expected to come from. India has also committed to adding a massive 175 GW of renewable energy by 2022 and cut emission intensity (carbon emissions per unit GDP) by between 33% and 35% (on 2005 levels) by 2030.

The carbon intensity target is weak given India is easily expected to achieve that in a business-as-usual scenario, while the renewable energy target seems unrealistic without a dramatic flow of international finance. That's because, roughly $100 billion is required to achieve this target, while India has only committed between $2 billion and $4 billion.

In Paris, India's balancing act would be to strengthen the narrative that calls for greater commitment from developed economies and simultaneously projecting a positive image of the country through its renewable energy targets. The energy targets are ambitious—and perhaps unrealistic—but hedging them against an exorbitant demand for international finance exhibits a clever strategy that wouldn't leave India culpable for any potential failure of the negotiations.

Earlier this year, the US and China submitted their INDCs to much fanfare. Often seen as recalcitrant, the US commitment of between 25% and 28% GHG (Greenhouse gas) cuts by 2025 (on 2005 levels) is seen as the strongest action ever on climate change by a US president. But it still remains inconsistent with a fair burden sharing of carbon mitigation and also stands on shaky grounds with domestic elections in less than 12 months.

China has also placed its faith on dramatically scaling up renewable energy with aims of achieving 20% of its primary energy capacity by 2030 through non-fossil fuel sources. This roughly amounts to adding the equivalent of the entire fleet of power generating sources in the United States only through non-fossil fuel energy in the next 15 years. China has also committed to reaching a peak in its carbon emissions by 2030 and begin a steady decline after that.

What to expect from Paris?

1. **Rhetoric to reality**: Paris will give out a resounding signal of a transition of the global economy towards a low carbon pathway. These signals are needed for the market, government and civil society institutions to make critical changes to their investments, structures and long-term strategic planning.
2. **Scope for enhanced commitments**: A legally binding agreement will be hard to come by. It is hard to imagine, for instance, the US committing to any agreement that would need ratification from Congress. A positive outcome would require countries to affirm that their commitments will not meet the two-degree Celsius target, but the political pathway has been set up to enhance commitment to progressively improve carbon-cutting measures.
3. **Finance and technology**: Meeting the goals of the INDCs

would need an unprecedented amount of finance, estimated at $3.5 trillion of which India itself will need $2.5 trillion between now and 2030. The scale, scope and nature of funds are highly contested. Coupled with the demand of developing economies for technology transfer that unpacks the highly guarded world of patents and intellectual property, the final agreement on these aspects will be closely monitored.

4. **Progress evaluation**: A critical aspect would be to arrive at transparent mechanisms for measuring, reporting and verifying the progress of the commitments made by the countries.

5. **Alignment of policies**: Climate policy has ramifications on global trade, financial markets, aviation, shipping and agriculture, amongst others. A coordinated framework will also have implications on other major sectors like global trade, financial markets, aviation etc.

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