# India's commitment on Climate Change:
## The Paris Agreement & Post-agreement Progress

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The popular Netflix documentary series "Our Planet" by David Attenborough draws the attention of common public that climate change is going to be the most critical issue that our planet will face in this century. Some of the vital signs of our planet such as: global temperature has risen by 1.18 degree Celsius since 1880, atmospheric carbon dioxide level has reached to 417 parts per million compared to 290 parts per million of preindustrial period, global mean sea level has increased on an average by 3.4 millimetre per year, and about 326 zettajoules of heat is added to ocean since 1955, clearly indicate that the life on our planet is in danger. Recently, the Intergovernmental Panel on Climate Change (IPCC), released Working Group-I of Sixth Assessment Report (AR6) on physical science of earth also pointed to evidences of increased rainfall, heat waves and humid stress, glacier melting and rising sea level in the 21st century. There is an urgent need to take a collective global action by governments to address the issue of climate change.

Governments has been meeting and negotiating on reducing carbon emissions by regulating developmental activities since 1990s. The landmark Paris Agreement (PA), in the year 2015, laid the foundation of how governments should act on mitigating global warming. The PA is a legally binding international agreement that set the target of limiting global mean temperature rise to 2 degree Celsius with respect to preindustrial period and makes best efforts to limit global mean temperature to 1.5 degree Celsius. The 2 degree Celsius rise target was adopted in Copenhagen, in 2009, indicated that global mean temperature rise above 2 degree Celsius may result in many irreversible changes in our planet. This target can be achieved by 196 countries (who are parties of the PA) to submit a voluntary action called Nationally Determined Contribution (NDC), which are emission reduction commitments. Most countries have made their emission reduction commitments targets for the year 2030. The first set of emission reduction targets, submitted by parties, was insufficient to limit global temperature rise below 2 degree Celsius, woefully developed countries (whose historical emission was too high) fall short of their commitment to reduce the emission. Therefore, there was a need to enhance the NDCs of individual counties, more specifically the developed countries, so that global temperature rise can be limited to 2 degree Celsius. Past-Paris there has been discussion in this line and now a buzzword of net-zero emission or carbon neutrality is in the negotiation table of upcoming 26th Conference of Parties in Glasgow. Net-zero means implementing decarbonisation strategies and taking away all the carbon that we unavoidably emit in the atmosphere. This could be achieved by implementing decarbonisation (largely cover activities committed by individual countries as per their NDCs) and removing greenhouse gases through afforestation and other land-based activities, and application of greenhouse gas removal technologies such as carbon capture and storage by the year 2050.

According to net zero emission tracker of Energy and Climate intelligence unit so far Bhutan and Suriname has claimed to achieved their ne zero targets. Thirteen countries including some of the polluters such as Germany, Japan, United Kingdom, France, and Canada has enacted laws for promoting net zero strategies, whereas three countries has proposed that

appropriate legislation could be placed in the near future. About 46 countries has made net zero as an agenda of their policy statements and documents but no action-based commitments has made so far. Saudi Arabia, United States of America, UAE, and China are the main countries in the list of these 46 countries. Rest of the world, that includes countries like India, Australia, Russia have yet to declare their commitments with respect to net zero emission strategies. This is going to be the main agenda of upcoming conference in Glasgow. The stage has been set and various bilateral and multi-lateral discussions have been initiated from the beginning of this year. In this regard Mr John Kerry, the United States' special presidential envoy for climate, has visited India to persuade Indian diplomats and negotiators for declaring its net-zero commitments. Although Mr Kerry got the positive response from the Indian government, but no clarity has been given by the Indian side regarding its net-zero commitments and timeline. There are two reasons for this, number one India has already submitted a very ambitious plan during its submission of first set of NDC commitments, which will include sourcing about 175 GW of power demand by renewable by 2030. India has made significant achievements in this direction and at present India has about 96 GW of installed renewable capacity and government is aiming to enhance this to 450 GW by 2030 of which about 280 GW is expected from solar, about 75 GW is expected from hydroelectric, and rest is from wind and nuclear. The second reason is lack of willingness of developed countries, which is responsible for 75% of the historical greenhouse gas emission, to shoulder most of the burden. Ideally, as per the guiding principle of United Nations Framework Convention on Climate Change (UNFCCC) - common but differentiated responsibility- most burdens of GHG reduction and removal should be taken by developed countries. Unfortunately, this has never been the case right from Paris agreement (as seen in the first set of NDCs submitted to UNFCCC) and also in net-zero commitments, so far, submitted to UNFCCC. There is huge pressure from Indian think-tanks and civil society organizations on Indian government for not declaring its net-zero plans unless developed countries make a concrete and enhance plans as well ready to take major burden for the global collective action with respect to climate change, these include developed countries commitment to climate finance for adaptation and mitigation issues.

As per the first set of NDC submission by India, which is not revised so far, India has made it very clear that coal is the major source of energy for its economic progression and India is not going to replace coal based thermal power projects. However, India has clearly mentioned that it will carry a mandatory auditing of its thermal power plants and wherever feasible it will implement technologies to improve the efficiency of its thermal power plants. In terms of fuel switching, India is progressing well in implementing renewable and in future India will be in position to draw most of its power demands from renewable. Government is making policies to incentivize renewable markets. India is exploring more on the use of green hydrogen to be used as main fuel source. Technological and policy support is required in this direction. The market of electric vehicle is taking well shape in India. At present many cities and government vehicles are converting their transport to electric vehicles. Metro projects, which have less carbon footprint, is extending to more tier II cities as a mode of main transport. Indian industry, particularly big industries, is responding positively to deal with the issue of GHG emission. Although more support is required from the government side to help small and medium industries to take up better technologies so as to meet green requirements without effecting economic growth. At present, climate finance is picking up in Indian specially boosting up green technologies. Indian companies and funding agencies are more sensitive to ESG (Environment and Social Governance) compliances of Indian industries, there are more ESG based funds indicating green growth is emphasized by industries and investors.

India's efforts for greener economy are very much in the line of its first commitment as per the PA. This is in-spite of the fact that major polluters, based in historical emission, are not only falling short of their commitment but in action for the collective efforts. Both government and industries in India are making their best efforts towards a greener economy, however, more needs to be done in this direction. Indian industries, especially small and medium industries, face many challenges for the compliance of this transition for which more government support in terms of easy financing, technology transfer, capacity building, preparing skill force is needed. Indian domestic environment is greener economy friendly and prepared for achieving Indian governments ambitious targets in renewable. Despite of the fact of whether government negotiators agree to net-zero or carbon neutrality commitments domestic action in India are far more achievable compared to what India committed as per the PA. Indian government should highlight this fact in the upcoming Glasgow meeting and pressurize developed world not to make actionable commitments mitigating the dangers of climate change.

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