

India's preparedness to fight global warming

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In his Independence Day address to the nation from the Red Fort, Prime Minister Narendra Modi reiterated national programs to combat global warming in the light of latest report from United Nation's Inter Governmental Panel on Climate change (IPCC). India has already installed 100 Giga Watt (GW) renewable energy capacities and is on track to complete 175 GW by 2022 and 450 GW by 2030. The commitment of Indian Railways to be net zero by 2030 has been hailed by Prime Minister. India is the only nation among G20 which progressed rapidly to meet climate goals. Other G20 nations account for nearly 80 per cent GHG emissions are not on track to meet Paris agreement and Australia, US and Canada are falling short of their targets.

Our nationally determined contributions (NDC) to achieve under Paris agreement by 2030 are to increase total cumulative Power production from renewable sources to 40 per cent of requirement, lowering the emission intensity by one third of 2005 level and creating additional carbon sink of 2.5 to 3 Giga tons of CO₂ equivalent annually through manmade tree cover over 26 million hectare degraded areas.

Bio fuel production is also ramped up and country has fixed a target of 20 per cent blending of ethanol in petrol by 2024. Long distance gas pipeline projects like the one along Malabar Coast up to Mangalore, and the pipelines from Ankleshwar, Haldia to cater the energy requirements of northern states etc will help reducing carbon footprints considerably. The energy supply for domestic and industrial requirements connected to the pipelines will additionally reduce footprints as we will save carbon emissions in transport.

Prime Minister, in his 15th August address informed countrymen that India spends Rs 12 lakh crores annually on importing energy. As we celebrate 75 years of independence we have to ensure that India becomes Atmanirbhar Bharat in energy production too. Green hydrogen production and exports would lead India towards a clean energy transition. "Green Hydrogen is the future of the World. Today I announce the setting up of the national hydrogen Mission. We have to make India global hub for green hydrogen production and export – this will not only help India to make a new progress in the field of energy self reliance but will also become a new inspiration of clean energy transition all over the world. New opportunities from green growth to green jobs are opening up today for our start ups and Youths", PM added. Hydrogen generated entirely from renewable power sources is called green hydrogen. Electricity generated from renewable sources is utilized in electrolysis of water to split it into hydrogen and oxygen. Green hydrogen can be utilized for industries such as petroleum refining, aerospace applications and manufacturing of chemicals, steel and ammonia fertilizers.

IPCC report, sixth from the World authority on Climate Science since 1988, was published on August 9 recently, says that if GHG emissions continue at the same pace, global heating of 1.5 degree Celsius is likely to happen by 2040. Temperature rise will bring changes in planet's water cycle, as regions with high rainfall will face cloud bursts and arid regions will face more droughts. Prof Mike Meredith, lead author of the report said, "As atmosphere continues to heat up because of global heating, it can hold and transport more moisture – so at the largest scale we accept to see an acceleration of the hydrological cycle; stronger evaporation in tropics, and more intense rainfall in the high latitudes and some equatorial regions. This will lead to more frequent rainfall events in already wet areas, and greater incidence and severity of flooding." The regions of evaporation (tropical regions) will face increased drought.

Earlier between 1901 and 1971, sea level registered a rise of 1.3 mm per year is found to have been increased to 3.7 mm per year between 2006 and 2018. If GHG emissions continue at the same pace, before the end of the century the globe will register average temperature rise of 2 degree Celsius and several of our coastal cities such as Kandla, Bhavnagar, Mumbai, Kochi, Chennai, Vishakhapatnam, and Paradip etc would go under water.

While the Indian peninsula is surrounded by oceans, people residing on the coasts will face the threat of their lives and livelihood, the melting of Himalayan glaciers in the north will disrupt the lives of the people in hilly states as well as in northern plains of the country. Rivers originating from Himalayas are fed by these glaciers. Untimely flooding of the rivers and depletion of water flow in some seasons will impact agriculture adversely. However there is a big positive in the report. If further emissions of GHG gases are checked and all countries achieve net zero emission by 2050, global temperature rise will be within 1.5 degree Celsius, and humanity will be saved from disastrous consequences of frequent and destructive extreme weather events.

'Emission gap report' of UNEP suggests that GHG emission is annually growing by 1.4% since 2010. However the increase was 2.6% in 2019 because of forest fires in Brazil, Australia and California, thus registering the highest GHG emission of 59.1 Giga-ton of CO₂ equivalent. The report has ranked starting from highest polluter China, followed by USA, European Union & UK and India; each of these contributed 14.1, 6.6, 4.3 and 3.7 Giga-ton respectively. The year 2021 has also seen wildfire in 1.5 million ha in forests of Siberia, 1.3 million hectare in California's forests, .5 million hectare in Greece, Turkey and Algeria, which will again add unprecedented growth of 2.6% in GHG emissions in 2021.

Joe Biden has committed to bring down the net emission to zero by mid of the century and so also his western allies. China contributes one fourth to global emissions, has committed to peak its emission by 2030 and net zero by 2060. John Kerry US climate envoy is going round the World to bring all countries including China on board. China has recently faced cloud burst where more than 600 mm of rainfall occurred in three days in Zhengzhou, Henan province and severe flooding took the life of 300 people and caused extensive damage to properties and infrastructures.

All eyes are set for Glasgow Climate summit in November 2021 (COP 26) and its president Alok Sharma, a British MP has also been moving round the World to persuade countries to commit record transition to clean energy based economy and bring emissions of GHG to zero by mid century. Sharma and John Kerry are battling for transfer of climate finance and affordable technology to developing nations as well. Extreme weather events have been causing sufficient disruption to economic growth of even major economies, countries have no option but to cut fossil fuel based emissions and bring it to net Zero by 2050.

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