Climate Resilience and Nationally Determined Commitments: Mapping Regional Resonance for India

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With occurrence of eleven warmest years of the century (117 years) in last fifteen years climate change is a reality for India. Latest World Bank Report reveals rising temperatures and erratic rainfall pattern will strip 2.8 per cent of Indian GDP by 2050 unless bold actions are committed for both climate mitigation and resilience.

India has reinstated its commitment to the negotiated 2^0C carbon space at Katowice and the existing trajectory of India's energy transitions is well aligned to meet India existing Nationally Determined Commitments of i) Decarbonization of energy sector by achieving 40% of electric power installed capacity from non-fossil fuel sources by 2030; ii) Increase process efficiency to reduce the carbon emissions intensity of India's gross domestic product (GDP) by 33% to 35% from the 2005 levels iii) Creating carbon sinks of about 2.5 to 3 billion tons

In the current scenario, creating consensus for massive social mobilization and committed government actions towards deeper transition pathways to meet the 1.5 ^{0}C targets will need an imperative beyond the climate mitigation responsibility. Author's argue that effective messaging and evidence-based demonstration of implicit growth and development opportunities inherent in leaner 1.5^0C development pathways can facilitate discernible outcomes. Further easy deliberations on the probable transition pathways along with clear articulation of winners and losers of the existing transition pathway can go a long way in creating policy consensus towards deeper transitions.

This study evaluates scope and dynamics of climate resilient growth linked with the negotiated techno economic transitions under and beyond India's committed NDC's. The analysis is performed using integrated dynamic macro -econometric Input Output model i.e. E3-India which captures, Economy, Energy and Environment (E3) linkages and allows researchers to assess wide range of economic policies including energy and environment specifically at the *state level* in India.

A matrix of different scenarios are conceived for two pathways of i) Committed 2^0C NDCs, ii) Aspired 1.5^0C pathway including combinations of energy decarbonization, process efficiency and carbon sink development actions.

The socio-economic outcomes of pathways with respect to income generation, employment and government revenue creation will be evaluated for the key Indian states. The initial results reveal overall positive impacts of high renewable trajectory at national level for India but intensification of adverse social impacts (in terms of employment) in some coal bearing Indian states already identified as key climate hotspots.