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**DECODING CARBON TAX IN INDIA: CLIMATE POLICY DILEMMA**- Eti Garg<sup>1</sup>**ABSTRACT**

*India faces a dilemma in addressing climate change while pursuing economic development to alleviate poverty. Concerns around hindering industrial growth, competitiveness impacts, raising energy costs for people experiencing poverty, and carbon leakage have prevented India from implementing a direct carbon tax. Instead, India has relied on regulatory measures like the Electricity Act promoting renewables, the Energy Conservation Act setting efficiency standards, the National Action Plan on Climate Change, and missions targeting renewable energy expansion. While these policies have driven some renewable energy growth, coal still dominates electricity generation. The Perform, Achieve and Trade scheme caps emissions for major industries, while appliance standards have improved efficiency without carbon pricing. However, these measures lack the comprehensiveness to drive economy-wide decarbonisation across transport, steel, and cement sectors. More targeted actions are needed, including expanding emissions trading, implementing national carbon pricing, tightening power plant regulations, scaling renewable investment, developing green transport, and advancing building codes. Nuanced policy mixes balancing emissions cuts with economic priorities through standards, market mechanisms, infrastructure funding, and global cooperation can help reconcile climate action with sustainable development goals.*

*Keywords: Carbon Pricing, Renewable Energy, Energy Efficiency, Economic Development, Climate Change.*

**WHICH CURRENT TREND IS SHAPING THE DISCUSSION:**

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A recent tweet by Elon Musk has started yet another debate on whether or not the carbon tax is good for society. Given India's graphics, direct carbon taxation seems farfetched. There are a variety of factors that contribute to the effective implementation of the Carbon Taxation policy. However, India has been taxing an indirect tax on carbon emissions through excise duties on petroleum products and coal. The effect of these indirect taxes on emissions reduction is unclear.

Proponents argue carbon taxes, whether direct or indirect, can curb emissions by making dirtier fuels more expensive. It incentivises industries and individuals to shift to cleaner technology over time. However, opponents argue that in a developing country like India, such taxes disproportionately affect the poor and could slow economic progress, which the government deems critical to lift millions out of poverty. There are also challenges in implementing a transparent and fair carbon tax that accurately reflects emissions. Concerns about competitiveness with countries without similar policies also constrain ambitions of carbon taxes.

Balancing these various priorities, perspectives, and tradeoffs is critical for policymaking on carbon taxes in India. This complex debate involves politics, economics, ethics, and competing social goods. This paper analyses the key considerations and arguments on different sides of this issue in the Indian context.

## WHY HASN'T INDIA INTRODUCED A CARBON TAX?

There are a few key reasons why India has not yet introduced a carbon tax:

**1. Economic development priorities:** As a developing country, India's<sup>2</sup> priority has been rapid economic development and poverty alleviation. Introducing a carbon tax risks slowing industrial growth in the short term, which Indian policymakers want to avoid. There are concerns a carbon tax could negatively impact competitiveness.

**2. Lack of historical responsibility:** India argues that developed countries like the US and Europe are more historically responsible for climate change, given their centuries of high

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<sup>2</sup>Stuligross, D., The political economy of environmental regulation in India. *Pacific Affairs*, 392-406.(1999).

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emissions during industrialisation. India only accounts for less than 4% of cumulative global CO<sub>2</sub> emissions. Hence, there is resistance to binding emissions reduction commitments.<sup>3</sup>

**3. Impacts on affordability:** There are concerns a carbon tax could significantly raise energy prices and hurt affordability, especially for India's poor, if alternatives are not readily available. Renewables still need significant infrastructure investments to meet India's growing energy demand.

**4. Potential economic leakage:** There is a risk that energy-intensive industries could migrate from India to regions with more relaxed emissions rules, leading to "carbon leakage" rather than real emissions reductions. Enforcing a carbon tax evenly across industries is also an administrative challenge.

**5. Lack of global consensus:** India argues that large emitters like the US and China should demonstrate willingness to introduce national carbon pricing schemes before pressuring other nations. Multilateral agreements have been complex.

However, many experts argue that India will eventually have to consider market-based climate policies. Pilot programs for carbon trading markets are underway and could expand in the coming years. Competitiveness and leakage concerns also depend partly on what other major economies do.

## WHAT ARE THE ROBUST LEGISLATIONS ON WHICH INDIA DEPENDS?

India has several vital national-level legislations on climate change and emissions reduction, though it has yet to adopt a nationwide carbon tax. The primary legislative acts driving India's climate strategies are:

The Electricity Act of 2003<sup>4</sup> and the National Electricity Policy<sup>5</sup> promote renewable energy and the entry of private companies into power generation.<sup>6</sup> This legislation catalysed rapid growth in

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<sup>3</sup>Press Information Bureau of India (PIB Delhi), Net Zero Emissions Target-PIB, (2023)

<sup>4</sup>The Electricity Act, 2003, No. 36, Acts of Parliament, 2003 (India).

<sup>5</sup>Ministry of Power, National Electricity Policy, Resolution No. 23/40/2004-R&R, Vol. II, Part-I- Section 1, (2005).

<sup>6</sup>Mohua Mukherjee, "Private Participation in the Indian Power Sector, World Bank Group, 91159, (2014)

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India's wind and solar energy industries over the past two decades. Renewables are central to reducing India's reliance on coal-fired electricity over the long term.

The Energy Conservation Act was passed in 2001 to set efficiency standards for appliances, lighting, and commercial buildings. This legislation has helped curb emissions from the built environment without increasing consumer costs by laying out minimum energy performance standards. However, manufacturing industries and transportation remain largely uncovered.

More recently, the National Action Plan on Climate Change<sup>7</sup> launched in 2008 focused on encouraging sustainable agriculture, water conservation, and the energy efficiency of buildings, among other priorities. It raised awareness of climate mitigation strategies across India's economy. However, the Action Plan lacks regulatory power or market mechanisms to drive meaningful emissions cuts.

Finally, in 2010, India passed eight national missions, including the National Solar Mission, to expand solar electricity capacity to 100GW by 2022. While ambitious, India has fallen short of this target due to issues around financing and grid integration of variable renewable power.

### **HOW EFFECTIVE HAVE THESE LAWS BEEN IN INDIA'S PURSUIT OF CARBON REDUCTION?**

India has relied primarily on regulatory and standards-based approaches rather than market-based mechanisms like a carbon tax to drive decarbonisation and energy efficiency. India's existing climate legislation has seen mixed effectiveness in actually driving significant carbon reduction and the large-scale transition away from fossil fuels that is needed.

The laws promoting renewables and energy efficiency have seen definite, though still limited, success. Wind and solar capacity have increased from almost nothing in the early 2000s to over 100 GW today. This is impressive growth. However, coal still accounts for nearly 70% of India's electricity. Renewables have a long way to go before coal is phased out.

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<sup>7</sup>Ministry of Environment, Forest and Climate Change, "Impact of Climate Change and National Action Plan on Climate Change, ID: 44098, (2008)

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The National Action Plan on Climate Change succeeded in raising awareness across ministries. However, its sustainable agriculture and resource conservation focus has not directly measurably cut economy-wide carbon emissions thus far.<sup>8</sup> It sets aspirational targets rather than enforceable mechanisms for heavy industry decarbonisation or clean infrastructure development.

The Perform, Achieve, and Trade Scheme (PAT) creates specific energy consumption targets for large industries and facilities. Those who exceed their targets can sell energy-saving certificates to those who have missed targets.<sup>9</sup> This cap-and-trade system for energy efficiency has helped drive down energy intensity across sectors like power plants, iron & steel, and cement since its launch in 2012.<sup>10</sup> However, PAT only covers a limited number of India's largest emitters.

Additionally, in 2001, India passed the Energy Conservation Act<sup>11</sup>. This enabled standards and labelling programs for appliances, lighting, and building energy codes for commercial buildings. By setting minimum energy performance standards for everyday products and requiring efficiency labelling, India has successfully discouraged the sale of inefficient appliances without needing a carbon price signal. However, the Act does not cover emissions from power generation or transport.

### **WHAT TARGETED MEASURES SHOULD BE IMPLEMENTED TO ENHANCE CARBON-REDUCTION STRATEGIES?**

While India's existing policies have seen some success, more targeted and comprehensive measures are still needed to drive deep decarbonisation across the entire economy. Broadening the Perform, Achieve and Trade scheme beyond the energy-intensive industries currently covered to include all large emitters could significantly expand its impact.<sup>12</sup> Additionally, implementing an economy-wide carbon tax or cap-and-trade system with pricing incentives for clean technology adoption across major emitting sectors like transport, electricity, steel, cement,

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<sup>8</sup>Deshpande, Tanvi, Rahul Mukherji, and Mekhala Sastry. "Policy styles and India's national action plan on climate change (NAPCC)." *Policy Studies* (2023): 1-18.

<sup>9</sup>Paul, Arijit. "The proposed Perform Achieve and Trade (PAT) scheme in India: A policy evaluation." *IIIEE Master thesis* (2011).

<sup>10</sup>Bhandari, Divita, and Gireesh Shrimali. "The perform, achieve and trade scheme in India: An effectiveness analysis." *Renewable and Sustainable Energy Reviews* 81 (2018): 1286-1295.

<sup>11</sup> The Electricity Conservation Act, 2001, No. 52, Acts of Parliament, 2001 (India).

<sup>12</sup>Fisher-Vanden, Karen A., et al. "Carbon taxes and India." *Energy Economics* 19.3 (1997): 289-325.

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and chemicals could provide the systemic economic motivations required to transition away from fossil fuels.

India should also continue strengthening energy efficiency standards through mandatory audits, real-time monitoring, and steeper targets for industries.<sup>13</sup> Specifying tighter emissions limits for coal power plants, with mandated flue-gas desulfurisation and phasing out the least efficient facilities, can reduce the sector's emissions intensity as renewable capacity continues scaling up.

Lastly, massively scaling up investments in renewable energy infrastructure, clean public transport like metros and electric buses, climate-smart agriculture, and green buildings through dedicated funding mechanisms and public-private partnerships will expedite the sustainable transition.<sup>14</sup>

With a diverse policy toolkit combining flexible regulatory standards, economy-wide carbon pricing, and financing for green infrastructure, India can meet its climate goals while sustaining robust economic development.

### CONCLUSION:

In conclusion, this problem has no direct answer; its effect has to be realised in the long run. India's climate policy predicament leaves the country walking a tightrope between competing priorities. As an emerging economy, emissions reductions clash with development goals in the short term. Yet, given India's large population and vulnerability to extreme weather, climate mitigation cannot wait indefinitely. Existing policies promote renewables and efficiency but fall short of the economy-wide transformation required.

Targeted standards, flexible market mechanisms, green infrastructure investment and global cooperation, can help reconcile tensions. A viable middle ground allows India to grow sustainably with nuanced solutions and empathy on all sides to balance valid concerns around

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<sup>13</sup>Kalita, Unmilan, and Nissar Ahmed Barua. "Determining a carbon tax rate for India in the context of global climate change." *International Journal of Recent Technology and Engineering* 8.3 (2019): 2277-3878.

<sup>14</sup>Nedumpara, James J., and Shiny Pradeep. "Implementing carbon tax: From rhetoric to reality." *Indian Journal of International Law* 59 (2021): 139-171.

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