Pathways for Industrial Decarbonisation in India

ROAD TO INDUSTRIAL DECARBONISATION

The Industrial sector in India is one of the second highest contributors to the GHG emissions after the energy sector. It accounts for approximately 20% of India's total GHG emissions and of which 90% is in the form of CO2 emissions from the industrial processes. Between 1990 and 2014, GHG emissions from the Industrial sector increased from 30 to 190 million ton CO2, while the emission from energy sector increased from 640 to 2200 million ton CO2. The country faces an immediate priority to follow low carbon pathways mainly from the energy intensive industry sector due to the following reasons-

- **Reducing fossil fuel dependence:** The industrial sector is hugely dependent upon fossil fuel consumption leading to high emissions and air pollution.
- **Fast-tracking INDC achievement:** Achieving and going beyond the Nationally Determined Contributions (INDCs), supplementing the efforts of turning the country to low carbon economy.
- **Low carbon pathways for energy intensive industries:** Till now the focus mainly has been on decarbonisations of energy supply, buildings and transport segments, however for the industrial processes such transition pathways are not well defined.

CURRENT POLICY LANDSCAPE FOR INDUSTRIAL DECARBONISATION

India, through the Paris Climate Agreement has made its commitment to reduce its emissions intensity of GDP by 33–35% in 2030, over the 2005 levels. The INDC commitment does not have any sector specific mitigation obligations, however it is the guiding document for country's transition to a low carbon economy. The low carbon policies specifically addressing to Industrial sector is listed below.

S.No.	Policy	Brief Description
1	National Mission for Enhanced Energy Efficiency	It aims to unlock energy efficiency opportunities through market-based approaches. The different initiatives under this are as follows- • Perform Achieve and Trade Scheme (PAT) which is energy efficiency credit trading scheme for industries • Market Transformation for Energy Efficiency (MTEE), or accelerating the shift to energy efficient appliances • Energy Efficiency Financing Platform (EEFP), mechanism to finance demand side management programmes • Framework for Energy Efficient Economic Development (FEEED), for development of fiscal instruments to promote energy efficiency
2	Tax on Coal to fund Clean Energy- Coal Cess	National Clean Energy Fund (NCEF) was established in 2010-11 for funding research and innovative projects in clean energy technology by levying a Clean Energy Cess on coal produced in India and imported coal. The charges levied were INR 50/t, which doubled annually to reach INR 400/t until 2016.

KEY ASPECTS WHICH NEEDS TO BE ADDRESSED?

Policy and Regulatory

- Policymakers have to enable policies that drive investment in the clean-energy deployment in the short-term, while demonstrating sustained commitment to a low-carbon environment for success in the long-term.
- Government should come up with broader policy packages that provides incentives or subsidies to ensure low-carbon growth plans for the deployment of green technologies at scale?
- Government should consider putting a price on carbon though a carbon tax to incorporate the cost of environmental damage from greenhouse gas emissions?
- Policy & regulatory framework to encourage shift from a linear to circular economy through material efficiency and recycling

Technology

- What are the alternative technologies for electrification of the processes to increase the reliance on clean electricity and switching to cleaner fuels?
- What is the techno-economic feasibility of best practice and best available technologies specifically for the Indian industry sub sector?
- What is the potential of emission reduction through a wide scale adoption of best available technologies and shift to less carbon intensive fuels such as natural gas, biofuels etc.?

Finance & Business Models

- The low carbon projects are perceived to be highly risky because they require high initial investments, rely on newer technology, and are associated with policy risk. How these issues can be addressed?
- How the existing gap between access to finance and availability of finance can be addressed especially in the context of developing economies?
- How the issues of high financial cost associated with low carbon projects can be addressed in the current scenario?
- What type of innovative financing mechanisms could be made available for organisations for investment in low carbon energy technologies and energy efficiency?

AEEE ADVANTAGES

AEEE offers three clear advantages

Network: AEEE has an enviable reach to the full spectrum of stakeholders in India's energy ecosystem – policymakers and implementing agencies, technology suppliers, energy service providers, large energy consumers, startups, financial institutions, multilateral agencies, and associations.

Dedicated research and credibility: AEEE stands out for its focus in its research in the energy sector and has developed its competence to work across the spectrum of energy issues which has been highly recognized nationally and globally. It has a dedicated team which has extensive experience in addressing India's demand side energy challenges.

Strategic international collaborations: AEEE leverages its partnerships with major international thinktanks to address complex emerging challenges in the energy sector. Some of these strategic partners include the International Energy Agency (IEA), Lawrence Berkeley National Laboratory (LBNL), Rocky Mountain Institute (RMI), and the American Council for an Energy-Efficient Economy (ACEEE).

Contact Us

Alliance for an Energy Efficient Economy
Saira Tower, 4th Floor, N-161A, Gulmohar Enclave, Yusuf Sarai, New Delhi-110049
+91-11-4056 7344 | info@aeee.in