



GREEN HOUSE GAS EMISSIONS IN INDIA - ARE THE STEPS TO MITIGATE EMISSIONS SUFFICIENT?

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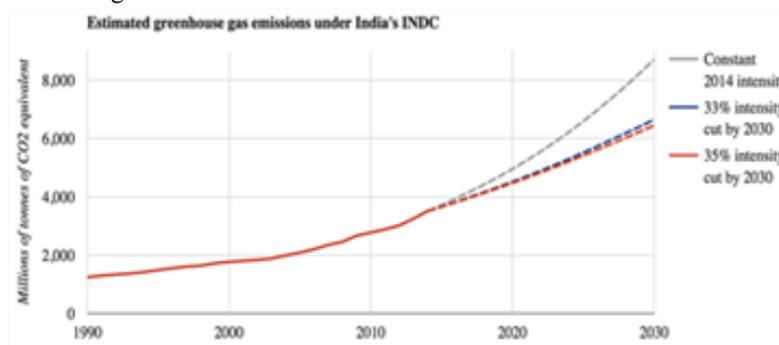
Abstract:

The United Nations Framework Convention on Climate Change adopts and implements measures to mitigate the problem of global warming worldwide scale. But the green house gas (GHG) emissions keep increasing in India with its huge population and its aim to achieve greater economic growth. Thus the country strives to devise measures to prevent global warming With this background the present paper is an attempt to discuss the steps taken by the nation to mitigate green house gas emissions

Key Words: Green House Gas Emissions, Schemes and Programs

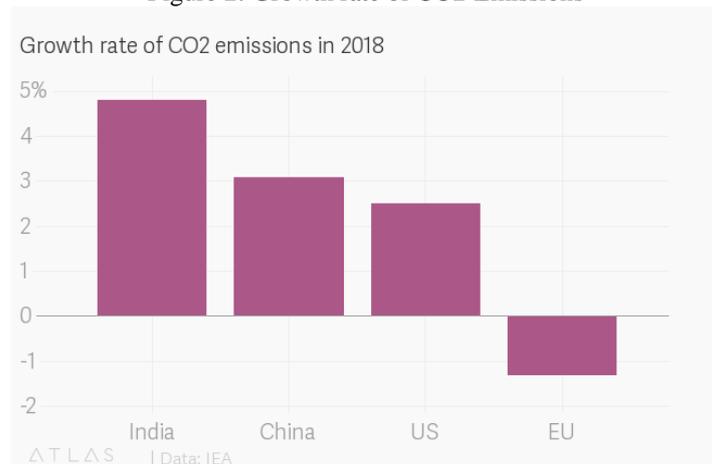
Global emissions of greenhouse gases are liable for heating and keep increasing than declining. India is among the few countries that are on track to meeting their Paris targets (called ‘nationally determined contributions’ or NDCs). India, the U.S and China saw a number of the most important rises in greenhouse emission emissions, thanks to booming energy consumption dominated by fossil fuels, putting global climate goals in danger. Emissions jumped to 5% in India in 2018. Figure 1 below shows the estimated green house gas emissions by 2030 and Figure 2 shows the growth rate of CO₂ emissions in 2018

Figure 1: Estimated GHG Emissions under India’s INDC



Source: www.carbonbrief.org

Figure 2: Growth rate of CO₂ Emissions



Source: www.qz.com/india

India is on track for reducing its greenhouse emissions and is aiming for a 33 to 35 percent reduction in CO₂ as compared to 2005 levels. Its emission amount reduced by 17.6% between 1990 and 2005, and therefore the country has already publicly committed (to the UN) to scale back it by another 20–25 %, from 2005 levels by 2020 and is planning for an extra reduction of emissions to 40% by 2030, over 2005 base levels

Apart from this, the country is additionally getting to create a further carbon sink of 2.5 to 3 million tonnes of CO₂. Understanding that growth and development are sustainable over time and in practice, India now has the chance to develop itself in an environmentally neutral manner. India's forest cover has reduced to an official acreage of twenty-two, which contribute 3.6% to the nation's GDP through ecosystem services, consistent with recent World Bank estimates. Therefore, it's important for India to extend its forest cover to the stated 33% goal not just for the potential economic benefits, but also for seizing carbon back to the world and so the country has announced objectives under its Green India Missions to extend forest cover by five million hectares which may improve the ecosystem of a neighborhood of 10 million hectares by 2022.

While global schemes like REDD-plus (reducing emissions from deforestation and forest degradation in developing countries) are launched to mitigate greenhouse emissions through forest conservation, there's an urgent requirement to aggressively pursue a technique for the restoration of forests and landscapes. In its climate pledge, the government of India has mentioned initiatives like tax free bonds, the creation of multiple funds like the National Adaption Fund and therefore the Clean Energy Fund, and motivation schemes at the state and national levels. Along with this the mandatory programs to scale back industrial emissions like the Perform Achieve Trade (PAT) scheme launched by India's Bureau of Energy Efficiency, and voluntary initiatives like the India GHG Program towards measurement and management of emissions are acknowledged in India's Intended Nationally Determined Contributions (INDC) also

The India GHG Program:

The India GHG Program incorporates globally documented GHG accounting and measurement methodologies from WRI's GHG Protocol to make a comprehensive platform that facilitates relevant regional, national, and section wise benchmarking of GHG emissions and recognizes sustainable business initiatives. Key Indian businesses had started tracking and managing their greenhouse emissions under this program facilitated by WRI India, TERI and CII. Launched in July 2013, the program has a lively membership of 30 companies starting from textiles to telecom, automobiles to aviation, and cement to services. The key companies include the Aditya Birla Group, Mahindra Group, Infosys, ITC Limited, National Thermal Power Corporation (NTPC) Limited, Jet Airways (India) Limited, Godrej & Boyce Manufacturing Company Limited, Indian Oil Corporation Limited (IOCL) and Ford India Private Limited, HCC Limited, Tata Teleservices, Bayer Group, Infosys Technologies, Ford Motor Company (India), Tata Chemicals, , JK Tyres, Shree Cements, United Technologies, Yes Bank, Cummins India, Forbes Marshall, Ambuja Cement and GAIL. These companies have expressed commitment to actively participate in efforts like conducting a GHG inventory of business operations, mapping of the availability chain, and investments in efficiency improvements that might yield quick paybacks and usually correlate to improved overall operations.

Presently insufficient institutional capacity and therefore the lack of a transparent and consistent approach for GHG accounting hold back the power of business leaders to manage and measure GHG emissions. Indian businesses understand the rewards of sustainable business practices, but are challenged by a dearth of standardization in GHG measurement guidelines and a national benchmarking system. The India GHG Program seeks to deal with a number of these barriers to aid businesses better manage their emissions.

The India GHG program promotes profitable, sustainable and competitive business practices by fostering GHG reduction initiatives and projects apart from suggesting standardized and customized measurement methods. The idea has already received strong backing and support from industry leaders..

Perform Achieve & Trade (PAT):

The PAT scheme is the government's initiative towards improving energy efficiency. In its first phase, the scheme selected eight energy intensive sectors and had given targets so as to scale back energy consumption and increase energy efficiency. India GHG Program and the PAT scheme are complementary initiatives on numerous levels with the potential to bring unified development that would help businesses decrease their emissions and increase their efficiency. By increasing energy efficiency it's possible to scale back CO₂ emissions, and the other way around. With the PAT scheme, a sectoral top down approach is employed to work out targets which are then conveyed as a percentage reduction in 'specific energy consumption' from a baseline consumption, to be achieved over a 3 year cycle. As a result of these targets there has been a 4 to 5 percent reduction in energy consumption of those sectors in 2015, as compared to 2012.

For the India GHG Program, the primary step is measurement. The tools help businesses understand the exact scenario and identify specific areas within which emissions reduction are often achieved using any of the novel efficient energy resources. Similarly, for industries under PAT, despite the industry specific constraints, the India GHG Program's approach can help strategize the way to meet their energy reduction targets.

Proper policy and regulatory blend covering the National Mission on Enhanced Energy Efficiency (NMEEE), Second Phase of Perform Achieve and Trade (PAT) and Market Transformation for Energy Efficiency (Ratings of Buildings, Appliances etc.) can make India safely vow for the intended 40% GHG Intensity Reduction, adding up to savings of a minimum of 30-60MTCO_{2e} from industry related emissions. Similarly, Canada, Australia and Japan plan to reduce their emissions by 30%, 26-28% and 25.4% respectively by 2030, over the 2005 levels. Today, approximately 42 % of India's greenhouse emissions come from the energy sector and its current renewable energy capacity stands at 35 GW. The government has already announced a target of a further 175 GW by 2022. Considering India was one among the primary countries within the world to line up a ministry of non-conventional energy resources within the early 1980s, and its renewable grid capacity comes from wind, solar PV also as hydropower and biomass.

India has shown the power to determine policy and institutions with benevolence and the states are actively following all energy efficiency techniques and government policies. The PAT scheme annually conducts mandatory audits to make sure transparency and accountability by conducting assessments in order that industries have unbiased data to point out their progress.

The India GHG Program conducts capacity enhancement workshops and trainings that build expertise for businesses to conduct their own audits. Periodic internal audits help management to quickly verify whether newer methods are working or not. The Program identifies reduction opportunities, helps set short-term and long-term reduction goals, and enables industries to trace their progress for more efficient and effective emissions management.

Conclusion:

India being the third largest carbon emitter, a robust commitment could make a clear difference to stop the increase of worldwide sea levels, extreme weather events, heat waves and other climate impacts. Industries must constantly support India in meeting its international commitment for 2030. While the PAT scheme helps setting reduction targets, the India GHG Program offers globally recognized and locally applicable greenhouse emission measurement and accounting tools to create inventories reduce emissions, and drive more efficient, flexible, and flourishing businesses and organizations. Together, the PAT scheme and India GHG Program can help Indian businesses improve sustainability and push the country closer to its promised targets amidst challenges of securing economic process, providing employment opportunities and reducing poverty.

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