



**Analysis of Intended Nationally
Determined Contributions (INDCs)**

ANALYSIS REPORT

ON

**India's Intended Nationally
Determined Contribution (INDC)**

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Overview

Countries worldwide have worked on formulating Intended Nationally Determined Contributions (INDCs) as part of the globally adopted Paris Agreement at the United Nations Framework Convention on Climate Change (UNFCCC) in December 2015. This historic international climate agreement, through the provision of national INDCs, has outlined the **global climate action plan post-2020 to achieve the long-term goal of restricting the rise in average global temperature well below 2°C and putting efforts to limit the further rise in temperature to 1.5°C.**

The agreement has set the target of achieving net-zero emissions globally by the second half of the 21st century to counter the ill impacts of climate change on mankind and planet Earth. The INDCs are expected to be updated every five years to absorb the possibilities of their progressive efforts concerning the historical occupancy of carbon space by different global economies. This is a pledge that drives the national policy settings to achieve a climate-resilient future through collective action based on their priorities and capabilities. It has led the global economies to achieve their ambitious targets of emission reduction, and developing low-carbon pathways over the years.

Carbon Space Occupancy Status in 2009 (The Base Year 1850)

S.No	Countries	Occupied Carbon Space (in%)
1	USA	29
2	Other Developed Countries	45
3	China	10
4	Other Emerging Economies	9
5	India	3

INDC is not legally binding but works as a torch bearer for policymakers to devise strategies that drive to climate-resilient future on Earth and prepare the countries to counter climate change scenarios. The INDCs give clarity to domestic as well as international stakeholders regarding the respective contribution of a global economy towards emission reduction and climate change mitigation plans.

This document has integrated into the sustainable development of the world and relates to the priorities such as poverty reduction, and clean energy transition where private sectors are expected to contribute their share in bringing larger impacts through collective action. Developing countries like India are largely dependent on the developed country for climate finance and transfer of technology to accelerate their effort in the long term and thus struggle to achieve the set targets within the stipulated timeframes.



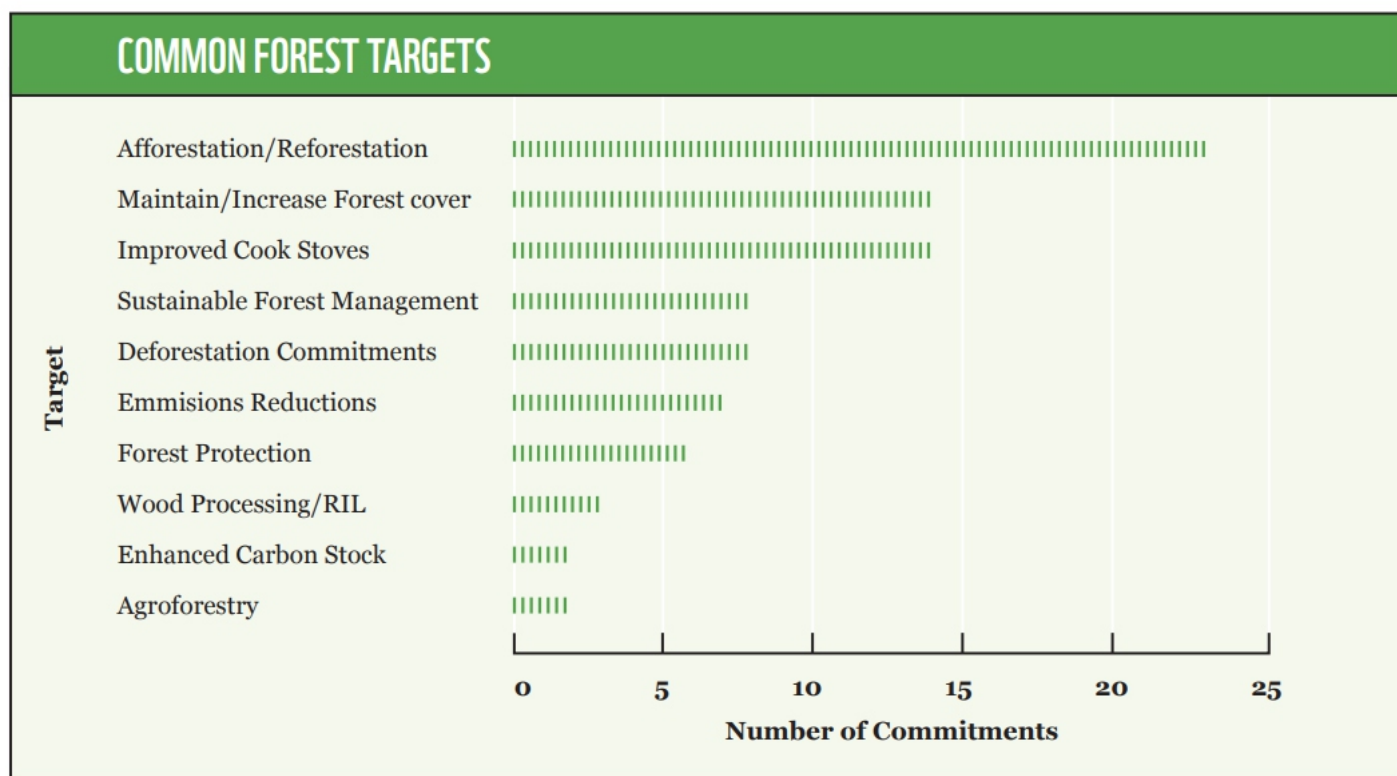
Purpose of INDC

The ambitious INDCs prepared by the global economies lead to bring transformative change in the carbon-intensive sectors and prepare the stakeholders to take necessary measures in a transparent process to achieve their fair share in addressing the climate change adaptation. It sets the accountability of national governments to take their part in the action in combating climate change and keep future risks well within limits while ensuring equitable progress.

Features of INDC

- 01 This Establishes a Feedback Loop to Benefit Local as well as Global Climate Change Decision Making
- 02 It is a Global Announcement of Individual Government Actions Planned to Combat Climate Change Nationally
- 03 Indicates the National Ambition to Reduce Carbon Emission Depending Upon their National Circumstances and Capabilities
- 04 It Enables Discussion on the Assistance Some Countries Require or Provide to Achieve Low Carbon Lifestyle to Strengthen Climate Resilience

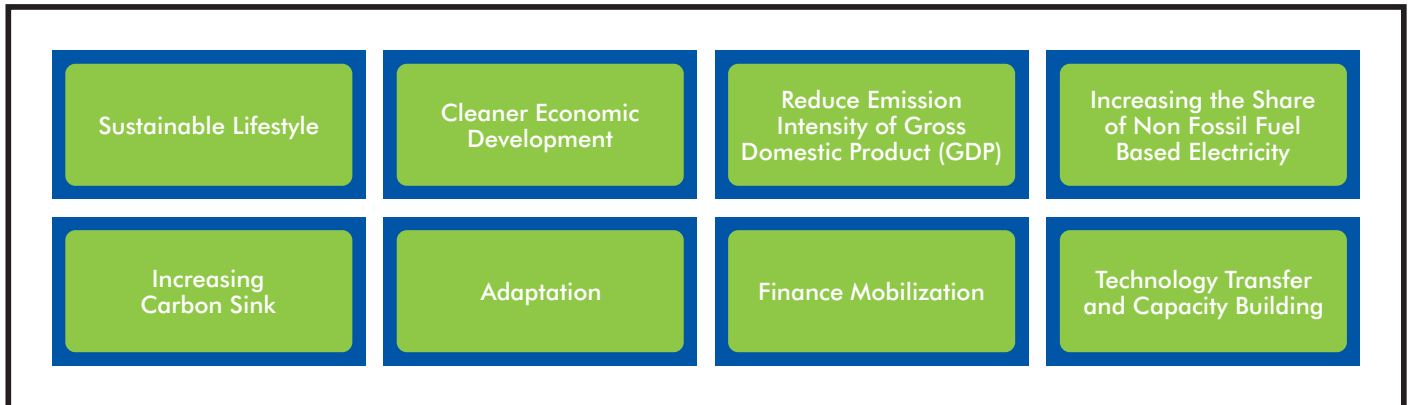
To counter the climate change scenario and reduce Green House Gas (GHG) emissions significantly, increasing the carbon sink has been observed as one of the most effective measures and thus, countries around the world have given common targets for developing green forests along with achieving a sharp reduction in the use of fossil fuels.



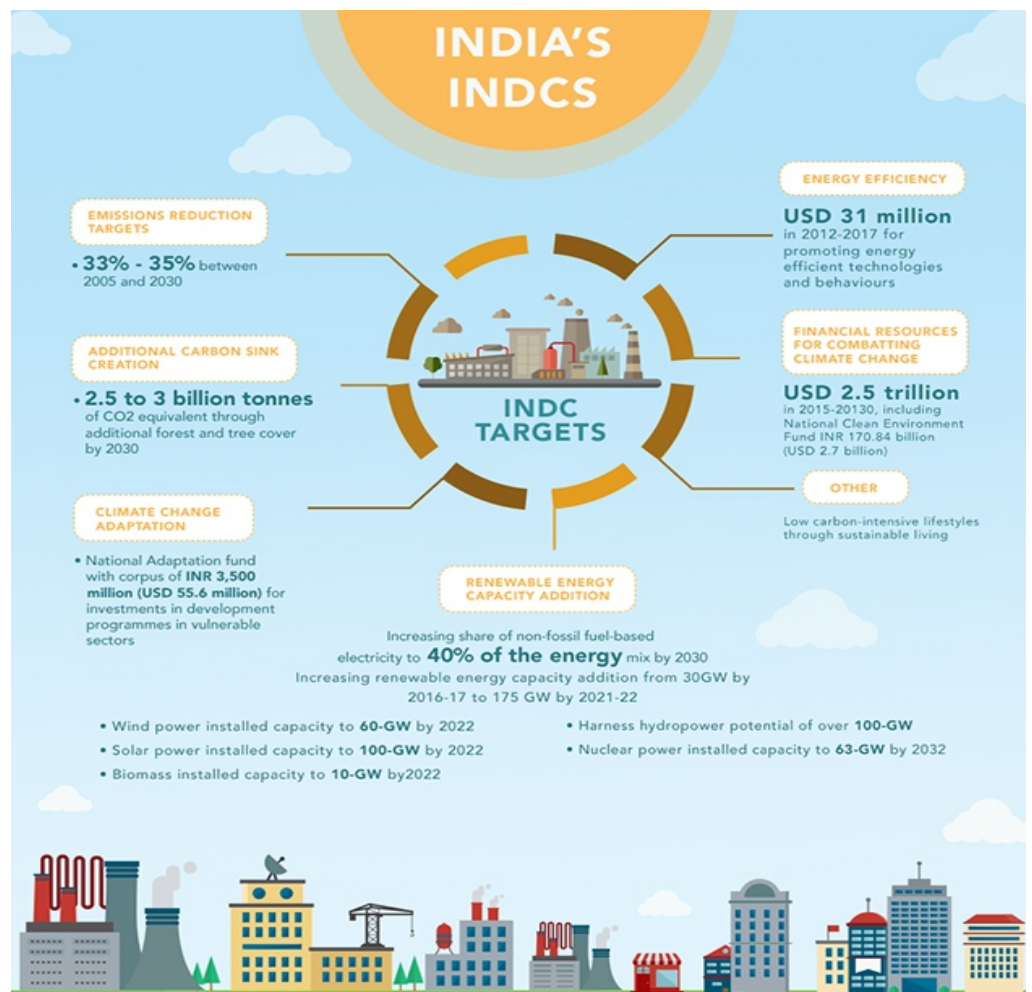
Source: http://d2ouvy59p0dg6k.cloudfront.net/downloads/r2_wwf_indc_brief.pdf

India with a strong commitment towards climate action has set the path of reducing overall emissions in the Indian economy through the adoption of LiFE Mission, e- Mobility, etc. India is achieving energy efficiency across the sectors of the Indian economy while giving protection to vulnerable sectors through green financing to achieve ambitious targets set under its INDC. India's INDC proposal majorly focused on 8 areas to achieve climate change adaptation and mitigation at the grassroots level.

Key Focus Areas of India's INDC



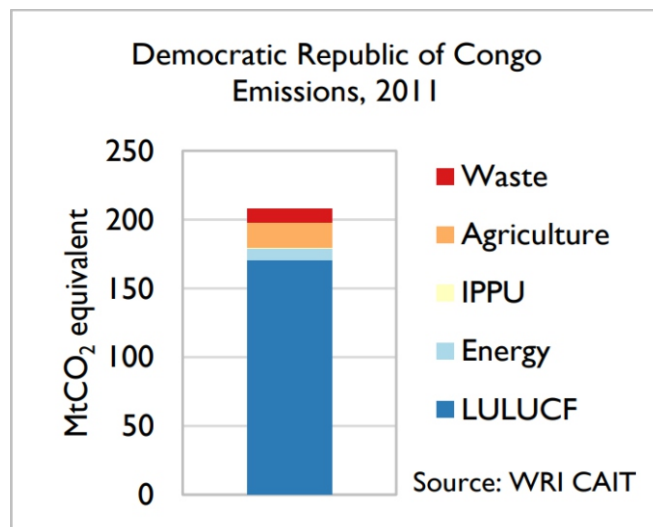
The 193 parties of the Paris Agreement of 2015 have given a platform to global economies to move forward responsibly and collectively, where quality ambitions towards climate change are welcomed by stakeholders. In this regard, the US\$ 100 billion commitment of developed nations towards climate financing has been promised as a notable contribution to adapting climate change strategies and taking measures to protect vulnerable lives and their livelihoods over the years.



Essential Elements of India's INDC

India being home to one of the largest populations in the world has a higher load of carbon emissions to fulfill their ongoing needs of energy, commutation, and other purposes. Still, India's per capita share of carbon emission is far below than global average. **India's global emission share in 2021 has stood at 7.5% which is marginally lower than European Union.**

To limit this carbon emission while accelerating the green growth across the sectors to counter climate change, India planned to reduce its carbon emission intensity by 33-35% by 2030 in its INDC under Paris Agreement which was later renewed in its updated NDC. Along with this, increasing the installed renewable energy capacity by 40% and increasing the carbon sink of an additional capacity equivalent to 2.5 billion tonnes to 3 billion tonnes of CO₂ through national afforestation missions have also been promised.



Source: https://www.climatelinks.org/sites/default/files/asset/document/INDC%20White%20Paper%20-%20June%202016_public_RALI.pdf

Put Forward and Propagate a Healthy and Sustainable Way of Living Based on Traditions and Values Related to Conservation and Moderation

Adopt a Climate Friendly and a Cleaner Path than the One Followed by Others at Corresponding Level of Economic Development

Reduce the Emission Intensity of its GDP by 33-35% by 2030 from 2005 Level

Achieve about 40% of Cumulative Electric Power Installed Capacity from Non-fossil Fuel Based Energy Sources by 2030

Create Additional Carbon Sink of 2.5 to 3 Billion tonnes CO₂ Equivalent by 2030 through Additional Forest and Tree Cover

Better Adapt to Climate Change by Enhancing Investments in Developmental Programmes across Sectors Vulnerable to Climate Change Such as Agriculture, Water, Himalayan and Coastal region, Health, Disaster Management, etc.

Mobilize Domestic and New Additional Funds from Developed Countries to Implement the Mitigation and Adaption plan to Bridge the Resource Gap

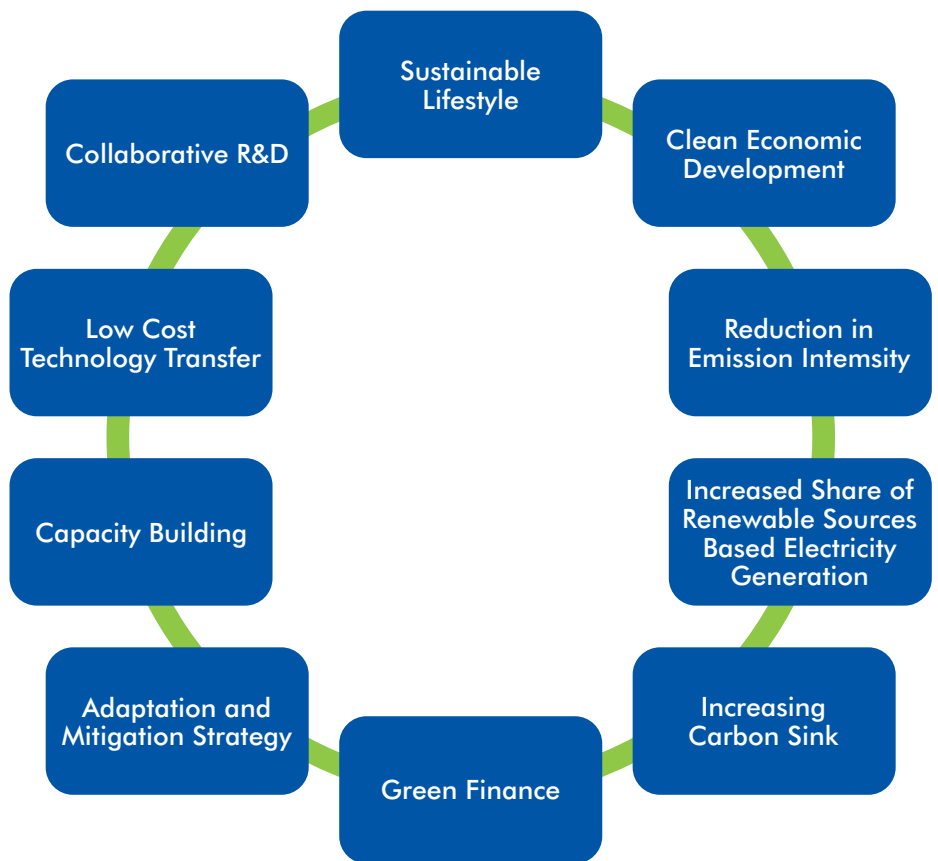
Build Capacity, Create Domestic Framework and International Architecture for Quick Diffusion of Cutting Edge Climate Technology in India and for Joint Collaborative R&D for Such Future Technologies

India is looking forward to the Green Climate Fund including Low-cost International Finance as well as the transfer of technology to implement and achieve the goals set under its INDC. Besides the National Mission of Enhanced Energy Efficiency as part of the National Action Plan on Climate Change (NAPCC) the global commitments are expected to accelerate India's efforts and enable global collaborations on R&D related to clean technologies to pave the way for the country's holistic growth on a much cleaner and greener path of development related to Indian lifestyle.



India under visionary leadership has outlined ambitious targets under its INDC and worked towards the comprehensive policy framework to support these commitments. The adaptation efforts made by the Government of India across the sectors have brought an impact and given protection to the environment, ecology, and biodiversity to get ready for disaster management. India's traditional knowledge to live in harmony with nature has also been leveraged to boost climate mitigation and adaptation efforts through initiatives like LiFE Mission through integration into the Indian lifestyle and bringing overarching impact.

Key Elements of India's INDC



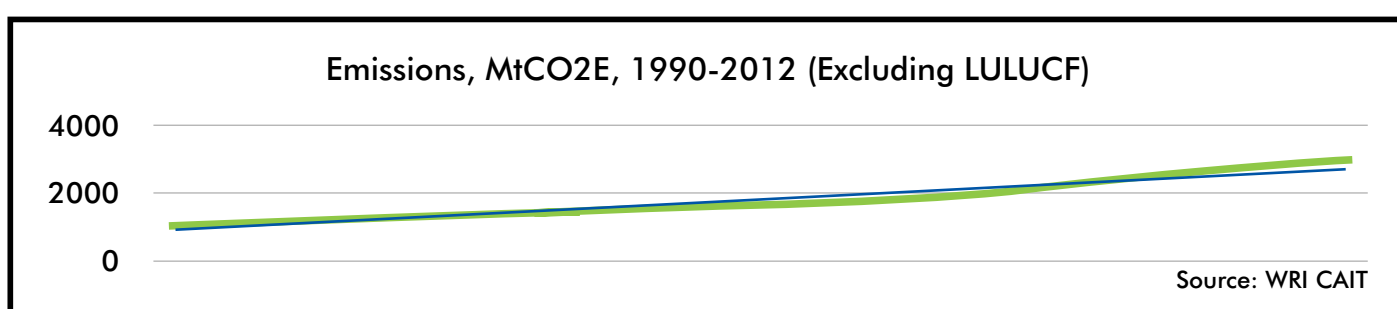
How AG Group Resources Can Help You

To understand role of renewable energy capacity generation in India to counter global climate change scenario [Click Here](#)

Aggregate Impact of India's INDC

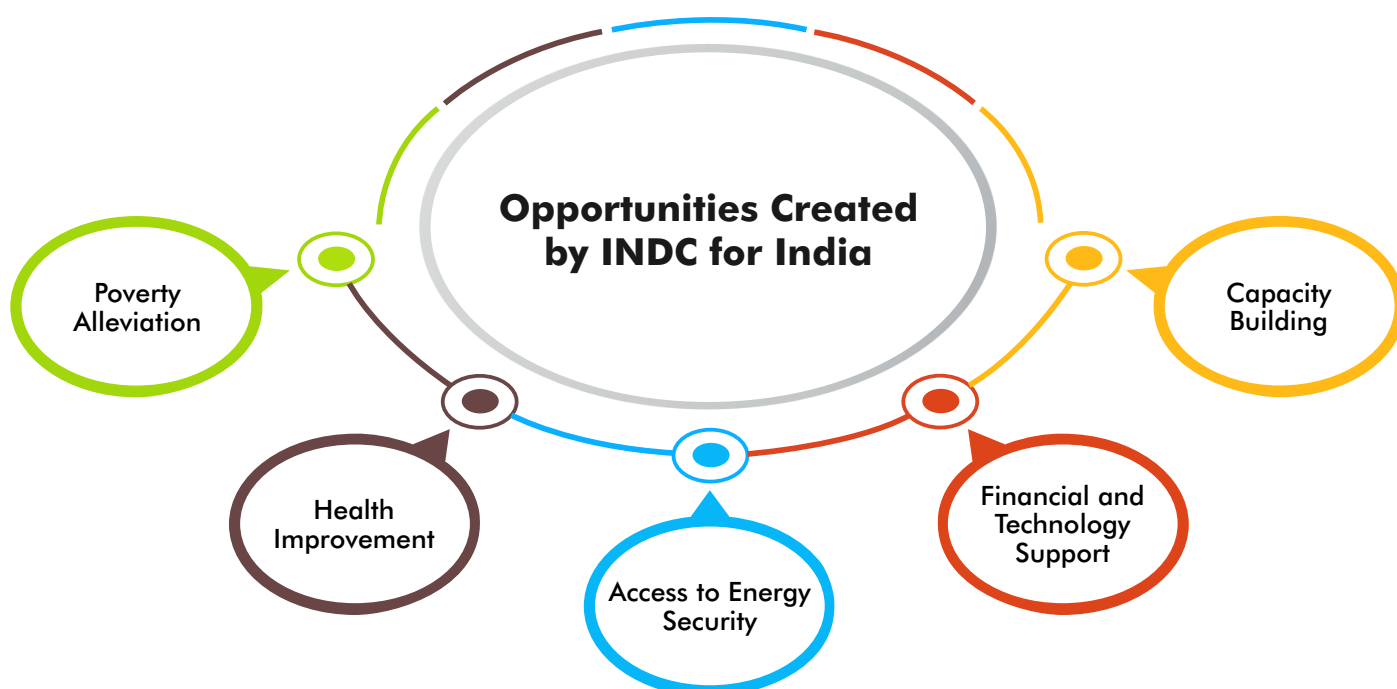
India has played a pivotal role in climate talks and always be one of the parties in global climate negotiations to raise the voice of developing nations. India's INDC has promoted increased use of renewable energy through direct subsidy, financial incentives, and price regulations among consumers as well. It has formulated an array of policies to deploy renewable energy capacity generation across the sectors and pushed for energy savings to decarbonize the Indian economy. The INDC has brought opportunities to open up clean pathways to new initiatives in priority areas such as reducing emissions from electricity generation, transportation, and waste generation including afforestation programs to create impact.

Carbon Emission Between 1990-2012 in India

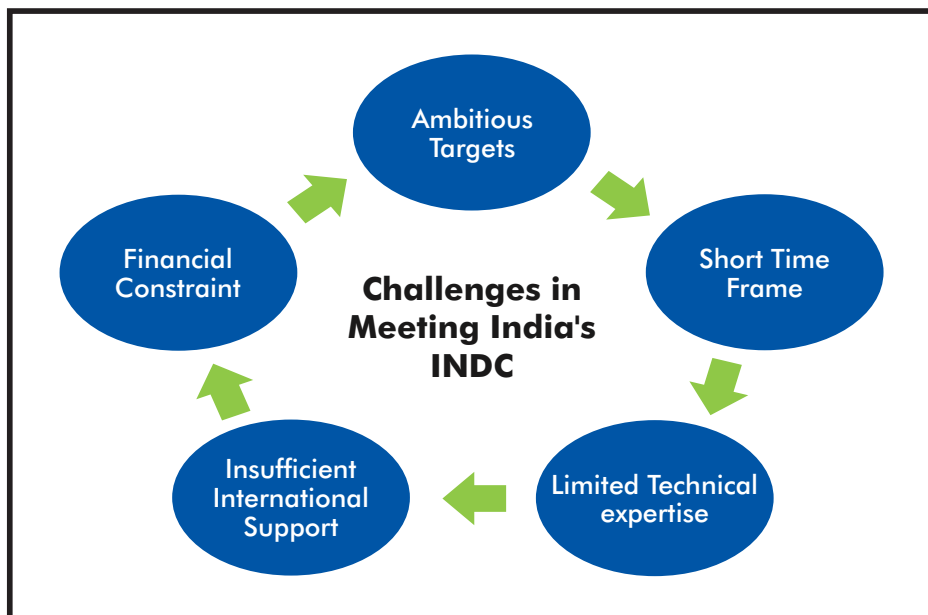


Source: https://www.climatelinks.org/sites/default/files/asset/document/INDC%20White%20Paper%20-%20June%202016_public_RALI.pdf

The policy support to achieve INDC has brought cross-sectoral opportunities in the kitty and played an instrumental role in the low carbon growth of India's economy. Through focused action and a collaborative approach, the INDC has been proven to be capable of creating a positive impact on the Indian economy as well as the country's social structures. It has promoted climate-resilient infrastructure development across the country to address the vulnerability to climate change.



But the challenges regarding limited public finance and technology know-how restrict the measures to counter the climate change impacts significantly in the set time frame. The dependence on developed nations for climate funds has put a serious blow to the policy framework implementation around these measures for balancing the carbon emission requirement of such a large population as part of its global commitment.



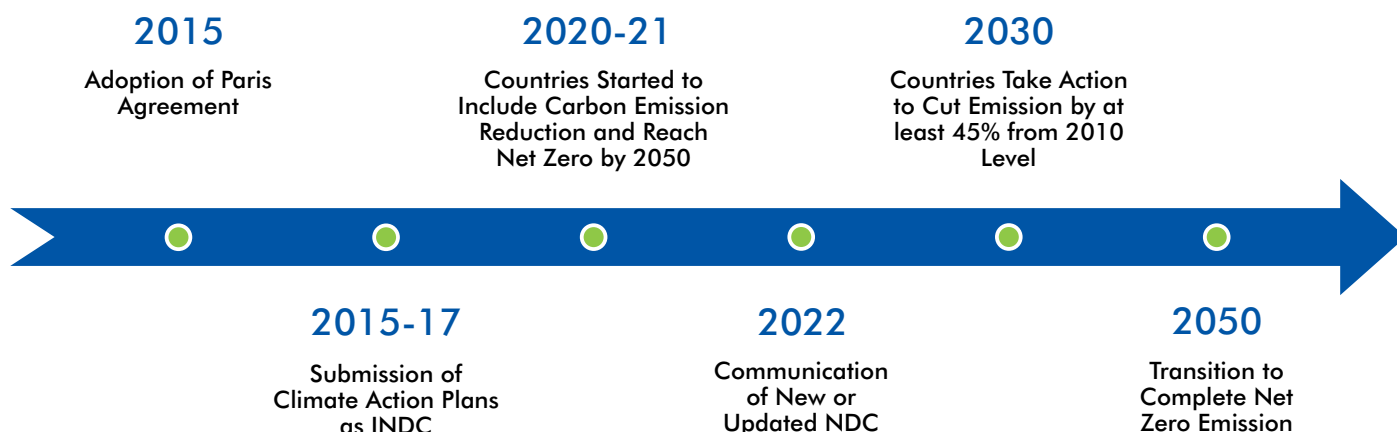
India is keeping a close eye on its renewable energy target as the green energy pathways are paramount to achieving low carbon emissions across the sectors of the Indian economy. It highlights the significant addition of solar, wind, and thermal capacity by 2031-32 accounting for multifold to its 2021-22 level. The efforts are required to bridge the financial gaps and meet profitability to develop long-term effects in India's climate change strategy through capacity building and global cooperation.



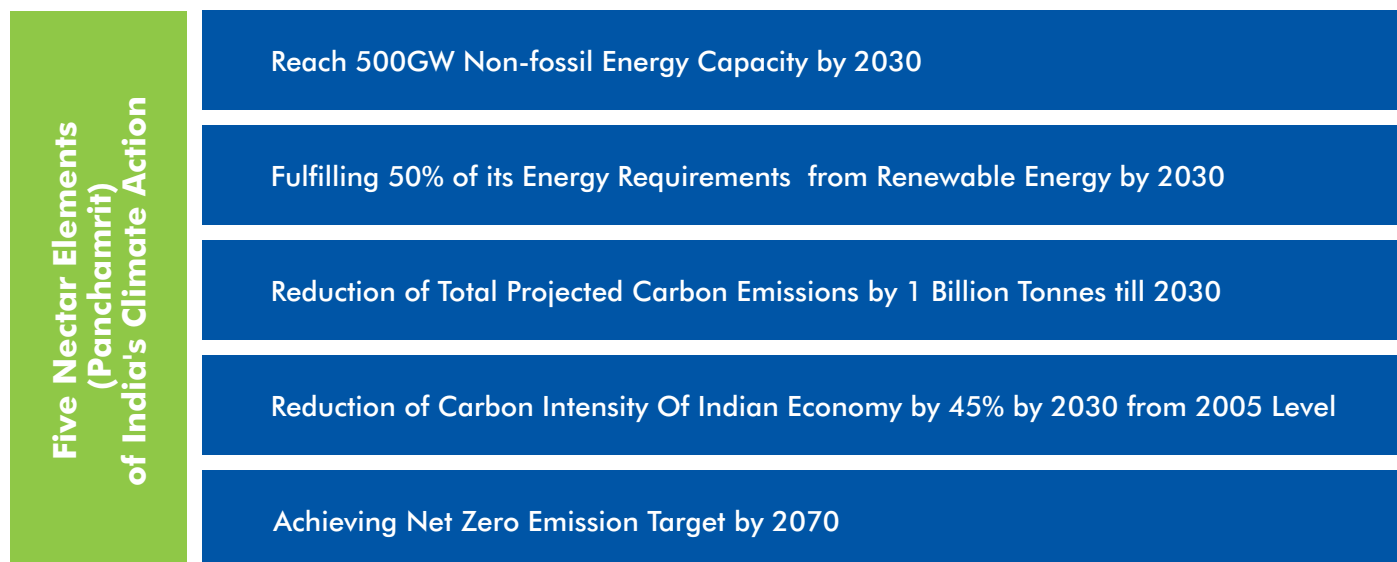
Climate Justice and Updated NDC

As a part of the commitment made under the UNFCCC Paris Agreement, 2015, the Government of India formally submitted its updated NDC in August 2022. As per the provision of the agreement, **the national governments need to communicate their new or updated NDC every five years**. Thus, to fulfill its global commitment, India expanded its climate change commitments and moved towards climate justice to usher the growth pathways through low carbon emission strategies.

Timeline of UNFCCC Climate Change Roadmap toward Net Zero Emission



India's updated NDC has considered national interests and principles of Common but Differentiated Responsibilities (CBDR). This also included **the 'Pnachamrit', the five nectar elements of India's climate action along with the adoption of the LiFE Mission** for the sustainable clean growth of the country.



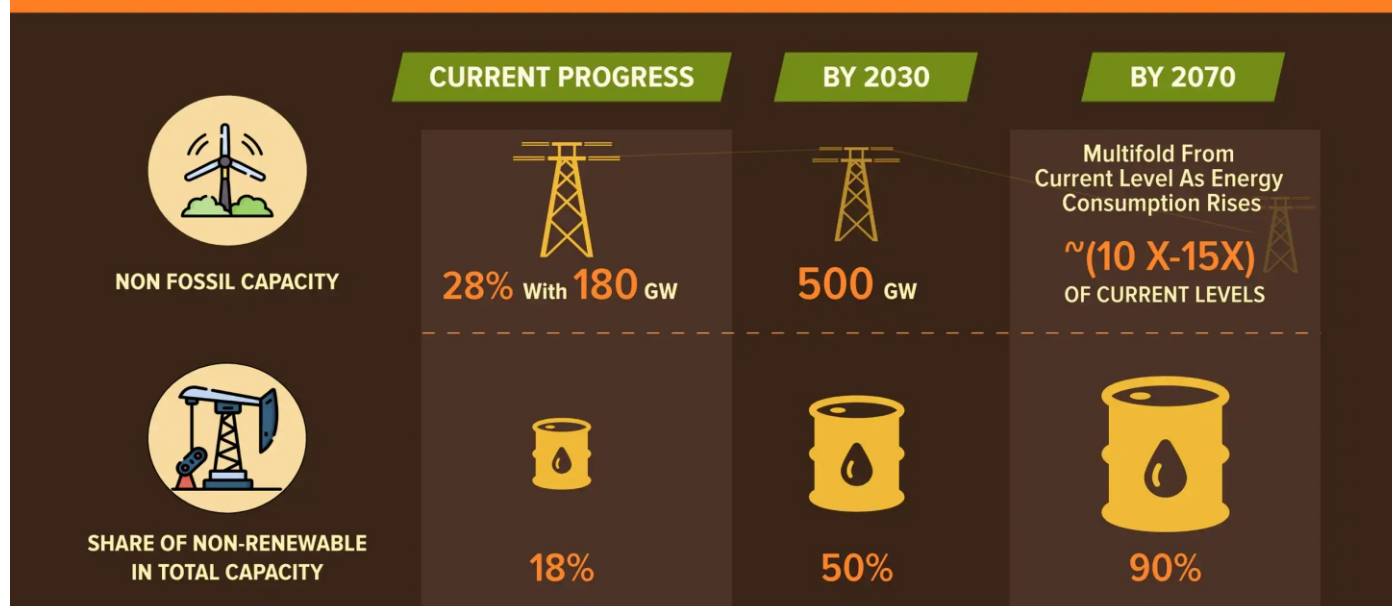
The update has pushed India, closer to achieving the global target of net zero emissions. **India with its 2.4% share of global surface area, supports 17.5% of the total global population** which is a big challenge to achieve its ambitious targets concerning its varying socio-economic factors. For India, these targets are the path to achieving Sustainable Development Goals (SDG) for its vulnerable population while addressing the climate change scenario.

INDIA'S CLIMATE TARGETS: EXISTING AND NEW			
TARGET (for 2030)	Existing: First NDC (2015)	New: Update NDC (2022)	Progress
Emission intensity reduction	33-35 percent from 2005 levels	45 percent from 2005 levels	24 percent reduction achieved in 2016 itself. Estimated to have reached 30 percent
Share of non-fossil fuels in installed electricity capacity	40 percent	50 percent	41.5 percent achieved by the end of June this year
Carbon sink	Creation of 2.5 to 3 billion tonnes of additional sink through afforestation	Same as earlier	Not clear.

Source: <https://www.drishtiias.com/daily-updates/daily-news-analysis/stronger-climate-targets-2030>

Thus, India's updated NDC put forward the idea of knitting a healthy and sustainable living style based on India's age-old traditions of conservation and moderation as a key to combatting climate change. This has also led to an idea to decouple the economic growth of the country with higher greenhouse gas emissions and promote the low carbon pathways for achieving its aspiration of future sustainable developments.

Panchamrit Plan: India's climate change challenge



Financing Scenario

India primarily depends on its domestic resources and public finance to accelerate its climate change efforts. However, India is one of the negotiating parties who have advocated for mobilizing green finance and the transfer of technology from developed countries to emerging as well as developing countries to achieve their targets communicated under NDC as part of the UNFCCC Paris Agreement, 2015.



Details of 2016 India's Climate Action Financing Scenario

US\$ 206 Billion Investment was Required to Implement Adaption Programs in sectors like Agriculture, Forestry, Fisheries, water, and Ecosystem

US\$ 7.7 Billion was Required for the Projects Related to Energy Sector

US\$ 834 Billion Investment was Needed for Low Carbon Development

Additional Investment was Required for the Disaster Management and Climate Resilience

The lack of adequate, long-term financial support from the developed countries as promised and the delay in the realization of the Green Climate Fund (GCF) hampers the actual performance of emerging/developing countries like India to take required climate action. To date, **GCF has made financial investments in about 216 projects worldwide** to bring global change in the area.

Impact Creation by GCF

Anticipated tonnes of CO2 equivalent avoided	Anticipated number of people with increased resilience	Total GCF financing committed (USD)
2.5b	912.4m	12.0b

Source: <https://www.greenclimate.fund/>

These INDCs are voluntary commitments but have an impact on the country's climate change adaptation and mitigation plans to counter continuous rising global temperatures. India's renewed NDC has pledged to more ambitious targets which will need additional financial investment to meet the targets in the set timeline.

Quick Facts about Green Finance In India

01

In 2019-20, Total of US\$ 44 Billion/ Annum worth Green Finance was Tracked

02

It was 1/4th of India's Total Need to Achieve its NDC Targets

03

India Needs US\$ 2.5 Trillion between 2015-2030 to Achieve its NDCs Committed under the Paris Agreement, 2015

Multilateral Development Banks such as **Asian Development Bank (ADB)** have also promised to **double their climate finance by 2020** to play a strategically important role to scale up low carbon development as part of achieving NDC targets. The increased flow towards the renewable energy sector has promised cleaner economic growth across the sectors as a whole while mobilizing green finance at an unparalleled fast pace to leverage the opportunities for the development of low-carbon pathways.

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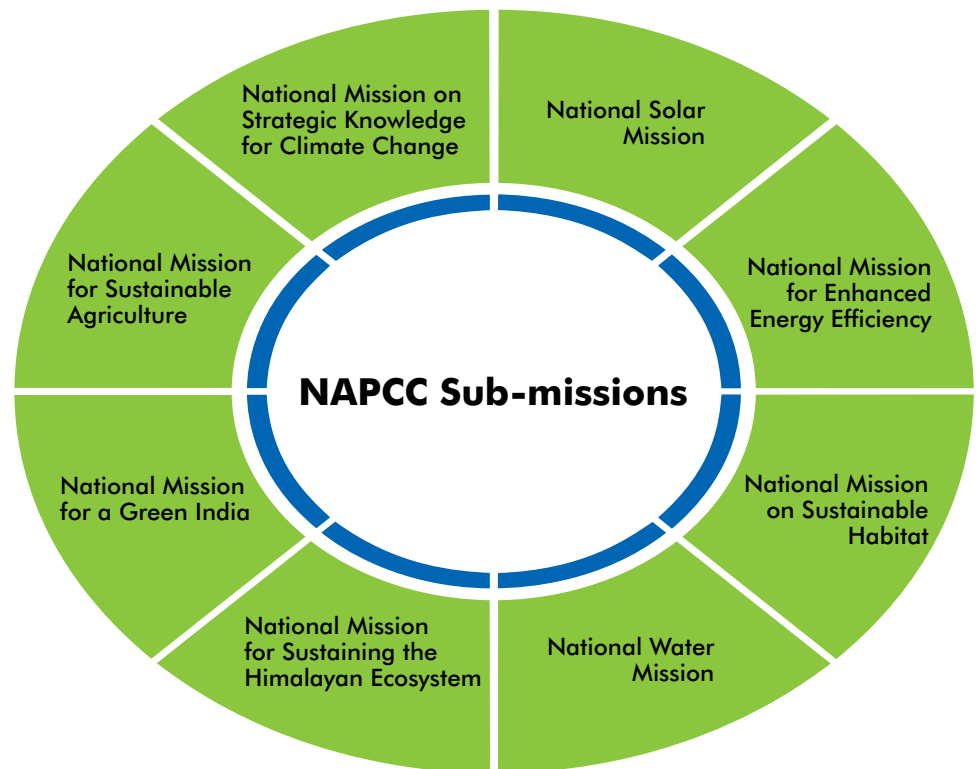
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INDIA'S NEW CLIMATE PLAN



Government Policy Landscape To Support NDC

India's broad vision to counter the ill impacts of climate change has been appreciated at global forums time and again. The implementation of a comprehensive guiding framework under the National Action Plan on Climate Change (NAPCC) has aligned the global climate agenda with India's national priorities and circumstances. India's NDC has been rated as medium but its commitments are ambitious as per its fair share of global emissions.



The significant steps taken as part of policy formulation to address the climate change scenario by the Government of India are cross-sectoral and have long-term impacts. It has encouraged the public and private sectors both to play a vital role in meeting the targets sets under NDC with an increasing investor as well as citizen's awareness supported through a regulatory framework.

Areas of Government Intervention to Achieve NDC Targets



The government efforts in the energy and transport sectors have primarily impacted the green growth of the Indian economy. India's growing R&D capabilities such as in the area of Hydrogen Energy have been set to revolutionize the Indian power generation process to significantly reduce the carbon footprint. Along with this, India's suggestion to follow a middle path on the use of coal at COP26, Glasgow has put India as one of the leading parties in the negotiation.

Key Government Initiatives to Support India's INDC

01	Perform, Achieve and Trade (PAT) Scheme	07	National Afforestation Programme
02	Pradhan Mantri Ujjwala Yojna	08	National Agro-forestry Policy
03	Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles Scheme	09	National Smart Grid Mission
04	Ultra Mega Solar Power Projects	10	Swachh Bharat Mission
05	Global Solar Alliance	11	AMRUT Mission
06	Green Highway Policy	12	Paramparagat Krishi Vikas Yojna
13		Pradhan Mantri Krishi Sinchayee Yojna	

Besides these initiatives, the government has also launched a voluntary vehicle scrapping policy to support the phasing out of old vehicles through incentives to achieve a reduction in air pollution which is one of the major reasons for rising global temperature. **India at the global level also supports the EV30@30 campaign** along with encouraging industries to low carbon emissions with awareness campaigns and strict regulations. A significant increase in coal Cess and the provision of tax-free infrastructure bonds for enhancing renewable energy capacity has turned the pathway of Indian policymaking in the right direction to get benefited in the long run.



Way Forward

Under the Paris Agreement, 2015 INDCs are made the primary tool to set the actionable agenda to limit the rising global temperature by bringing down the net emission to zero. This has set the future course of accelerated R&D in the clean technology domain to deploy them in the areas like clean energy, road transport, hydrogen power, steel manufacturing, etc.

A more focused vision and close review of climate change policy implementation will bring more impact to lower the global warming scenario over time. This will enable the allocation of adequate resources and funds to the priority areas as per national circumstances and priorities to transform a greener future.

Over the years, a massive response towards the carbon market, carbon neutrality, and zero carbon solutions will be observed across the sectors, especially in the big emitter contributors like the power and transport sectors. Still, the world needs to be a little more ambitious in terms of updating NDCs to achieve the targets set under the UNFCCC Paris Agreement, 2015 as this will also evolve a new set of opportunities and attract competitive advantage for early mover including investors in the coming years.



Expert's Insights

The decision by India to update its NDCs is in line with the Prime Minister's Glasgow announcements. It enhances the ambition and yet puts sustainable development at the centre of the debate. It is clear that India does not envisage sectoral emission reduction obligations as part of its NDC at least till 2030. The NDC does not bind it to any sector-specific mitigation obligation or action. And, it rightly emphasises the value of a sustainable way of living as an effective and just solution to the problem of climate change.

R. R. Rashmi

Distinguished Fellow

The Energy and Resources Institute (TERI), India

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✉ info@aggrp.in

🌐 www.aggrp.in

☎ +91 9810046249

📞 0124 4235267, 011 45356553

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