

GOVERNMENT

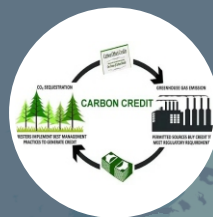
POLICY REPORT



***Policies
Covered In
The Edition***



1. Sustainability



2. Carbon Market



3. Green Agriculture



4. Climate Action



5. Energy Security

SUSTAINABILITY



"National Policy on Marine Fisheries" Ensuring Sustainability of the Resources at the Core



Sustainability of marine resources, as a priority focus of the Ministry of Fisheries, Animal Husbandry, and Dairying receives a comprehensive scheme structure to promote India's marine fisheries sector growth through sustainable practices.

Quick Facts About India's Marine Wealth

India has a 8,118 Km long Coastline with Rich and Diverse Marine Resources

India is the Third Largest Producer of Fish in the World after China and Indonesia

As per 2018-19 Estimates, India's total Annual Fish Production is More than 13 Million Metric Tonnes

As per the data of National Marine Fisheries Census, 2010, Marine Fisheries Resources provide Livelihood Source to Around 4 Million People and Increased its ambit to 28 million by 2018-19.

The Economic Contribution of the Sector is Around Rs 65,000 Crores

The draft National Fisheries Policy, 2020 in this regard is paving the way for achieving the national, social, as well as economic goals of India's fisher community with an increasing livelihood means and socio-economic upliftment.



Draft National Fisheries Policy, 2020

Vision

A Healthy and Vibrant Marine Fisheries Sector that Meets the Need of the Present and Future Generations.

Mission

While keeping Sustainability of the Resources at the core of all actions, the Policy Framework will meet the National, Social and Economic Goals, Livelihood Sustainability and Socio-economic Upliftment of the Fisher Community and is intended to Guide the Coordination and Management of Marine Fisheries in the Country during the Next Ten Years.

The policy is formulated through an integrated approach by combining the provisions of the National Policy on Marine Fisheries (NPMF) 2017, the Draft National Inland Fisheries, and Aquaculture Policy (NIFAP), and the Draft National Mariculture Policy (NMP) with the elements of post-harvest strategies for the welfare and upliftment of Indian fisher community in the current decade i.e. between 2021-2030 through the extensive use of India's Exclusive Economic Zones (EEZ).

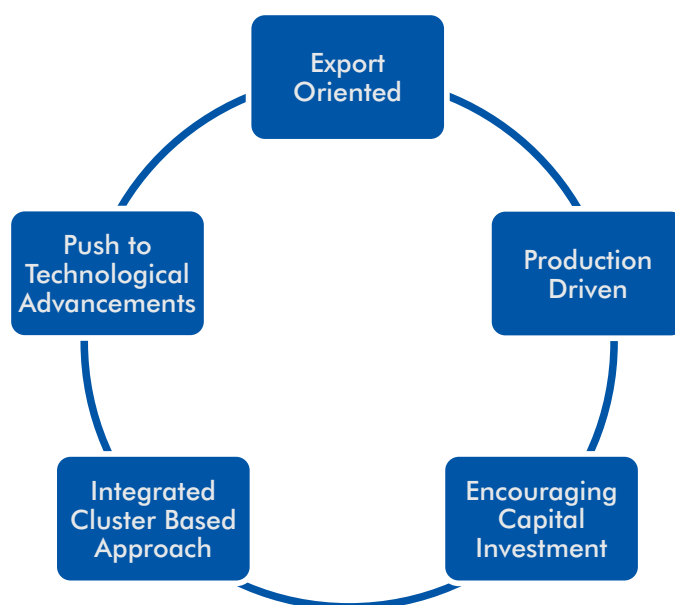
Key Areas Identified Under Draft National Fisheries Policy, 2020

- 01 Promotion of Deep-sea Fishing and Fishing in Areas Beyond National Jurisdiction to tap Under Exploited Resources
- 02 Promote the Use of Appropriate and Responsible Technology
- 03 Promote Capacity Building of Stakeholders and Encourage Investments in Developing Harvest and Post-harvest Facilities
- 04 Optimization of Fishing Efforts and Formulation of Effective Management Plans to Rebuild Collapsed/ Degraded Fish Stocks
- 05 Development of Conservation Measures through Consultative Approach related to Resource Utilization in the EEZ
- 06 Promotion and Adoption of EAFM and Co-management Approaches
- 07 Ensuring National Security along with the Safety of Fishers in Development of Deep-sea Fishing and Fishing Beyond National Waters
- 08 Cluster-based Approach should be implemented to Develop Aquaculture across Coastal States & Uts
- 09 Encouragement to Public Private Partnership to leverage high Capital Investment in the Sector

The Government of India, through these policy documents, looks forward to bringing self-reliance in the marine fisheries sector and leveraging the full potential of India's long coastline and two major Islands for the economic prosperity of this community as well as the country.

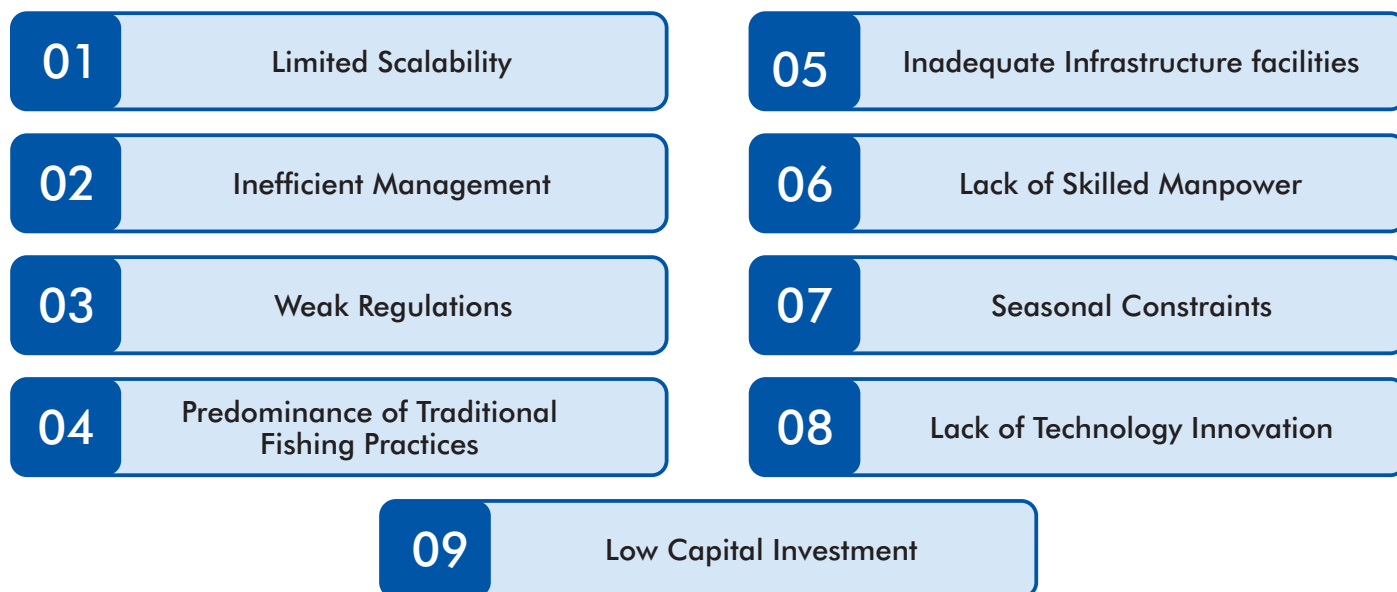


Highlights of Draft National Fisheries Policy, 2020



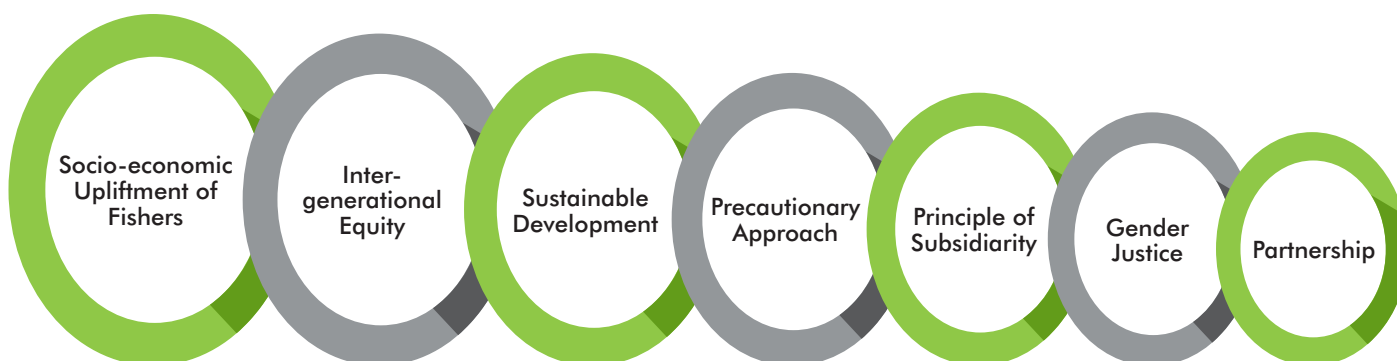
The sector includes a diverse range of resources across its vast coastline including the Himalayas. Thus, traditional and local practices are very prevalent and provide food, nutrition, and income to a vast majority of the Indian population. This sector also directly impacts the ecological and biological components of marine biodiversity and thus needs sustainable policy support at the core to address the challenges in real terms.

Challenges to the Growth of India's Fisheries Sector



The National Policy on Marine Fisheries, 2017 in this regard has provided much-needed guidance and made the breeding ground for the promotion of India's 'Blue Economy'. It has focused on the sustainable utilization of India's marine and fisheries wealth including other aquatic resources to address the challenges of food security and livelihood concerns of the coastal fisher community.

Seven Pillars of Strength under NPMF,2017



These policy guidelines along with the Coastal Aquaculture Authority Act of 2005 provide a holistic development scenario for the development and keep fair concern on the environmental impacts created through enhanced production and exploitation of marine resources. The comprehensive policy is supporting India's 'Blue Growth' initiative along with the right measures for environmental impact assessment, monitoring, and management to attain responsible socio-economic growth of coastal communities and attract private investment in the sector for scientific and technology-led interventions.

CARBON MARKET



India's Carbon Stock Increased by 79.4 million Tonnes to Give Boost to Indian Carbon Market



India being a key player in the global climate action plan, has received an encouraging response in terms of **increasing forest and tree cover under the India State of the Forest Report (ISFR), 2021**. It is going to further strengthen India's policy framework regarding carbon trading and make its presence more stable in the global carbon market.

Quick Statistics from India State of the Forest Report, 2021

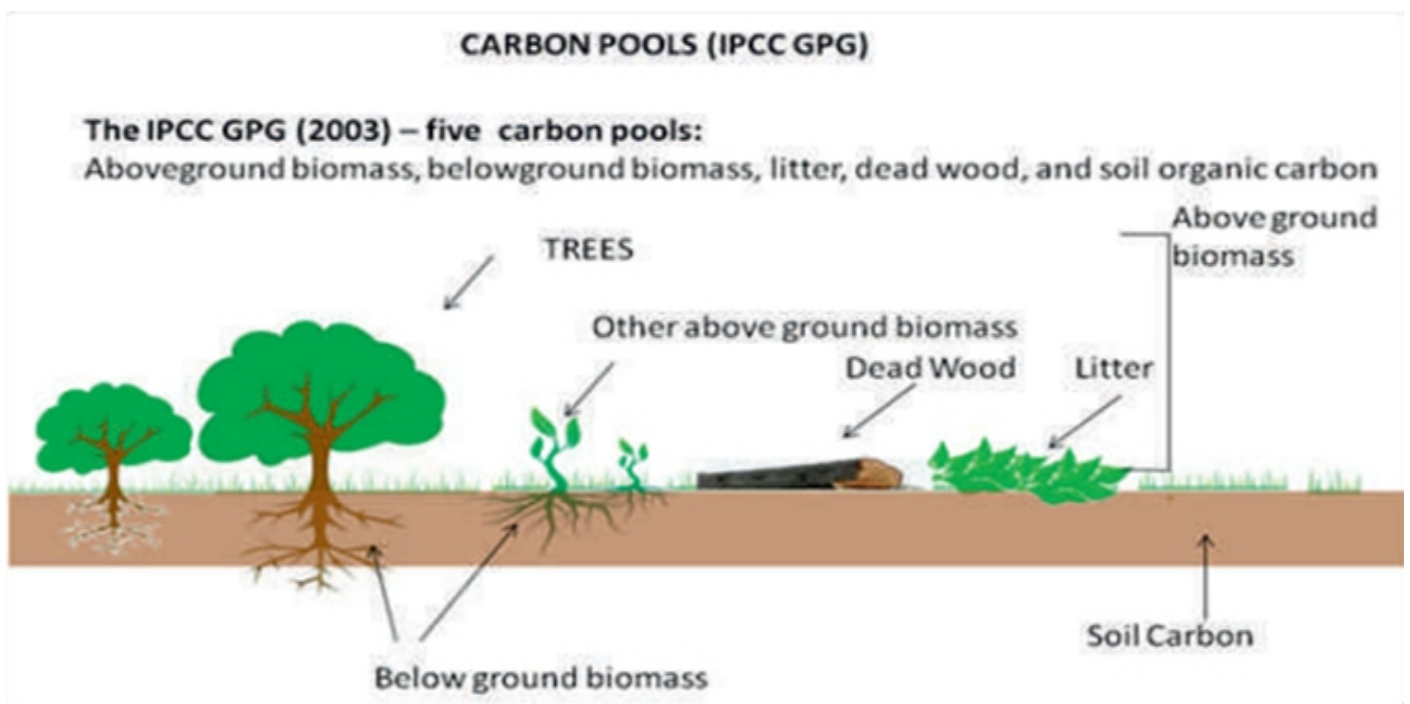
Total Carbon Stock in Indian Forest
7,204 Million Tonnes

Carbon Stock in Plantation/ Trees Outside Forests
529.47 Million Tonnes

Increase in carbon Stock from 2019
79.4 Million Tonnes

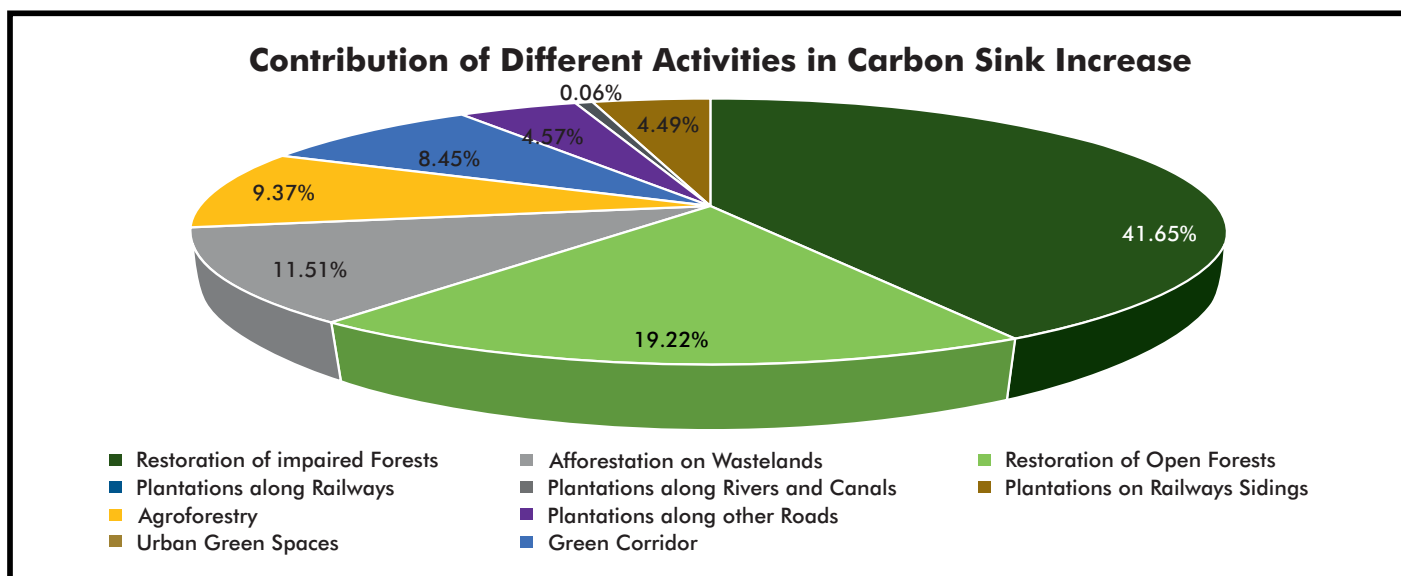
Annual Increase
39.7 Million Tonnes

The carbon sequestration by trees and forests are varying and significantly depends on numerous ecological and physical factors.



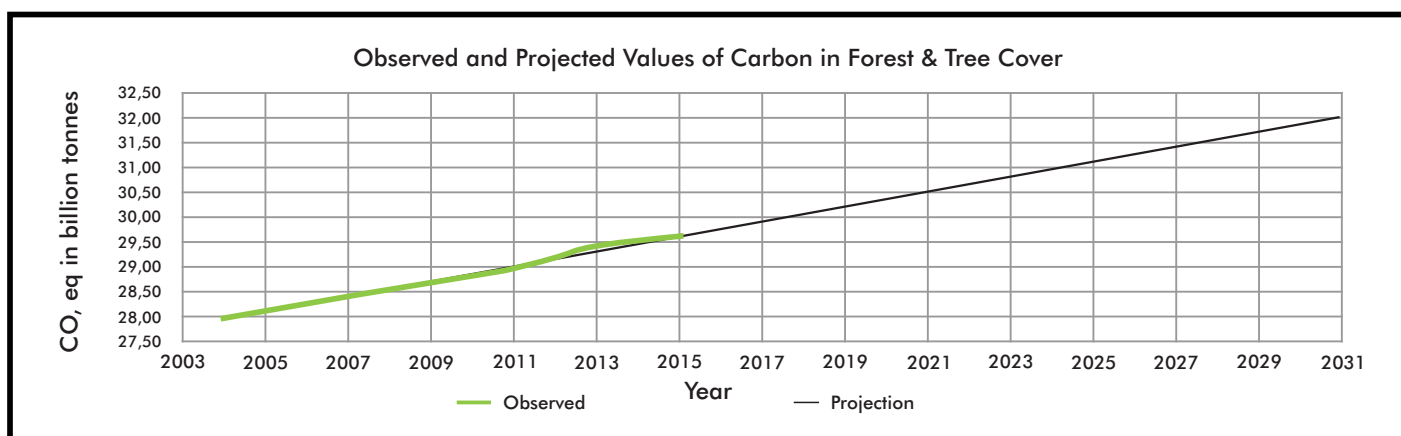
Source: <https://fsi.nic.in/isfr2017/isfr-carbon-stock-in-india-forest-2017.pdf>

Thus to leverage its full potential, the government of India has suggested under the National Forest Policy to bring 33% and 66% of the geographical area under forest and tree cover in the plain and hilly regions respectively. It will effectively integrate the climate change mitigation strategies with an effective forest management plan to increase its carbon sequestration to 33% by 2030.



Source: <https://fsi.nic.in/uploads/documents/technical-information-series-vol1-no3-16-06-2019.pdf>

The rising carbon stock is a welcoming trend to achieve its targets set under Updated Nationally Determined Contributions (NDCs) as part of the commitment made under the Paris Agreement. To achieve the target of reaching the net zero emission level by 2070, India has targeted to create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent in form of forest and tree cover by 2030 including increasing forest cover to 33%.



Source: <https://fsi.nic.in/uploads/documents/technical-information-series-vol1-no3-16-06-2019.pdf>

To fulfill the mandate of Article 6 under the agreement, the Government of India has also notified Nationally Designated Authority for Implementation of Article 6 of the Paris Agreement (NDAIPA) to approve the projects authorized for carbon trading. This will allow the generation and selling of carbon credits by Indian entities including farmers as well as Gram Panchayats and address the gaps which are restricting India's competitiveness in the global carbon market.

Gaps In India's Readiness to Leverage Opportunities of the Global Carbon Market

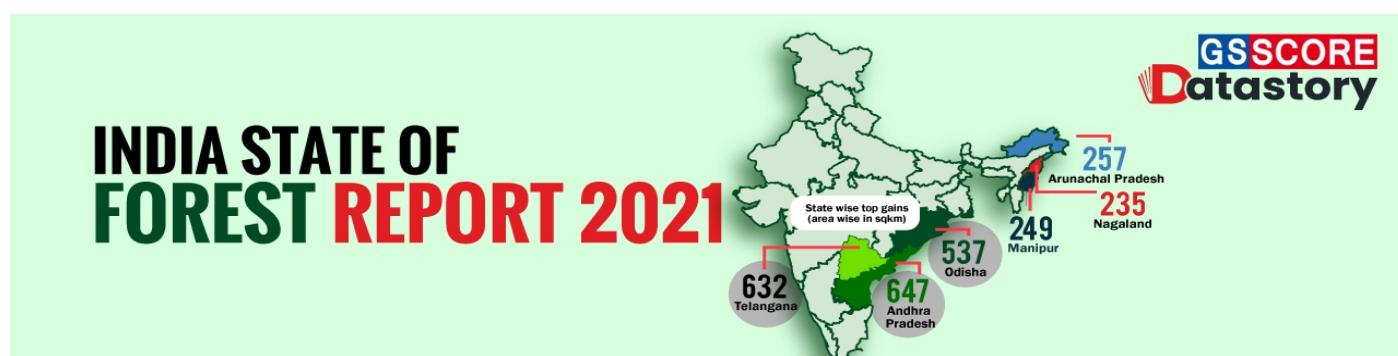


An overview of policies, legal instruments, and programs that provide enabling conditions in India for achieving sustained growth of forest & tree cover to mitigate climate change effectively and pave the way for various market-based instruments are as under:

Policy Framework Supporting Growth of Indian Forest and Tree Cover

Indian Forest Act, 1927	Wildlife Protection Act, 1972	National Forest Policy, 1988	Forest Conservation Act, 1980	Green India Mission	National Afforestation Programme
Compensatory Afforestation Fund	Green Highway Policy, 2015	Policy for Enhancement of Urban Greens	National Bamboo Mission	National Mission for Sustainable Agriculture	National Agro-forestry Policy and Sub Mission on Agro-forestry

Along with increased public participation promotion of natural climatic solutions in the form of sustainable agriculture, sustainable land use, and forestry should be encouraged. The regulatory financial framework should also be strengthened to mobilize resources and investment to accelerate the efforts towards achieving the NDC targets and carbon trading with inclusive and sustainable growth within the stipulated time frame.



GREEN AGRICULTURE



National Mission for Sustainable Agriculture Promoting Green Agriculture in India to Answer Environment Concerns



India's government is encouraging green agriculture through the process of best sustainable agriculture practices. Greening the agricultural sector involves directing poverty as well as gathering the nutritional needs of a growing global population while minimizing the environmental degradation related to ongoing agricultural practices.

Thus, the Government of India has formulated the National Mission for Sustainable Agriculture (NMSA) as part of the National Climate Change Action Plan (NAPCC). NMSA has aim to enhance agriculture productivity, particularly in rainfed regions, by integrated farming, efficient water use, quality soil health, and coordinating resource conservation. It helps in encouraging upgraded ergonomic practices for higher farm productivity, improved soil treatment, increased water holding capacity, the wise use of chemicals, and increased soil carbon storage.

Dimensions of Sustainable Agriculture



Source: <https://prepp.in/news/e-492-national-mission-for-sustainable-agriculture-nmsa-environment-notes>

Objectives of NMSA

To make Agriculture more Productive, Sustainable, Remunerative by Promoting Location Specific Integrated Farming System

To Conserve Natural Resources through Appropriate Soil and Moisture Conservation Measures

To adopt Comprehensive Soil Health Management Practices based on Soil Fertility Maps, Soil Test-based Application of Macro and Micro Nutrients, Judicious Use of Fertilizers, etc

To Optimize Utilization of Water Resources through Efficient Water Management to Expand Coverage for Achieving 'More Crop Per Drop'

To Develop Capacity of Farmers and Stakeholders

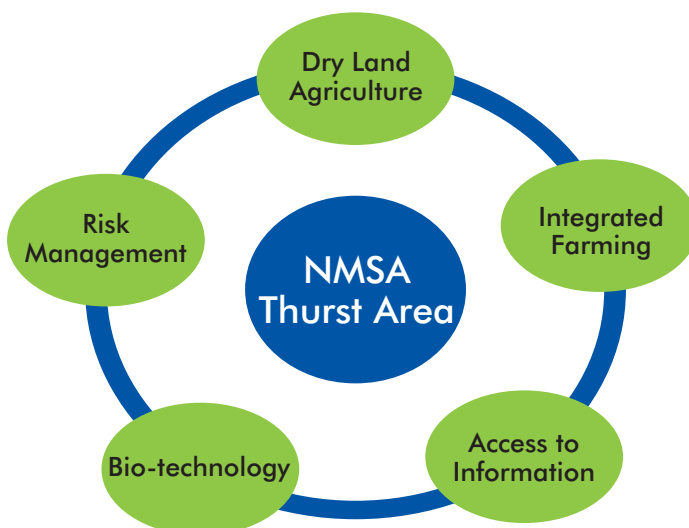
To Pilot Models in Select Blocks by mainstreaming Rainfed Technologies and Leveraging Resources

Indian agriculture provides for 40% of the nation's total food manufacture and covers 51% of the net planted area that is rain-fed. Therefore, agriculture expansion to support rising food demand can be maintained by encouraging the conservation and sustainable use of limited natural resources in rainfed areas through the NMSA.

It will contribute integrated farming system covering livestock, crops, and fishery and ensures food security, and reduce risks from crop failure through an additional production system.

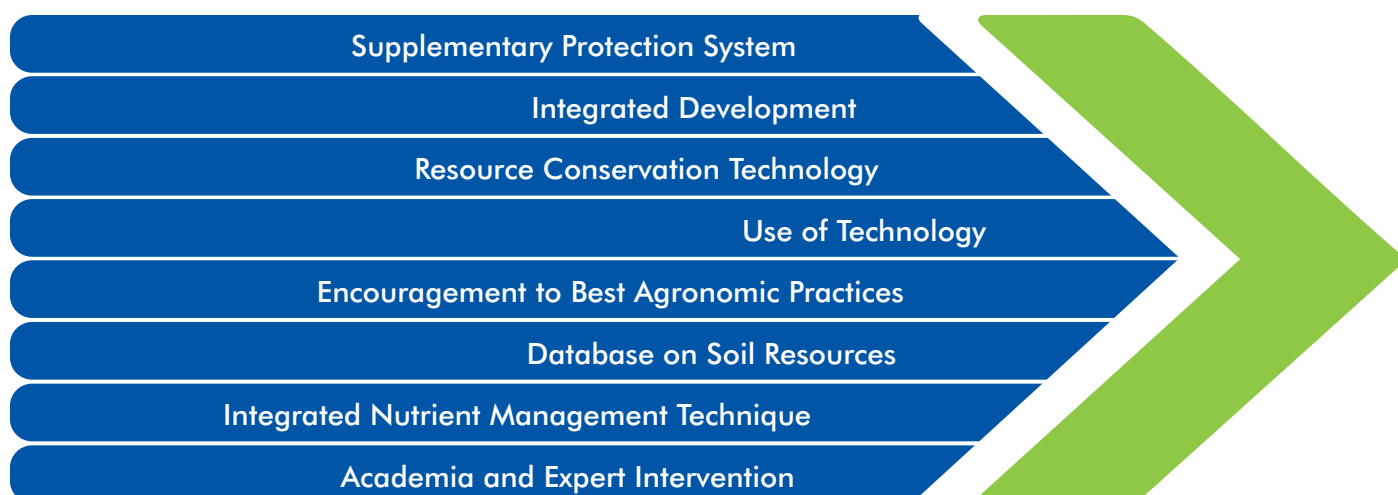
National Action Plan on Climate Change

8 missions to address climate change concerns & promote sustainable development



NMSA will help in introducing practices that will reduce efforts at the time of disasters like dry spells, drought, or heavy floods. It will assist effective management of available water resources to enhance water use efficiency through technological intervention paired with demand-supply-driven management solutions.

NMSA Strategy



Change in agricultural practices plays a pivotal role in the reduction of climate change effects. Thus, green agriculture has the potential to encourage and develop sustainably managed mechanisms for harvesting with the help of rainfed technologies to bear climatic and non-climatic stress and help in achieving the NDC targets progressively.

CLIMATE ACTION



Indian Railways Set the Target to Become Net Zero by 2030



Indian Railways, operating a complex mesh of the world's fourth largest rail network continuously contributes to the growth of India's socio-economic growth. It also has a significant potential to contribute to India's climate mitigation action plan. **It has a major role to help in achieving India's NDC target of reducing carbon emission intensity to 33% to 35% by 2030.**

Indian Railways Two-step Strategy to Become Net Zero Emitter

Transition to Electric Trains by 2023

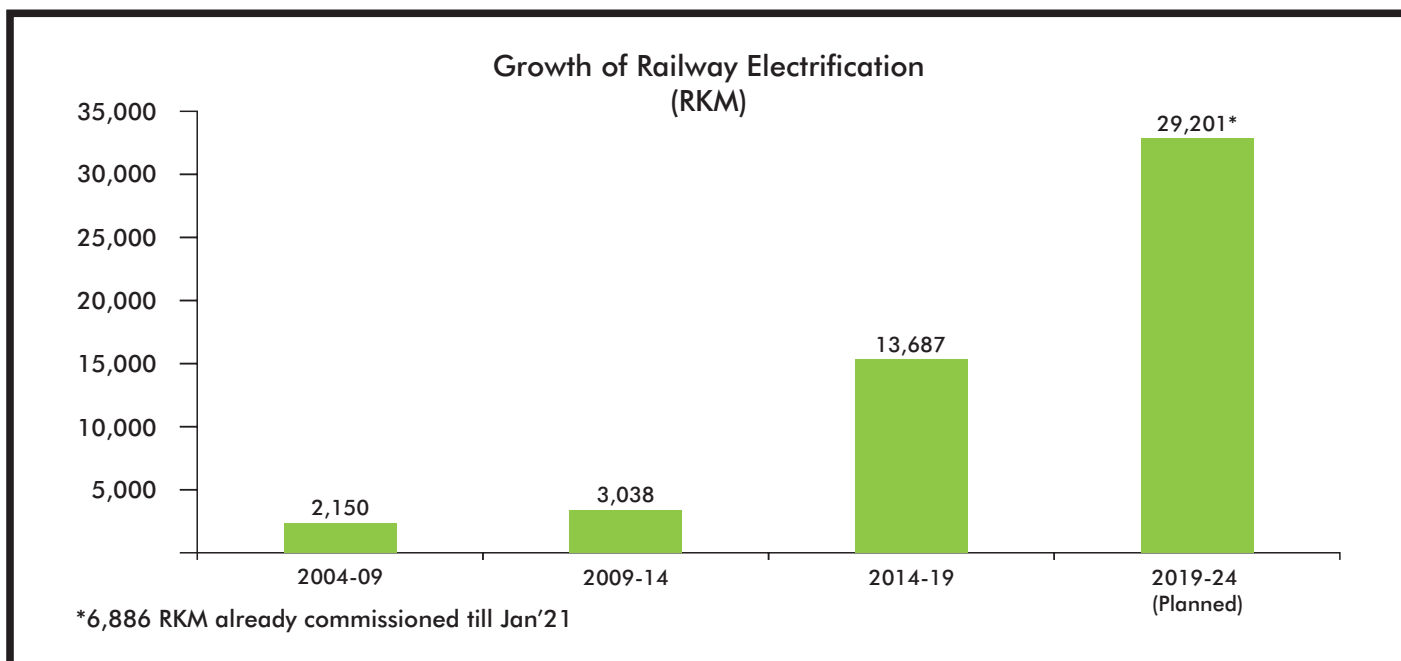
Powering the Trains and Railway Stations Primarily through Renewable Sources by 2030

The Government of India has also **decided to increase the freight share of Indian Railways to 45% from the present level of around 35%.** It will significantly ease the carbon emission levels from road transportation under a cost-effective and time-saving climate action mitigation plan.

Measures Taken by Indian Railways to Achieve Net Zero Target

01	Increase the Railway's Share in the Land-based Freight Transportation to 45% by 2030 from current level of 36%	07	Improvement in Water Use Efficiency by 20% upto 2030
02	Setting up of Dedicated Freight Corridors across the Country to Significantly Reduce the Carbon Emission	08	Tree Plantation for Increasing Carbon Sink
03	Increase in the Share of Renewable Energy in Indian Railway's Energy Mix	09	Waste Management and Pollution Control
04	Further Improvement in the Energy Efficiency of both Diesel and Electric Traction to Facilitate the Reduction in GHG Emissions	10	Adoption of Good Practices for Green Buildings, Industrial Units, and other Establishments for Resource Management and Infrastructure for Achieving Environment Sustainability in Growth of Indian Railways
05	Implementation of PAT Scheme in Railway Sector	11	Contribution in "Swachh Bharat Mission"
06	Use of 5% Blending of Biofuels in Traction Diesel Fuel	12	Completion of Electrification of All Railway Tracks by 2030

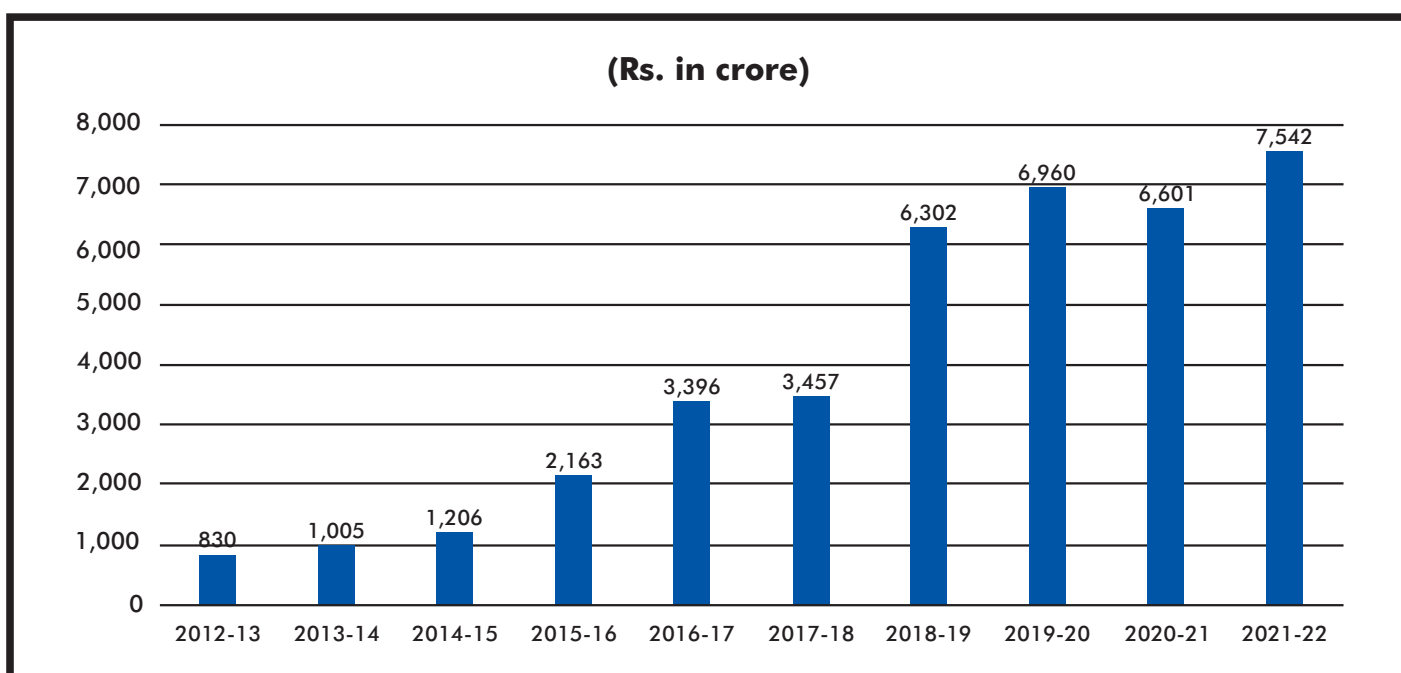
Over time, the growth of electrification in railway tracks has increased significantly, and working towards efficient energy and resource management in its operation. **The setting up of Dedicated Freight Corridors (DFC) across the country is also effectively contributing to the realization of its net-zero target and is estimated to reduce carbon emissions by more than 450 million tonnes over the next 30 years.**



Source: https://indianrailways.gov.in/railwayboard/uploads/directorate/secretary_branches/IR_Reforms/Mission%20100%25%20Railway%20Electrification%20-%20Moving%20towards%20Net%20Zero%20Carbon%20Emission.pdf

This massive electrification along with increasing budget allocation over the years for the purpose is creating a gigantic environmental impact that can revolutionize India's green efficient transport operation to accelerate economic growth.

Budget Allocation for Railway Electrification over Years



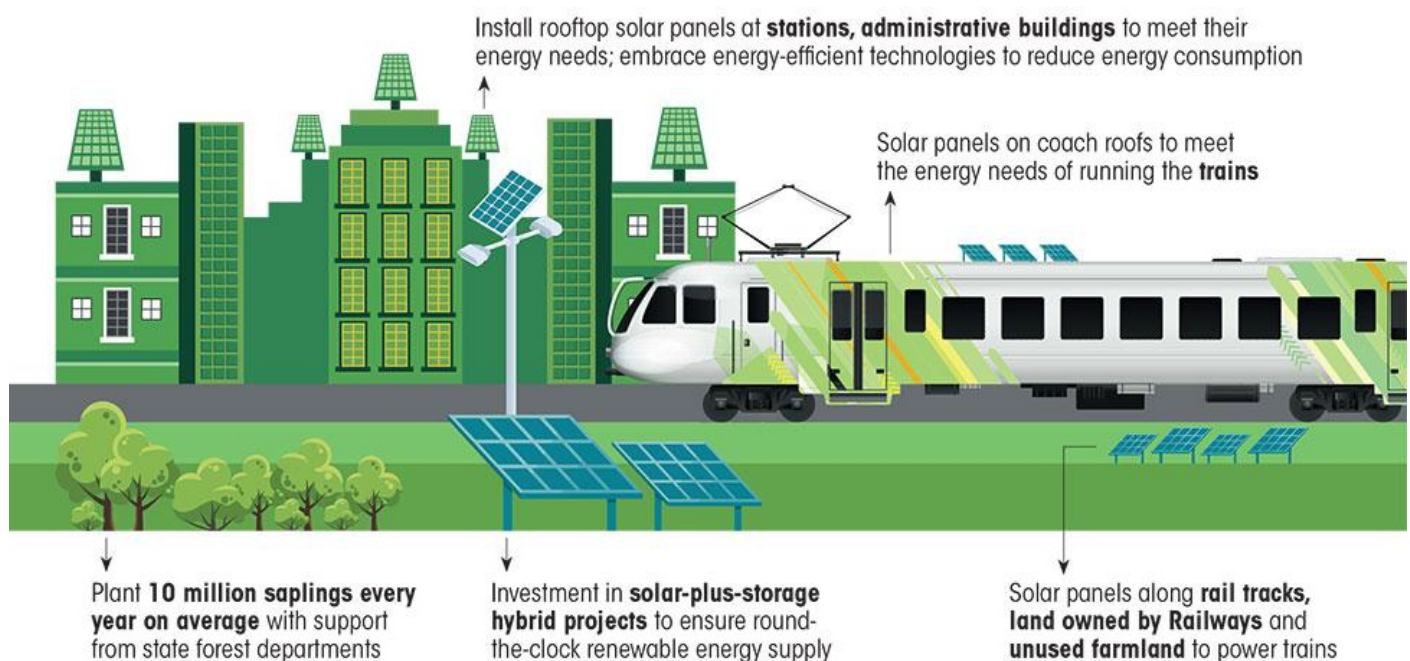
Source: https://indianrailways.gov.in/railwayboard/uploads/directorate/secretary_branches/IR_Reforms/Mission%20100%25%20Railway%20Electrification%20-%20Moving%20towards%20Net%20Zero%20Carbon%20Emission.pdf

Due to increased freight and passenger load on Indian Railways, **its total energy requirement is increasing over the years and is expected to touch the mark of more than 8GW by 2030**. Increasing the share of renewable sources in its energy mix to cater to this rising demand will bring new opportunities for business in the form of low-carbon pathways, solar rooftops at stations and administrative infrastructure setup, etc.



GREEN ALL THE WAY

Solutions that the Railways plans to embrace to increase its installed capacity of renewables to 30 GW by 2030



Source: Various reports released by the Indian Railways

Source: <https://www.downtoearth.org.in/news/energy/next-stop-net-zero-indian-railways-plans-to-become-a-net-zero-emitter-by-2030-here-s-how-86042>

This whole transition will need worth more than US\$ 4 billion investment in the domain over the years. This will enable the Indian railways to optimally utilize the renewable energy potential in achieving its net zero emission target by 2030 and meet the targets set to achieve India's fight against climate change.

ENERGY SECURITY

India is Achieving Self Reliance on Energy Security to Ensure Sustainable Development

Recently, India has bagged the laurels in terms of energy consumption across the world and thus attracting lots of new opportunities to India's energy sector which will accelerate the country's sustainable growth with the attainment of self-reliance in the area.

Quick Facts from India's Energy Sector

3rd Largest Energy Consumer

3rd Largest Oil Consumer

3rd Largest LPG Consumer

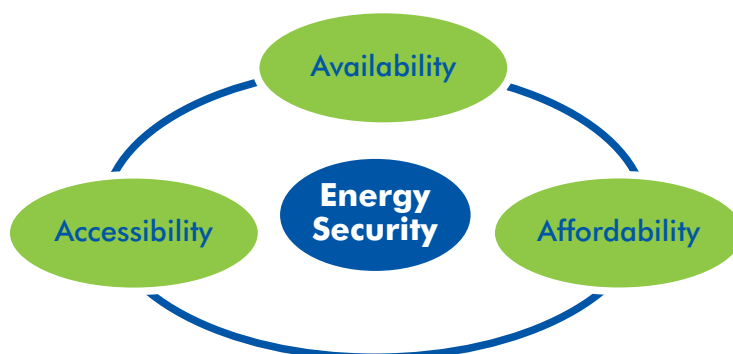
4th Largest LNG Importer

4th Largest Refiner

4th Largest Automobile Market

The Atmanirbhar Initiative of the Government of India has already provided thrust to the strategic sectors like renewable energy, e-mobility, etc to fulfill uninterrupted energy requirements of the country and reduce dependence on imports of fossil fuels. The government is also envisaging long-term energy security solutions through timely investments as per the future needs of energy requirements for economic, social, and environmental sustainability.

Dimensions of Energy Security



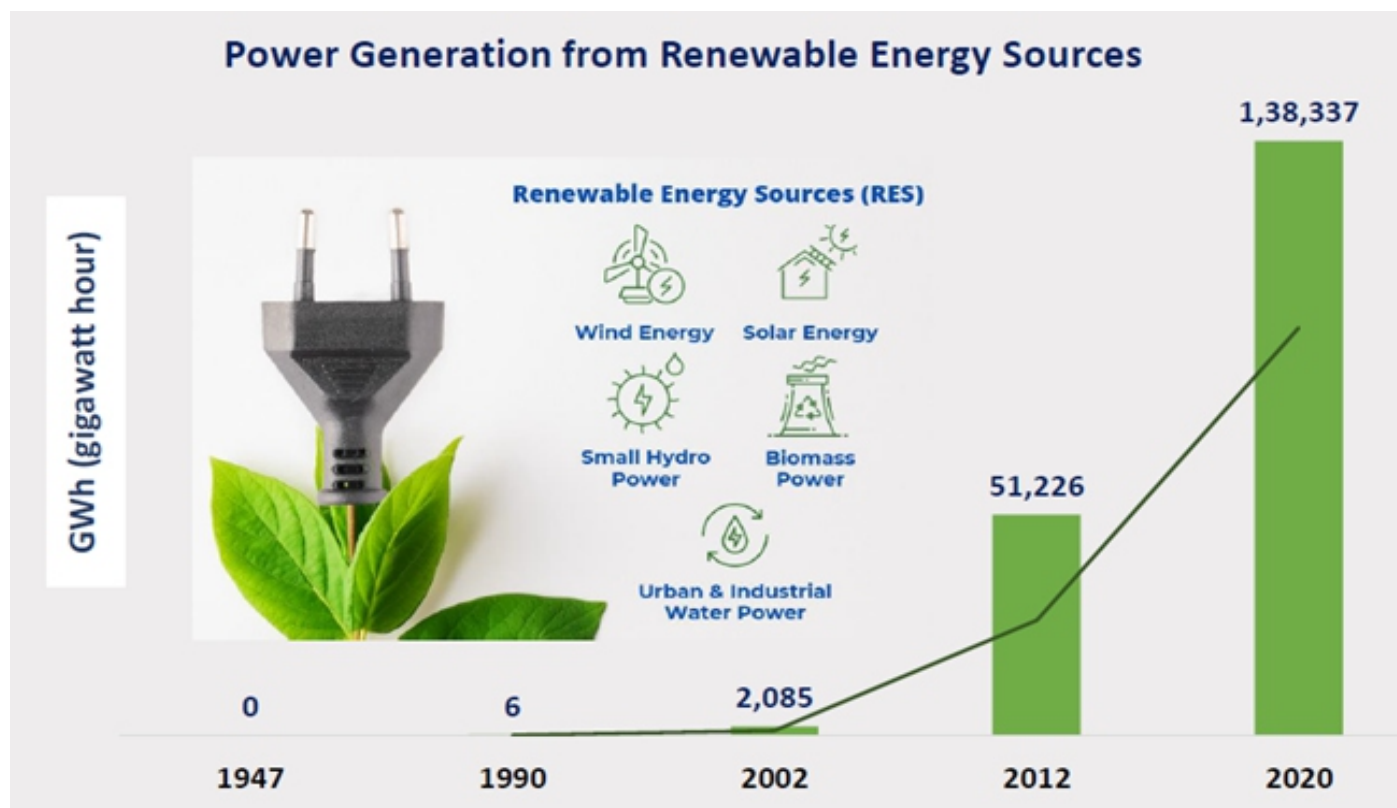
India is moving further on its economic growth trajectory along with fulfilling its commitment to the global climate action plan. This leads to India's growth in installed capacity of renewable sources of energy with declining trends of fossil fuel imports in the global energy market to maintain stable growth momentum in the fluctuating global energy scenario.

Installed Capacity of India's Renewable Energy Sources

Solar	Wind	Small hydro	Large hydro	Biopower	Nuclear
48.55 GW	40.03 GW	4.83 GW	46.51 GW	10.62 GW	6.78 GW

Source: <https://pib.gov.in/FeaturesDeatils.aspx?Noteld=151141&ModuleId%20=%202>

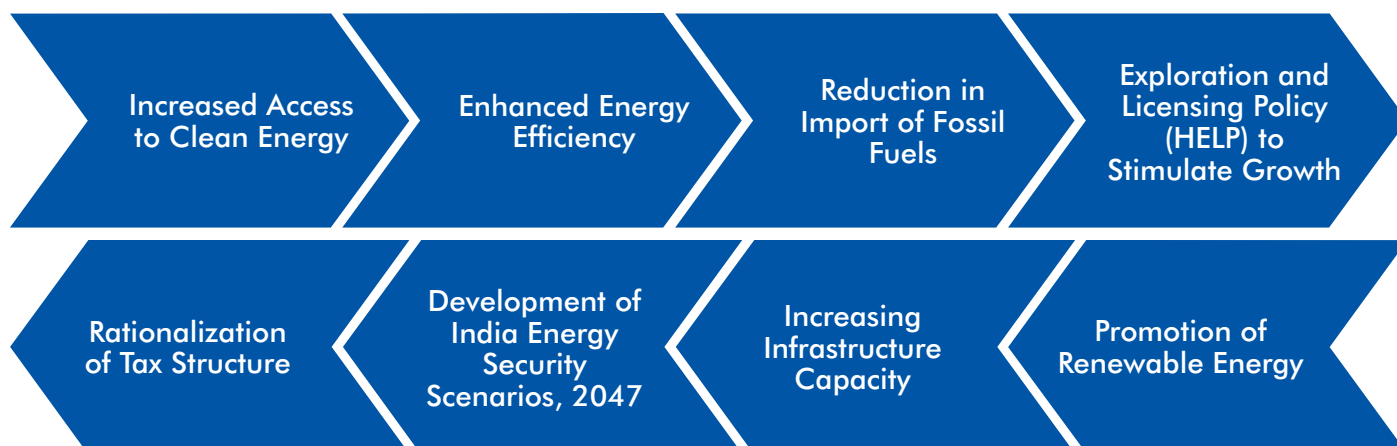
India is a developing economy and the home of the world's second-largest population, gradually shifting its demand for energy from fossil fuels to renewable sources of energy such as solar, wind, hydropower, etc. Continuous policy and regulatory initiatives have been taken to make India's energy mix more balanced than before with a significant increase in renewable energy capacities across the sectors.



Source: <https://pib.gov.in/FeaturesDeatils.aspx?NotelId=151141&ModuleId%20=%202>

India, pivotal to the formation of the International Solar Alliance (ISA) along with developing the 5th largest usable hydropower potential in the world working aggressively to attain energy security for its rapid development through sustainable means.

Measures to Enhance Energy Security



For the same, it is expanding its energy relationships with its extending neighbours in Asia such as Myanmar, Kazakhstan, Vietnam, etc. India's strategically important Indo-US Nuclear deal and the membership of the Shanghai Cooperation Organization (SCO) are also making their way forward toward larger global energy cooperation through diplomatic ties along with the government policy initiatives to fuel up the growth of India's energy sector.

Government of India Supported Policy and Initiatives Towards Energy Security

- National Hydrogen Mission
- International Solar Alliance
- Solar City Programmes
- Wind Solar Projects
- Product Linked Incentives (PLI) for Battery Manufacturing

Energy Storage to increase Energy Security



But still, multiple challenges in India's energy security path need to be addressed over time to diversify its energy mix, especially through renewable energy sources and non-fossil fuel choices across the sectors.

Challenges in India's Energy Security Path

Policy Challenges

- Non-lucrative Investment Policy
- Regulatory and Environmental Issues
- Non-access to Critical Technologies in Strategic Areas

Economic Challenges

- Inadequate Domestic Supply of Important Sources such as Coal, Natural gas, etc
- Rising Fuel Subsidies
- Dependence on Imported Fuel

Additional Challenges

- Infrastructure Constraints
- Lack of Skilled Human Resource

Despite these challenges, the Government of India is finding its best way forward to decarbonize the country along with developing diversified sources of green energy towards its energy security target such as green hydrogen. The policy frameworks are preparing the ground for transforming India's energy security paradigm to fuel the country's long-term sustainable growth in the coming years.

Resources

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Electric Vehicle	Infrastructure: Highway/Tunnels	Animal Husbandry	Healthcare	Climate Change
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