Draft

Framework of India's Climate Finance Taxonomy

Government of India
Ministry of Finance
Department of Economic Affairs

Contents

Abbreviations

Acronym	Full Form
ACC	Advanced Chemistry Cell
AfDB	African Development Bank
AIDC	Agriculture Infrastructure Development Cess
AIIB	Asian Infrastructure Investment Bank
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
AMS	ASEAN Member States
ANZSIC	Australia and New Zealand Standard Industrial Classification
ASEAN	Association of Southeast Asian Nations
AUSC	Advanced Ultra Supercritical
BEE	Bureau of Energy Efficiency
BRTS	Bus Rapid Transit System
CAFE	Corporate Average Fuel Economy
CBI	Climate Bonds Initiative
CCTS	Carbon Credit Trading Scheme
CO2	Carbon Dioxide
DA-JGUA	Dharti Aabha Janjatiya Gram Utkarsh Abhiyan
DNSH	Do No Significant Harm
EBRD	European Bank for Reconstruction and Development
ECSBC	Energy Conservation Sustainable Building Code
EIB	European Investment Bank
EU	European Union
EV	Electric Vehicle
FAME	Faster Adoption and Manufacturing of Electric Vehicles
GDP	Gross Domestic Product
GEC	Green Energy Corridor
GFT	Green Finance Taxonomy (South Africa)
GHG	Greenhouse Gas
GLP	Green Loan Principles (Egypt)

Acronym	Full Form
GNHCP	Green National Highways Corridor Project
GRIHA	Green Rating for Integrated Habitat Assessment
GVA	Gross Value Added
GW	Gigawatt
HDI	Human Development Index
ICMA	International Capital Market Association
IDB Group	Inter-American Development Bank Group
IDFC	International Development Finance Club
IEA	International Energy Agency
IESS	India Energy Security Scenarios
IFC	International Finance Corporation
IGBC	Indian Green Building Council
IPCC	Intergovernmental Panel on Climate Change
IPSF	International Platform on Sustainable Finance
IsDB	Islamic Development Bank
IWG	Industry Working Group
LED	Light Emitting Diode
LIFE	Lifestyle for Environment
LMA	Loan Market Association
MDBs	Multilateral Development Banks
MoEFCC	Ministry of Environment, Forest and Climate Change
MSC	Makes Significant Contribution
MSME	Micro, Small and Medium Enterprises
MSS	Minimum Social Safeguards
MTOE	Million Tonnes of Oil Equivalent
MVA	Megavolt-Amperes
MW	Megawatt
NABARD	National Bank for Agriculture and Rural Development
NAPCC	National Action Plan on Climate Change
NDB	New Development Bank

Acronym	Full Form
NDC	Nationally Determined Contribution
NEMMP	National Electric Mobility Mission Plan
NICRA	National Innovations in Climate Resilient Agriculture
PAT	Perform Achieve and Trade
PIB	Press Information Bureau
PLI	Production Linked Incentive
PM E-DRIVE	PM Electric Drive Revolution in Innovative Vehicle Enhancement
PM-KUSUM	Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan
PMP	Phased Manufacturing Programme
PMUY	Pradhan Mantri Ujjwala Yojana
PSM	Payment Security Mechanism
PVTG	Particularly Vulnerable Tribal Group
RIC	Road and Infrastructure Cess
RMT	Remedial Measures to Transition
SAPCC	State Action Plan on Climate Change
SBG	Sustainability Bond Guidelines
SDG	Sustainable Development Goal
SDT	Sector-agnostic Decision Tree
SIDBI	Small Industries Development Bank of India
SLP	Social Loan Principles
SMR	Small Modular Reactor
SPMEPCI	Scheme for Promotion of Manufacturing of Electric Passenger Cars in India
SSFA	Singapore Sustainable Finance Association
STC	Sectoral Technical Committee
tCO2e	Tonnes of Carbon Dioxide Equivalent
TSC	Technical Screening Criteria
UJALA	Unnat Jyoti by Affordable LEDs for All
UNFCCC	United Nations Framework Convention on Climate Change
VGF	Viability Gap Funding

1. Introduction and Setting the Context

1.1. India's climate ambitions are reflected through the Nationally Determined Contributions (NDCs) and the announcement of Net Zero emissions by 2070. India requires around USD 2.5 trillion (at 2014-15 prices) to meet the NDC targets till 2030.[1] As per NITI Aayog's India Energy Security Scenarios (IESS) 2047, a scenario-building tool, the total investment required for energy transition is estimated at ~USD 250 billion per year till 2047.[2] However, this cost does not include the cost of EV infrastructure, demand infrastructure such as new iron and steel plants, etc.

1.2. Finance for adaptation action is vital for addressing climate change impacts, building resilience and achieving India's development goals. Preliminary estimates indicated that about USD 206 billion (at 2014-15 prices) would be required from 2015 to 2030 to implement adaptation actions in agriculture, forestry, fisheries, infrastructure, water resources and ecosystems.[3] According to the Initial Adaptation Communication[4] submitted by the country in December 2023, the cumulative expenditure needed for adaptation in a Business as Usual (BAU) scenario is estimated to be ₹56.68 trillion (approx. USD 648.5 billion)[5] till 2030 at 2023-24 prices.

1.3. The country has also announced its vision to be '*Viksit*' or 'developed' by 2047. At present, India's energy consumption per capita is about one-fifth[6] of the developed countries and would need to appreciate significantly during the Amrit Kaal, a period of rapid economic growth. Estimates suggest that the minimum level of per capita final energy requirement for India to become a developed country with an HDI of 0.9 must be in the range of 45.7 to 75

[1] Initial Nationally Determined Contribution of India.
[2] Economic Survey 2023-24, Chapter 6: Climate Change and Energy Transition https://www.indiabudget.gov.in/budget2024-25/economicsurvey/doc/eschapter/echap06.pdf
[3] Ibid
[4] India's Adaptation Communication. https://moef.gov.in/uploads/2024/01/India-TNC-IAC-revised.pdf
[5] At 87.5/USD as on February 28, 2025.
[6] Our World in Data, CO2 emissions https://ourworldindata.org/grapher/energy-consumption-by-source-and-country.

gigajoules per year[7] when the total final consumption of energy per capita for FY23 was 16.7 gigajoules[8] only.

1.4. The country has adopted an ambitious strategy to reduce emission intensity and enhance non-fossil fuel composition in the installed electricity capacity while expanding forest and tree cover to create an additional carbon sink. To champion and cultivate a vibrant, sustainable lifestyle grounded in the rich traditions and core values of conservation and moderation, the mass movement for 'LIFE – Lifestyle for Environment' serves as a vital cornerstone of our strategic vision. This initiative aims to inspire individuals and communities to embrace practices that nurture both personal well-being and the health of our planet. Given the size of resources required for financing India's ambitious climate action, Union Budget 2024-25 announced that the taxonomy for Climate Finance would be developed for *"enhancing the availability of capital for climate adaptation and mitigation"*.[9]

1.5. Given the complexity of the exercise and in alignment with international experience, the proposed work will be conducted in two distinct phases. The first phase will establish the foundational framework and the approach. Following this, the second phase will involve the classification of activities, measures, and projects that are climate-supportive, along with those facilitating transition in specific sectors and industries. This phased approach aims to enhance clarity and transparency for investors while ensuring that the taxonomy remains aligned with India's developmental goals and climate commitments. Acknowledging that taxonomy must continually evolve in scope and depth to reflect the dynamic nature of the economy, it will be a living document that will be reviewed and updated from time to time. While achieving interoperability and ensuring alignment with global taxonomies is essential and will be pursued, the unique circumstances of the country will ultimately shape the development of the taxonomy. This approach will facilitate both domestic and foreign financial institutions in identifying

[7] Bhattacharyya, R., B., Singh, K. K., Grover, R. B., Bhanja, K., Applied Systems Analysis, Homi Bhabha National Institute, & Chemical Engineering Group, Bhabha Atomic Research Centre. (2022). Estimating minimum energy requirement for transitioning to a net-zero, developed India in 2070. In CURRENT SCIENCE (Vol. 122, Issue 5, pp. 517–518). https://www.currentscience.ac.in/Volumes/122/05/0517.pdf

[8] Table 8.4 in the Energy Statistics India 2024 by MOSPI. Retrieved 25 December 2024 from https://www.mospi.gov.in/sites/default/files/publication_reports/EnergyStatistics_India_publication_2024N.pdf

[9] Para 104 of the Budget 2024-25 Speech

investment opportunities in climate-related activities and will also help mitigate the risk of greenwashing.[10]

Historical responsibility and per capita emissions

1.6. India's per capita GHG emissions stood at approximately 2.9 tCO2e in 2023, significantly lower than the World average of 6.7 tCO2e. In comparison, the per capita emissions of the European Union stood at 6.9 tCO2e, Japan at 8.3 tCO2e, the United States at 17.2 tCO2e and Canada at 20.4 tCO2e for the same year. This stark contrast underscores India's relatively minimal contribution to global emissions.[11]

1.7. Developed countries have been the predominant contributors to cumulative historical emissions and continue to have higher per capita emission levels. Developed nations peaked their emissions decades ago, the EU in the 1970s and the US in the early 2000s.[12] However, most of these countries have set a mid-century (by 2050) target towards net zero, allowing them relatively longer timelines for emission reductions than developing countries that are yet to reach peak emissions but are already facing increasing pressure to adopt similar trajectories over a much shorter timeframe.

1.8. The pace of transition has significant implications for development trajectories. A steep transition pathway relies on access to finance, advanced technologies, and critical mineral resources, all of which pose significant challenges related to access and availability of such resources at a reasonable cost. Further, a rapid transition may substantially increase costs and could divert resources from other developmental priorities.[13] A balanced and pragmatic approach that considers a country's unique circumstances, development priorities, and access to essential resources will, therefore, be critical for designing sustainable and inclusive low-carbon pathways.

[10] For financial regulatory purposes, ICMA proposed the definition for greenwashing as "a misrepresentation of the sustainability characteristics of a financial product and/or of the sustainable commitments and/or achievements of an issuer that is either intentional or due to gross negligence". https://www.icmagroup.org/assets/documents/Sustainable-finance/Market-integrity-and-greenwashing-risks-in-sustainable-finance-October-2023.pdf

[11] Our World in Data, https://tinyurl.com/2zakpcy8

[12] Our World in Data, CO2 emissions. https://ourworldindata.org/co2-emissions

[13] Jean Pisani-Ferry (2021), Climate Policy Is Macroeconomic Policy, and the Implications Will Be Significant, Peterson Institute for International Economics. https://www.piie.com/sites/default/files/documents/pb21-20.pdf

Present status of India's climate action

1.9. India's Climate Action is circumscribed by the commitments made through the NDC submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2016 and its subsequent update in 2022. The NDC is focused on reducing the emission intensity of the GDP, enhancing the non-fossil energy installed capacities in electric power generation, and creating additional carbon sinks. Further, adaptation is recognised as an essential intervention reflected through the focus on enhancing investments in development programmes in sectors that are vulnerable to climate change, particularly agriculture, water resources, the Himalayan region, coastal regions, and health and disaster management. The approach considers the mobilisation of new and additional funds as capacity building and development of domestic frameworks vital for research & development and diffusion of cutting-edge climate technologies. India has embraced a comprehensive action plan to promote low-carbon development and build resilience to the impact of climate change. The efforts below reflect India's multi-pronged strategy to enhance energy security, reduce carbon intensity, and support sustainable development while moving towards its Net Zero goals.

National Action Plan on Climate Change (NAPCC) - Mission Mode Approach

1.10. The NAPCC charts a course to enhance the sustainability of India's development pathway, integrating high economic growth and building resilience to climate change. It encompasses nine national missions, addressing critical areas such as solar energy, water, energy efficiency, forests, sustainable habitat, sustainable agriculture, the Himalayan ecosystem, strategic climate knowledge, and, more recently, human health. A comprehensive set of climate actions, spanning adaptation, mitigation, and demand-side management, is being implemented through these missions.

1.11. In tandem, states and union territories have been encouraged to prepare State Action Plans on Climate Change (SAPCCs) aligned with the overarching NAPCC framework and reflect local vulnerabilities, priorities, and capacities. As of July 2024, thirty-four SAPCCs have been formulated and are under implementation.[14] These plans integrate adaptation and mitigation strategies into development planning and are supported through financial and technical assistance from the central government and development partners. This sub-national climate

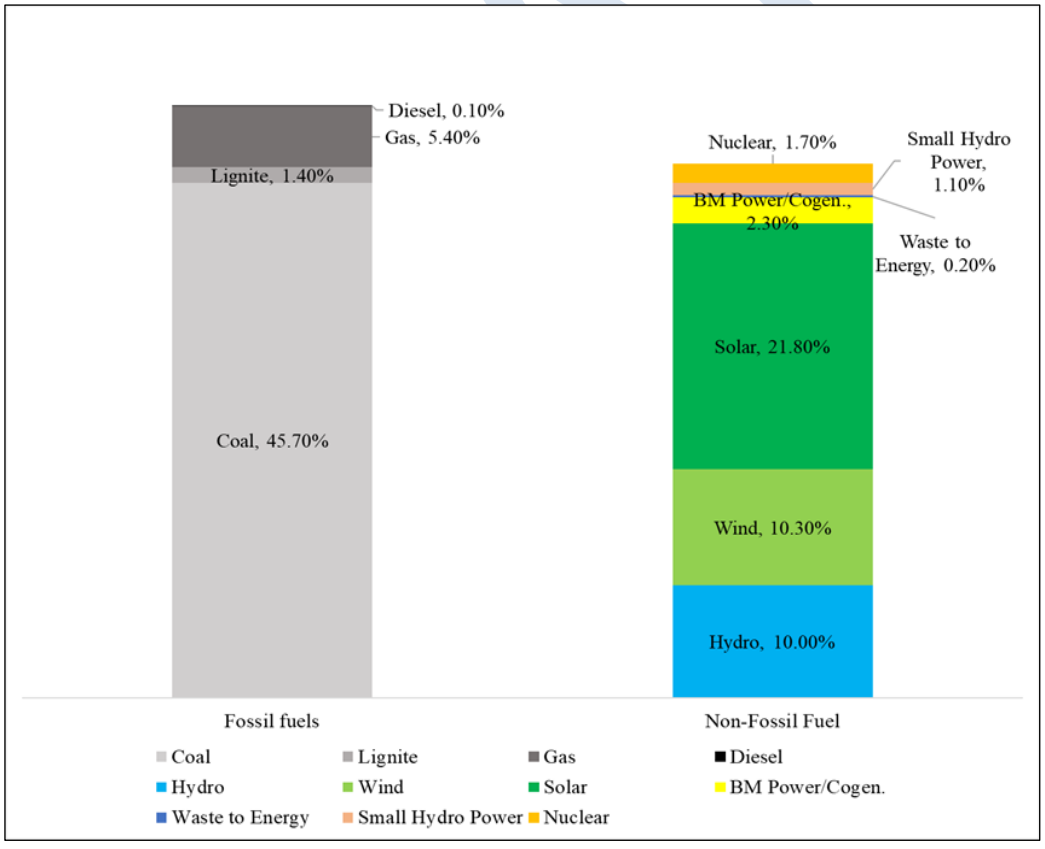
[14] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2036722

planning framework ensures decentralised action and strengthens India's climate resilience from the ground up.

Advancing a Diversified Energy Mix

1.12. India is progressing towards a diversified energy mix, focusing on expanding renewable energy, bioenergy, nuclear, and storage solutions. As of February 2025, non-fossil fuel sources account for 47.4 per cent of the total installed electricity generation capacity. Within this, solar comprises 21.8 per cent, wind 10.3 per cent, hydro 10.0 per cent, and nuclear 1.7 per cent[15]. India is rapidly scaling up solar energy through grid and off-grid initiatives. The Solar Parks Scheme and Ultra-Mega Solar Power Projects aim to establish 40,000 MW capacity, with 55 solar parks already sanctioned across 13 states, totalling 39.9 GW, of which 12.2 GW has been commissioned as of December 2024. In wind energy, states such as Tamil Nadu, Gujarat, Maharashtra, and Karnataka continue to lead.

Figure 1: India's electricity mix in terms of installed capacity (as of February 2025)



[15] https://powermin.gov.in/sites/default/files/uploads/power_sector_at_a_glance_Feb_2025.pdf.

1.13. Decentralised solar deployment is the focus of the PM KUSUM scheme. The Scheme has three components targeted to achieve solar power capacity addition of 34.8 GW by 31.3.2026. These include setting up of 10,000 MW of decentralised ground/stilt mounted solar power plants on barren/fallow/pasture/marshy/ cultivable land of farmers (Component A), installation of 14 lakh stand-alone solar pumps in off-grid areas (Component B) and solarisation of 35 lakh grid-connected agriculture pumps through individual and feeder level solarisation (Component C). By the end of March 2025, over 7.7 lakh stand-alone solar agriculture pumps have been installed and over 3.3 lakh grid-connected agriculture pumps have been solarised[16].

1.14. Additionally, PM Surya Ghar Muft Bijli Yojana aims at supplying solar power to one crore households by March 2027,[17] and the New Solar Power Scheme under PM JANMAN and Dharti Aabha Janjatiya Gram Utkarsh Abhiyan (DA-JGUA) is electrifying one lakh un-electrified tribal and Particularly Vulnerable Tribal Group (PVTG) households across over 63,843 villages, with provisions for off-grid solar lighting in 1,500 Multi-Purpose Centres and solarisation of 2,000 public institutions.[18]

1.15. To promote offshore wind, the government has introduced a Viability Gap Funding (VGF) scheme, featuring a total budget of ₹7,453 crore, with ₹6,853 crore allocated for 1 GW capacity off the coasts of Gujarat and Tamil Nadu, and ₹600 crore for port infrastructure upgrades.[19] The Green Energy Corridor (GEC) initiative is enhancing transmission infrastructure, with GEC-I installing 9,136 circuit kilometres of transmission lines and 21,413 megavolt-amperes (MVA) substations across eight states[20], and GEC-II underway in seven[21] more.[22]

1.16. At the same time, coal-based power will continue to play a role in ensuring energy security, particularly for meeting base-load demand. Efforts are underway to improve the efficiency of thermal power generation through the deployment of supercritical (SC), ultra-supercritical (USC), and Advanced Ultra Supercritical (AUSC) technologies. These upgrades

[16] National Portal for PM-KUSUM, Ministry of New and Renewable Energy (accessed on April 12, 2025). https://pmkusum.mnre.gov.in/#/landing#about-scheme
[17] https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2081250
[18] https://pib.gov.in/PressReleasePage.aspx?PRID=2061196
[19] https://pib.gov.in/PressReleasePage.aspx?PRID=2098441
[20] Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu
[21] Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan Tamil Nadu, and Uttar Pradesh
[22] Economic Survey 2024-25, Chapter 10: Climate and Environment: Adaptation Matters https://www.indiabudget.gov.in/economicsurvey/doc/eschapter/echap10.pdf

can significantly increase the efficiency of coal consumption and reduce emissions per unit of electricity generated. Cleaner coal technologies form a pragmatic strategy to ensure a stable, lower-emission baseload supply, complementing the intermittency of renewable sources and enabling a smoother transition to a low-carbon energy system while ensuring a stable power supply.

1.17. The National Bioenergy Programme supports waste-to-energy, biomass cogeneration, and biogas plants. As of December 2024, grid-connected biomass capacity reached ~9.8 GW and off-grid biogas capacity was around 0.92 GW equivalent. In addition, India is advancing the National Green Hydrogen Mission, targeting 5 million metric tonnes per annum of green hydrogen by 2030, with awarded capacities of 412,000 tonnes for production and 3,000 MW of electrolyser manufacturing.[23]

1.18. The Nuclear Energy Mission, announced in Union Budget 2025–26 with a ₹20,000 crore outlay, aims to develop Small Modular Reactors (SMRs) indigenously and increase nuclear capacity to 100 GW by 2047.

1.19. The transition to clean cooking fuel has reached near saturation through the Pradhan Mantri Ujjwala Yojana (PMUY) in 2023,[24] significantly improving energy access for households.

Measures to enhance energy efficiency

1.20. Enhancing energy efficiency has been at the core of India's strategy to reduce emission intensity. The market-driven initiative of the Perform Achieve and Trade (PAT) Scheme, launched in 2012, aims to improve energy efficiency in energy-intensive industries by setting reduction targets for Designated Consumers (DCs). As of March 2023, the scheme had saved approximately 26 million tonnes of oil equivalent (MTOE) and reduced over 70 million tonnes of CO2 emissions.[25] Following a 2022 amendment to the Energy Conservation Act, the Carbon Credit Trading Scheme (CCTS) was introduced, covering the energy-intensive sectors that were

[23] https://mnre.gov.in/en/national-green-hydrogen-mission/
[24] https://pib.gov.in/PressReleseDetailm.aspx?PRID=2082375&reg=3&lang=1
[25] https://beeindia.gov.in/en/pat-read-more

earlier covered under PAT. Nine sectors[26], including Aluminium, Cement, and Steel, have been identified for inclusion under CCTS.

1.21. Simultaneously, energy efficiency measures are being actively promoted through both schemes and regulatory interventions, such as the Prime Minister's Unnat Jyoti By Affordable LEDs for All (UJALA) scheme, which has led to the widespread adoption of LED lighting, reducing household electricity consumption. Energy efficiency in the building sector is being driven by the Energy Conservation Sustainable Building Code (ECSBC) for commercial buildings, Eco Niwas Samhita for residential buildings, star ratings for commercial buildings, energy-efficient homes, and net zero energy buildings (Shunya Labelling). Additionally, it has become mandatory for all new Government buildings to adhere to the Green Rating for Integrated Habitat Assessment (GRIHA) ratings to promote resource-efficient and sustainable construction practices, including energy efficiency standards for reduced environmental impact.[27] The Star Labelling Programme for appliances by the Bureau of Energy Efficiency (BEE) encourages the use of energy-efficient electrical appliances across residential and commercial sectors.[28]

Policy and Investment Support

1.22. The Production-Linked Incentive (PLI) schemes are designed to promote the manufacturing of high-efficiency solar PV modules and enhance the production of electric and hydrogen fuel cell vehicles.[29] The National Programme on Advanced Chemistry Cell (ACC) Battery Storage aims to boost domestic battery production, while the Phased Manufacturing Programme (PMP) focuses on localising electric vehicle (EV) components to strengthen India's supply chain.

1.23. The Faster Adoption and Manufacturing of Electric Vehicles (FAME) Scheme has encouraged the adoption of electric two-wheelers, three-wheelers, four-wheelers, and buses, along with the expansion of charging infrastructure.[30] Building on this foundation, the PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) Scheme was

[26] https://beeindia.gov.in/en/programmes/carbon-market
[27] https://www.grihaindia.org/green-rating-must
[28] https://beeindia.gov.in/en/star-label
[29] PLI Auto | Ministry of Heavy Industries.
[30] https://pib.gov.in/PressNoteDetails.aspx?ModuleId=3&NoteId=152130&utm=&reg=3&lang=1

launched in September 2024 to accelerate EV adoption across various categories, including electric two-wheelers, three-wheelers, trucks, buses, and ambulances.[31]

1.24. Additionally, the PM e-Bus Sewa - Payment Security Mechanism (PSM) Scheme ensures financial security for deploying 38,000 electric buses.[32] The Scheme for Promotion of Manufacturing of Electric Passenger Cars in India (SPMEPCI) launched in March 2024, encourages domestic value addition to promote localised EV manufacturing.

1.25. Ongoing initiatives by relevant ministries further reinforce India's transition to clean energy.[33] For instance, the Ministry of Power issued revised guidelines in September 2024 that established uniform standards for EV charging infrastructure and streamlined electricity connections. Meanwhile, the Ministry of Road Transport and Highways introduced green license plates, exempted battery-operated vehicles from permit requirements, and urged states to waive road tax to lower upfront costs. Additionally, the Ministry of Housing and Urban Affairs has amended the Model Building Bye-Laws to require the installation of EV charging stations in private and commercial buildings, ensuring wider access to charging infrastructure.[34]

1.26. The Union Budget 2024-25 envisages action on pumped storage, the development of small modular nuclear reactors, and advanced ultra-supercritical (AUSC) thermal power plants, strengthening energy security and grid stability while diversifying India's clean energy portfolio.[35]

1.27. Further, India has taken steps to put an implicit price on carbon. Fiscal instruments such as the GST Compensation Cess on coal at ₹400 per tonne, along with specific levies including the Central Excise Duty, Additional Excise Duty, Road and Infrastructure Cess (RIC), and Agriculture Infrastructure Development Cess (AIDC) on petrol and diesel, have together contributed to establishing a comparatively high implicit carbon tax. These measures serve to discourage fossil fuel consumption and reflect India's commitment to integrating climate considerations into its fiscal architecture.

[31] https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2085205&utm
[32] https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2054191
[33] https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2084148
[34] https://pib.gov.in/PressReleasePage.aspx?PRID=2085206
[35] https://www.indiabudget.gov.in/doc/bspeech/bs2024_25.pdf

Progress on India's 2030 NDC Commitments

1.28. India's proactive measures have yielded positive results, with many targets under its first Nationally Determined Contribution (NDC) achieved ahead of schedule. India achieved 40 per cent cumulative electrical power installed capacity from non-fossil fuel sources in 2021, well before the 2030 target. Similarly, the emission intensity of GDP was reduced by 33 per cent from 2005 levels by 2019—nine years ahead of the target year. Recognising the progress, India revised its NDC in August 2022, enhancing the target to reduce GDP emission intensity to 45 per cent (up from 33-35 per cent) by 2030 and increasing the target for non-fossil fuel-based cumulative electric power installed capacity to 50 per cent (from the earlier 40 per cent). India has successfully established an installed electricity generation capacity of 222.85 GW from non-fossil fuel sources, which account for 47.4 per cent of the total capacity as of 28 February 2025.[36] There has been notable progress in energy generation from non-fossil fuels, including nuclear, hydro, and renewable sources. This segment reached 420.8 thousand gigawatt hours in the 2022-23 provisional data, making up 22.8 per cent of the total gross energy generation. Within this, large hydro represents 8.81 per cent, nuclear contributes 2.79 per cent, and renewables account for 11.52 per cent.[37]

1.29. The extensive cross-sectoral measures adopted across the economy, coupled with schemes promoting energy efficiency and influencing consumer and producer behaviour, have significantly impacted emissions growth. A report by the International Finance Corporation lauds India's commitment to its climate goals, identifying it as the only G20 nation aligned with the 2°C global warming threshold[38]. Significantly, these achievements have been mainly driven by domestic resources, reflecting India's reliance on internal capabilities for climate action. However, meeting its updated NDC targets requires an estimated USD 2.5 trillion (at 2014–15 prices) by 2030. To bridge this significant financing gap, access to affordable finance and advanced technology—particularly from developed countries, as stipulated under the UNFCCC and the Paris Agreement—is critical for sustaining and scaling India's climate efforts.

[36] https://powermin.gov.in/sites/default/files/uploads/power_sector_at_a_glance_Feb_2025.pdf
[37] Based on Tables 3.6 (a) and (b) in Energy Statistics of India 2024, M/o Statistics, Planning and Implementation. Accessed from https://www.mospi.gov.in/publication/energy-statistics-india-2024-1.
[38] International Finance Corporation. 2023. Blended Finance for Climate Investments in India. The World Bank Group, Washington, DC.(2023), https://www.ifc.org/content/dam/ifc/doc/2023/Report-Blended-Finance-forClimate-Investments-in-India.pdf.

2. Objectives of the Climate Finance Taxonomy

2.1. The climate finance taxonomy is a tool to identify activities consistent with India's climate action goals and transition pathway. The objective is to facilitate greater resource flow to climate-friendly technologies and activities, enabling achievement of the country's vision to be Net Zero by 2070 while also ensuring long-term access to reliable and affordable energy. The taxonomy should also prevent "greenwashing"[39]. The taxonomy shall be consistent with the developmental goal of 'Viksit Bharat' to be achieved by 2047. Specifically, the taxonomy will cover technologies, measures, projects and activities that are aligned to:

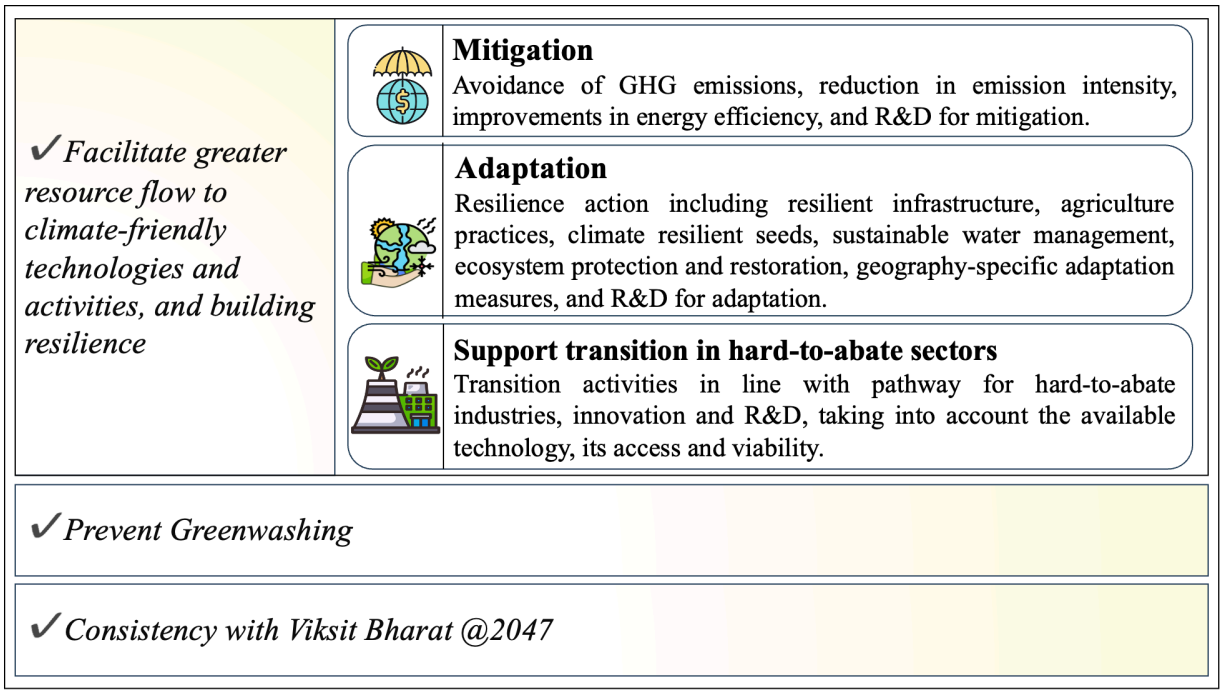
a) ***Mitigation***- which includes improvements in energy efficiency or reduction in emission intensity, and avoidance of GHG emissions including through the expansion of non-fossil fuel energy, etc.,

b) ***Adaptation***- action that enhances resilience, including sustainable water management, ecosystem protection and restoration, and geography-specific adaptation measures to lower the negative impacts of climate change.

c) ***Support transition of hard-to-abate sectors***- Transition activities in line with the specific pathway for hard-to-abate industries, innovation and R&D facilitate low carbon pathways considering the available technology, its access and viability.

[39] Greenwashing in the context of the Climate Finance Taxonomy refers to misrepresentation of activities as being climate-aligned, either intentional or due to gross negligence.

Figure 2: Objectives of the Climate Finance Taxonomy



3. Designing India's Climate Finance Taxonomy

3.1. There are broadly two aspects to framing a taxonomy - qualitative and quantitative[40]. The exposition of the objectives and principles that guide the identification of activities and projects as being climate-relevant forms the qualitative part, while the quantitative aspect is reflected in the form of performance thresholds like the expected extent of GHG savings, best-in-class performance[41], and improvements in emission intensity. In most cases, the qualitative aspect forms the basis for the quantitative aspects of the taxonomy.

3.2. Qualitative elements can define the core principles guiding green activities and align with India's NDCs and SDGs. Quantitative elements, such as GHG intensity reduction thresholds and sustainability performance metrics, can provide measurable targets for transparency and accountability. A **hybrid approach** that combines qualitative principles with quantitative metrics ensures that the taxonomy remains inclusive, addressing India's diverse industrial

[40] ASEAN Taxonomy Verison 3 (April 2024)
[41] Best in class performance includes minimum threshold (best in class) for the environmental performance of the Activity (e.g., a level of GHG emissions per unit of activity that only the best 10% markets players achieve).

structure and responding to new targets, regulatory changes, and policy dynamics while promoting a science-based trajectory for climate transition.

3.3. The formulation of the taxonomies in most jurisdictions has also mainly been an iterative process, beginning with the qualitative aspects and moving on to the quantitative aspects. They have been periodically reviewed. For instance, ASEAN introduced their 3rd version in 2024 (versions 1 and 2 were in 2021 and 2023, respectively), while the EU initiated the process in 2018 with an Action Plan on financing sustainable growth, the taxonomy regulation was brought out in 2020 following which, the Technical Screening Criteria (TSC) was finalised during 2021-23[42].

3.4. Given the considerable amount of climate finance required, the long pathway to Net Zero, and the wide and complex nature of sectors and activities to be covered, the taxonomy should allow updation, inclusions, and enhancement of scope. India's taxonomy on climate finance will be a living document. It will be periodically reviewed to capture the evolving requirements and to progressively cover sectors, projects and activities reflecting the dynamic landscape of investments for climate finance.

3.5. The implementation of the hybrid approach will be in a phased manner, starting with qualitative criteria to provide a broad framework that aligns with national priorities, such as inclusive growth, Net Zero goal by 2070, and sector-specific low-carbon pathways. Over time, quantitative thresholds and benchmarks will be incorporated, as appropriate, for greater precision. Where quantitative thresholds are incorporated, relative performance targets (e.g., percentage improvements) rather than absolute benchmarks would be considered. The phased development will allow flexibility to address technological challenges and data constraints, particularly in sectors like Micro Small and Medium Enterprises (MSMEs)[43] and agriculture.

3.6. Recognising the diversity in capacities within industrial organisations across sectors in India, the taxonomy will ensure inclusivity and proportionality. For the MSME sector, the taxonomy will follow a staggered approach with simplified criteria and processes to reduce the

[42] https://www.spglobal.com/esg/insights/a-short-guide-to-the-eu-s-taxonomy-regulation

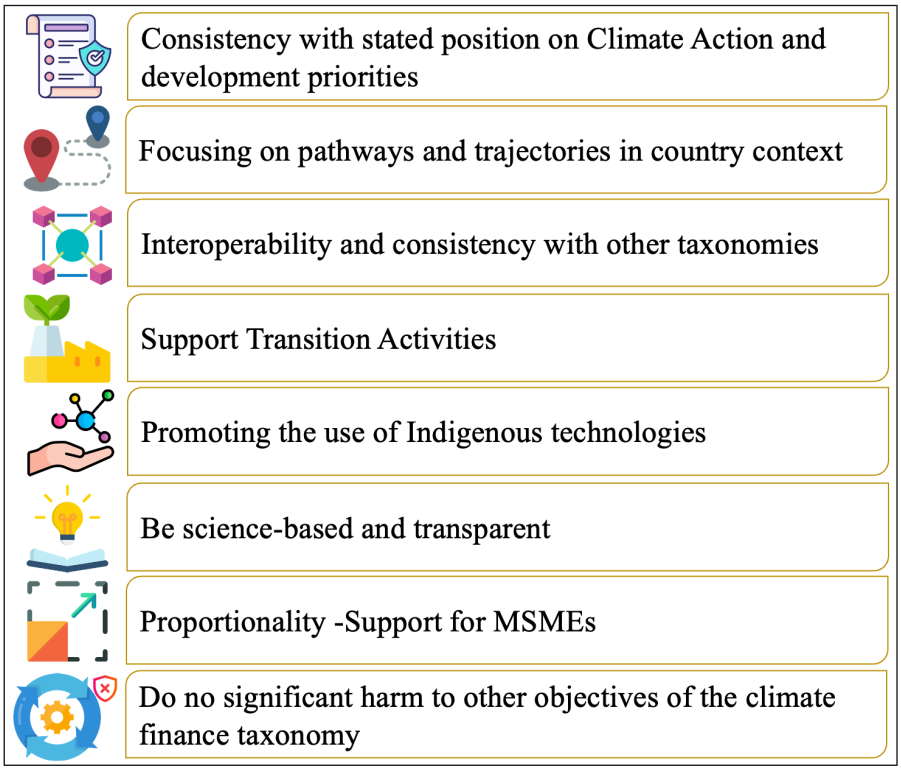
[43] The term MSME, as applied here, refers to enterprises as defined in the Gazette Notification dated 1 June 2020 of the Micro, Small and Medium Enterprises Development Act, 2006 for the new classification criteria of Micro, Small, and Medium Enterprises. https://msme.gov.in/whatsnew/new-criteria-classification-micro-small-and-medium-enterprises-gazette-notification-1st

burden of adoption in view of their technological and resource constraints while encouraging their participation in climate initiatives. The intervention will duly incorporate these needs including through i) specific thresholds and criteria for MSMEs; ii) simplified reporting, and iii) capacity-building.

3.7. Considering the country's geography and varied agro-climatic zones, which lead to vulnerability to climate change, the taxonomy will emphasise adaptation and building resilience to ensure that developmental gains are not adversely impacted. The agriculture sector is the backbone of the economy, is pivotal for maintaining food security and has a predominant presence of small and marginal farmers. The sector, therefore, requires measures to continuously adapt to build its resilience to climate change, and this will be the central theme of the taxonomy in the context of Agriculture.

4. Principles of the Climate Finance Taxonomy

Figure 3: Principles of the Climate Finance Taxonomy



4.1. The Indian Climate Finance Taxonomy is based on eight principles that set down the wire-frame of the classification guiding the identification and delineation of the criteria, activities, projects and/or technologies as applicable. It has been formulated on the basis of consultations on the concept note and a review of existing taxonomies. Further refinements will be based on public consultations on the draft framework. The principles that will form the basis of the framework are as follows:

a) **Consistency with stated position on Climate Action and development priorities:** Nationally Determined Contribution, the announcement of Net Zero carbon emissions by 2070, country-determined transition pathways and India's *Viksit Bharat@2047* ambitions to achieve developed country status by 2047 and energy security for all should be the basis to determine the activities recognised as being consistent with the climate finance framework.

b) **Do no significant harm to other objectives of the climate finance taxonomy:** Implement measures and projects that prevent or minimise adverse effects on other climate objectives,

ensuring that efforts to address one issue do not disproportionately harm others. This shall allow for incorporating safeguards, where necessary to be consistent with the objectives of the taxonomy.

c) **Focusing on pathways and trajectories in the country context**: The pathways and trajectories in line with country circumstances are essential. The taxonomy should contribute to a reduction in carbon emission intensity or long-term low carbon pathways recognising that immediate compliance with stringent standards may not be feasible in the short run or for all sectors.[44]

d) **Interoperability and consistency:** While striving for alignment with international frameworks and taxonomies to the extent possible, the Indian taxonomy for Climate Finance will reflect and allow flexibility considering the country's context, development priorities and national climate goals.

e) **Support Transition Activities:** As stated in the ICMA guidelines on taxonomies[45], "*the real challenge is enabling the market to finance the transition rather than unintentionally restricting it to what is already considered exemplary.*" The taxonomy should facilitate a dynamic and inclusive classification system that recognises and supports sectors crucial for transition[46], facilitating investment in critical sectors during their transition phase.

f) **Promoting the use of Indigenous technologies:** The taxonomy should strive to enhance investments in Indigenous technologies by incentivising the adoption of such technologies and Research and Development (R&D) on a preferred basis.

g) **Be science-based and transparent**: The approach should be objective, supported by clearly defined and disclosed metrics, and should rely on transparent and robust methodologies to identify investment opportunities. Principles for inclusion in climate mitigation projects can be based on avoiding GHG, reducing GHG or carbon emission intensity, enhancing GHG removals and long-term storage of GHGs. Similarly, adaptation and resilience activities can be based on the principle of increasing resilience and reducing the risk and vulnerability to

[44] As also highlighted in ICMA's Overview and Recommendations for Sustainable Finance Taxonomies https://www.icmagroup.org/assets/documents/Sustainable-finance/ICMA-Overview-and-Recommendations-for-Sustainable-Finance-Taxonomies-May-2021-180t521.pdf.
[45] Ibid.
[46] Several taxonomies, such as ASEAN, Indonesia, Singapore provide for transition categories to accomodate different stages of progress across industries.

climate hazards, reducing or preventing the adverse impact of current and future climate risks and hazards on the activity itself or nature, assets and people and improve the adaptive capacity and strengthen the resilience of assets, and people.

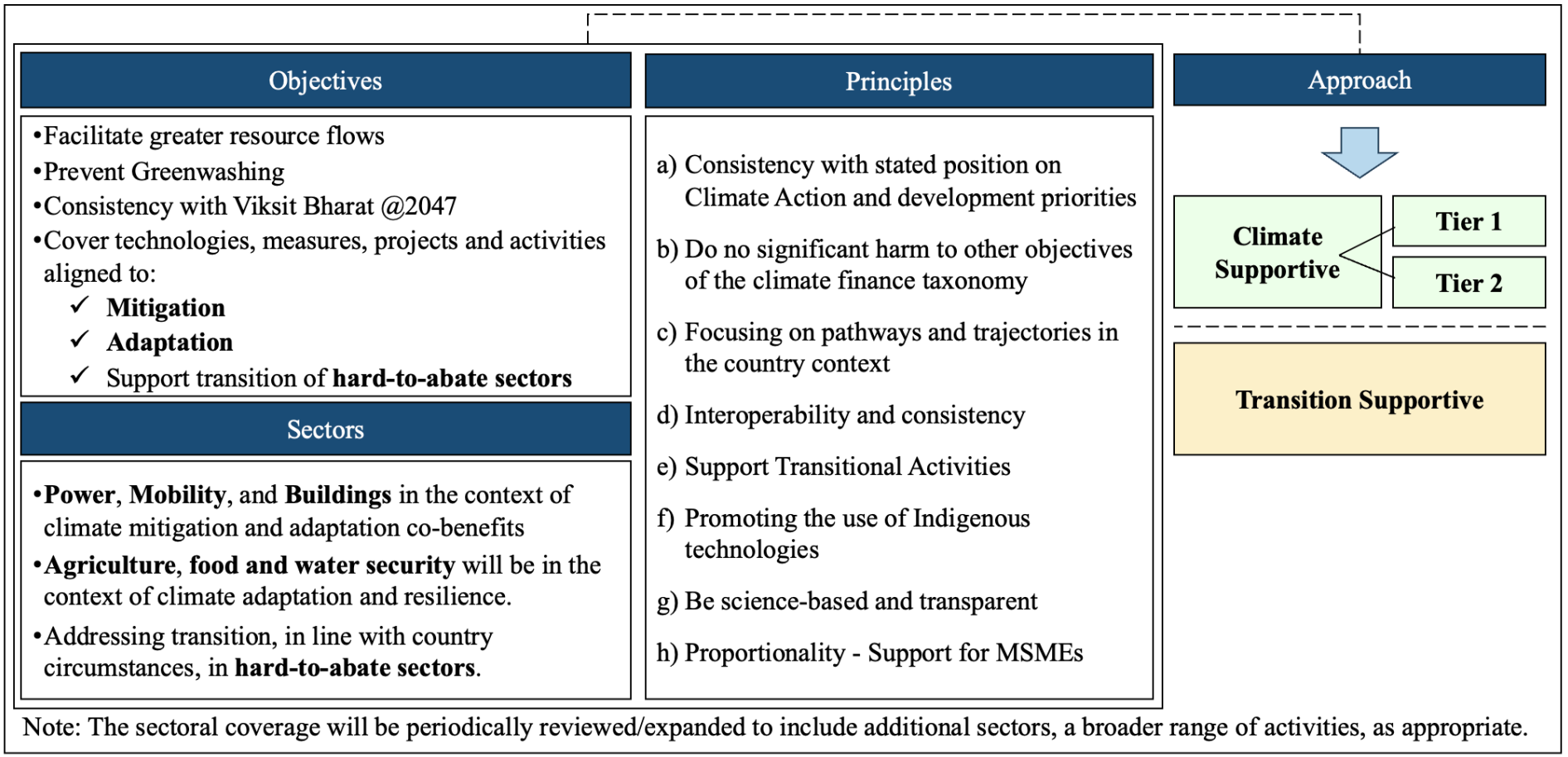
h) **Proportionality - Support for MSMEs**: The taxonomy should incorporate specific provisions to ensure that resource flows to MSMEs are not adversely impacted. The taxonomy shall include simplified and proportionate criteria for MSMEs to facilitate their inclusion in the climate finance framework, addressing their resource constraints and ensuring their smooth transition to low-carbon pathways. Proportionality criteria, capacity-building, and simplified reporting mechanisms shall be implemented by financial institutions/regulators to address the unique challenges of the MSMEs to support their climate transition.

4.2. The above principle will be central to the sector specific taxonomies to be formulated.

Figure 4: Reflection of India's Climate Finance Taxonomy Principles in Global Taxonomies

Consistency with Global Taxonomies	
India's Principles	***Global Taxonomies reflecting consistency with India's principles***
Consistency with stated position on Climate Action and development priorities	EU, China, South Africa, ASEAN, Indonesia, Singapore, Egypt, Latin America, Malaysia, Sri Lanka, Brazil, EU-China Common Ground Taxonomy, IPSF-UNDESA G20 Sustainable Finance Working Group
Do no significant harm to other objectives of the climate finance taxonomy	EU, South Africa, ASEAN, Indonesia, Latin America, Malaysia, Sri Lanka, IPSF-UNDESA G20 Sustainable Finance Working Group
Focusing on pathways and trajectories in country context	EU, South Africa, ASEAN, Indonesia, Latin America, Malaysia, Sri Lanka, IPSF-UNDESA G20 Sustainable Finance Working Group
Interoperability and consistency	EU, ASEAN, Singapore, Indonesia, EU-China Common Ground Taxonomy
Support Transitional Activities	EU, ASEAN, Latin America, Malaysia, Singapore, Brazil
Promoting the use of Indigenous technologies	China, Brazil, Malaysia
Be science-based and transparent	EU, ASEAN, Indonesia, Malaysia, Sri Lanka, Brazil, IPSF-UNDESA G20 Sustainable Finance Working Group
Proportionality -Support for MSMEs	ASEAN, Indonesia, Malaysia, Brazil

Figure 5: Structure of India's Climate Finance Taxonomy



Note: The sectoral coverage will be periodically reviewed/expanded to include additional sectors, a broader range of activities, as appropriate.

5. Approach to the classification of activities, projects and measures contributing towards India's climate commitments

5.1. The classification will be guided by the principles set down in this framework. The taxonomy will classify activities and projects into two baskets - Climate supportive and climate transition. The taxonomy will adopt a graded approach, classifying activities at various levels[47].

5.2. **Climate-supportive activities** would include the activities, projects and measures that contribute to one or more objectives set out in this framework (Table 1), through at least one of the following:

i. Avoiding GHG emissions
ii. Reducing emission intensity
iii. Deploys adaptation solutions that reduce the risk of adverse impacts of climate change
iv. R&D to meet one or more objectives of the framework

Table 1: Climate-supportive activities, projects and measures

Activities/ Projects/ Measures	Category	Qualifying Criteria
Name of Activities, projects and measures (including ISIC codes or NIC codes where available)	Climate Supportive Tier 1	a) This includes activities, projects, and measures leading to absolute emission avoidance, including non-fossil fuel sources. b) Includes activities, projects, and measures that contribute to a reduction in emission intensity (beyond a certain factor), have defined pathways for further improvement, and also contribute to adaptation and resilience building.

[47] Transition activities in line with the specific pathway for hard to abate industries.

Activities/ Projects/ Measures	Category	Qualifying Criteria
		c) In adaptation and resilience building, this includes all activities, projects and measures that enhance climate resilience.
	Climate Supportive Tier 2	a) Activities, projects and measures that contribute to a reduction in emission intensity and have defined pathways for further improvement. b) Activities, projects or measures that improve energy efficiency and/or reduce emission intensity in sectors where absolute emission avoidance is currently not viable due to the lack of or non-viable alternative technology, and also contribute to adaptation and resilience building. c) Activities, projects and measures that improve adaptation and enhance resilience but may lead to unmitigated GHG emissions due to technological constraints or other constraints such as access to viable technologies.

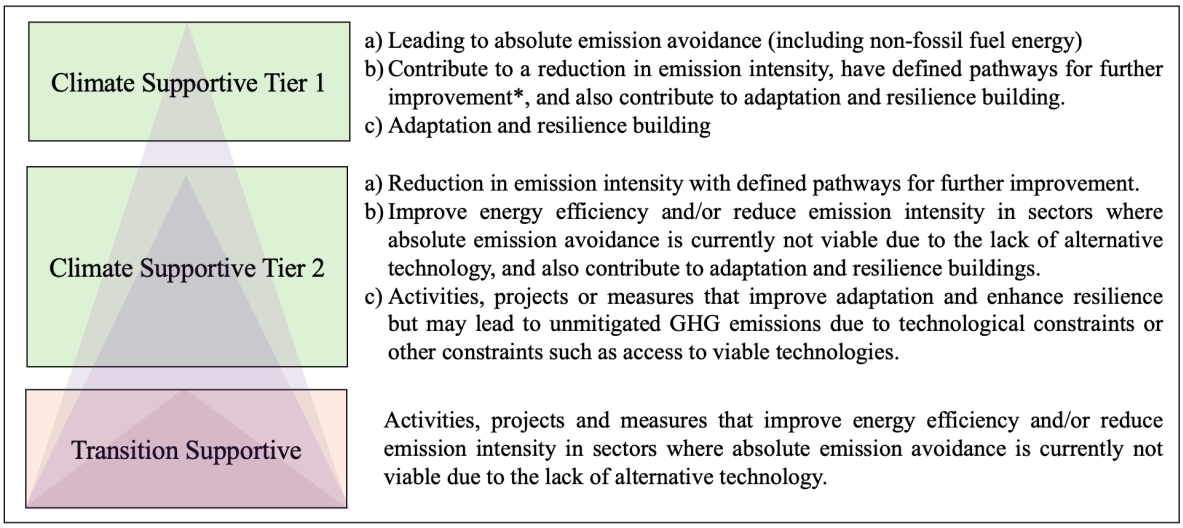
5.3. Transition activities would include activities, projects and measures for which there is no technologically and economically feasible low-emission alternative in India (Table 2).

Table 2: Transition activities, projects and measures

Activities/ Projects/ Measures	Category	Qualifying Criteria
Name of Activities, projects and measures (including ISIC codes or NIC codes where available)	Transition Supportive	Activities, projects and measures that improve energy efficiency and/or reduce emission intensity in sectors where absolute emission avoidance is currently not viable or due to the lack of alternative technology

5.4. These activities, projects and measures should not lead to stranded assets where further reductions in emissions or emission intensity are not feasible in the short run due to technological constraints or other constraints such as access to economically viable technologies. Further, as long as the transition is in line with the stated policy of the Government, it will be considered to meet the objectives of this framework.

Figure 6: Approach of the Taxonomy: Constituent Elements



*to be decided by the sectoral technical committees based on sector specific pathways

6. Sectoral coverage

6.1. The framework document sets down the rationale, objectives, principles and approach that will govern the classification of activities, projects and measures related to identified sectors added in the form of Annexures to the framework document over time. The taxonomy is a living document and further additions may be brought in subsequent annexures to the framework document.

6.2. To begin with, the following sectors shall be considered:

- Power, Mobility, and Buildings in the context of climate mitigation and adaptation co-benefits.
- Agriculture, food and water security will be in the context of climate adaptation and resilience building.
- Addressing transition, in line with country circumstances, in hard-to-abate sectors. Iron and Steel and Cement shall be considered at the outset.

The subsequent section discusses the rationale for including the identified sectors and industries in the first version.

Power Sector

6.3. The power sector is a key driver of industrial and commercial activities, and it plays a pivotal role in sustaining economic expansion and enabling social development. Access to reliable and affordable electricity is essential for powering industries, supporting agriculture, and enhancing livelihoods through small and medium enterprises (SMEs). As per India's fourth Biennial Update Report to UNFCCC in 2024, electricity production accounted for 39 per cent of total GHG emissions in 2020.[48]

6.4. The power sector is integral to achieving the government's vision of Viksit Bharat@2047. As India moves toward its Net Zero goals, balancing power generation from diverse sources—renewables, thermal, nuclear, and hybrid systems—will be crucial for sustaining economic momentum. This mix includes renewables such as solar, wind, and bioenergy, alongside advanced technologies like nuclear, green hydrogen, and storage solutions.

6.5. According to estimates, the country needs to scale up investments substantially to enhance the installed capacity to 777.14 GW by 2029-30[49] from 470.4 GW (as of February 2025)[50]. Considering the scale, strategic investments are required in Advanced Ultra Super Critical (AUSC) thermal power plants, which reduce emissions through higher efficiency, improving plant efficiency to 46 per cent, surpassing subcritical (~38 per cent) and supercritical (~41–42 per cent) technologies.[51]

6.6. Nuclear energy can also provide reliable baseload power with no carbon footprint. The Union Budget 2024-25 identified nuclear energy as a key pillar of the Viksit Bharat.[52] The Union Budget 2025-26 further introduced the Nuclear Energy Mission with a ₹20,000 crore outlay for Small Modular Reactors (SMR) research and development, targeting at least five

[48] India Fourth Biennial Update Report to UNFCCC (December 2024) https://unfccc.int/sites/default/files/resource/India%20BUR-4.pdf
[49] CEA Report on Optimal Generation Mix 2030 Version 2.0 (April 2023) https://cea.nic.in/wp-content/uploads/notification/2023/05/Optimal_mix_report__2029_30_Version_2.0__For_Uploading.pdf
[50] Power Sector at a Glance (February 2025) https://powermin.gov.in/sites/default/files/uploads/power_sector_at_a_glance_Feb_2025.pdf
[51] Ministry of Heavy Industries, 'Advanced Ultra Supercritical (Adv. USC) Technology for Thermal Power Plants'.
[52] Union Budget Speech 2024-25 https://www.indiabudget.gov.in/doc/bspeech/bs2024_25.pdf

indigenously developed SMRs by 2033. Amendments to the Atomic Energy Act and the Civil Liability for Nuclear Damage Act are envisaged, toward achieving 100 GW of nuclear capacity by 2047 to support India's energy transition and security goals.[53]

Mobility

6.7. Transport is a key contributor to the GDP, accounting for 4.5 per cent of India's Gross Value Added (GVA) in 2022-23 (National Account Statistics 2024[54]). In 2020, India's transport sector accounted for 13.28 per cent of the total emissions of the energy sector (MoEFCC, 2024[55]). As India progresses towards Viksit Bharat, the mobility sector is likely to grow at a substantive pace.

6.8. There have been several Government initiatives to transition the transport sector to a low-carbon pathway. Key amongst these, include, the Emission Standards and Auto Fuel Policy of 2003, Corporate Average Fuel Economy (CAFE), Harit Path, Green National Highways Corridor Project (GNHCP), National Electric Mobility Mission Plan (NEMMP), Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME), Expansion of Metro Networks, Bus Rapid Transit System (BRTS), and the Ethanol Blended Petrol Programme.[56]

6.9. Going forward, while fossil fuels will continue to play an essential role in India's transport sector in the short to medium term, there is a need for promoting the technologies and measures that are less carbon-intensive and to facilitate the flow of investment to aid the transition.

Buildings

6.10. The building sector will be at the core of India's growth and development in the Amrit Kaal. Rapid urbanisation drives demand for housing and infrastructure, and this will be a defining feature of India's development as cities continue to grow. The Government of India is focusing on incentivising strategies to minimise energy and material consumption in the

[53] Union Budget Speech 2025-26 https://www.indiabudget.gov.in/doc/budget_speech.pdf
[54] National Account Statistics 2024, Statement 1.1 and 8.10, Retrieved from https://www.mospi.gov.in/publication/national-accounts-statistics-2024
[55] MoEFCC.(2024). India: Fourth Biennial Update Report to the United Nations Framework Convention on Climate Change. Ministry of Environment, Forest and Climate Change, Government of India. Retrieved from https://unfccc.int/sites/default/files/resource/India%20BUR-4.pdf?download
[56] Ibid.

building sector through design and technology. India's National Mission for Sustainable Habitat (NMSH) addresses this through programs like Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Smart Cities Mission. The Energy Conservation Building Code (ECBC) 2017 and its residential counterpart, Eco Niwas Samhita (ENS), promote energy efficiency. The Star Rating Scheme incentivises energy-efficient commercial buildings. The Unnat Jyoti By Affordable LEDs for All (UJALA) scheme promotes efficient appliances, and the Standards and Labelling (S&L) program sets appliance efficiency standards. Building certifications such as Green Rating for Integrated Habitat Assessment (GRIHA) and Indian Green Building Council (IGBC) standards are playing an important role in enhancing energy efficiency and sustainability. The Central government has made it mandatory for all the new buildings of public sector undertakings and those of the government to comply with GRIHA norms.[57]

6.11. As India's building sector undergoes transformation, strategic interventions and private sector engagement are required to promote sustainable growth. To support India's Net Zero ambitions, the climate finance taxonomy will categorise activities, projects and measures based on their emissions intensity reduction potential, guiding investments and policies to sustainable construction practices, energy-efficient technologies, and climate adaptation measures to enhance resilience against extreme weather.

Agriculture, Food & Water Security

6.12. Agriculture and climate change are deeply interconnected, with all agricultural sectors highly vulnerable to climate-related disruptions. India's agriculture and allied activities sector, contributes 16 per cent of GDP (FY24 PE) and employs 46.1 per cent of the population. While the sector has maintained 5 per cent annual growth (FY17–FY23), its heavy dependence on monsoon variability poses significant risks, especially since only 55 per cent of the net sown area is irrigated[58]. The implications of erratic monsoon patterns are particularly pronounced for marginal and small-scale farmers, representing approximately 85 per cent of India's agricultural holdings. These farmers typically cultivate on plots less than 2 hectares in size, making them highly vulnerable to the impacts of climate variability.

[57] https://www.grihaindia.org/green-rating-must
[58] Economic Survey 2024-25

6.13. The adverse effects of climate change on agriculture present a significant risk to livelihoods and food security, emphasising the urgent need for resilience-building measures. The studies conducted under National Innovations in Climate Resilient Agriculture (NICRA) showed that in the absence of adaptation measures, climate change is likely to reduce the yield of rainfed and irrigated rice, wheat, kharif maize etc.

6.14. Despite agriculture being one of the sectors with the highest need for adaptation finance to meet national climate goals, climate-related finance to agrifood systems remains limited and continues to decrease relative to global climate finance flows[59]. Investing in agricultural adaptation is crucial to ensuring the long-term sustainability of the sector. There is a need for greater private sector participation for modernisation, climate resilience, and infrastructure development particularly in post-harvest facilities that reduce waste and enhance farmer incomes. Further, scaling up investment in R&D on climate-resilient crop varieties, precision irrigation, and sustainable farming technologies is critical for enhancing productivity, mitigating climate risks, and ensuring India's food security amid increasing climate variability.

Hard-to-abate Sector

6.15. For Viksit Bharat by 2047, enhancing physical infrastructure will be of paramount importance. Within the spectrum of industries that can bolster infrastructure development, the iron and steel, aluminium, and cement industries are of particular importance. The development of public infrastructure and industrial growth is anticipated to generate considerable demand for these industries, given their critical role in providing essential materials.

6.16. However, at the same time, there is a pressing need to promote low-emission production in line with India's climate ambitions. Emissions from these industries are hard to abate due to their reliance on energy, complex processes and technologies that have high emissions, and existing gaps in research and development of technologies to reduce their emission intensity. While these industries are inherently capital-intensive, their transition to low-emission technologies will be even more capital-intensive. An orderly transition of this sector is key to India's development strategy. Investments need to flow not only towards the development of

[59] Climate-related development finance to agrifood systems Global and regional trends between 2000 and 2021, FAO.

low-emission technologies but also to support the modernisation and capacity enhancement of existing facilities, avoiding the risks of stranded assets and sunk costs.

6.17. The climate finance taxonomy aims to direct investment towards the hard-to-abate sectors to support the development of indigenous low-emission production technologies, large-scale deployment of mature climate technologies, and the building of domestic expertise for a gradual transition to low-emission pathways. The focus will initially be on the Iron and Steel and Cement industries, with provisions for periodic review to accommodate evolving requirements and progressively include other hard-to-abate sectors such as fertilisers, aluminium, and more.

7. Public consultation and Next steps

7.1. The Climate finance taxonomy will consist of two parts - the Framework and the sectoral annexures. A Concept note was shared with the identified experts from think tanks, academia, international organisations, development finance institutions, line ministries/departments of the Government of India, and industry bodies to gather feedback and inputs. This framework has been prepared based on the consultations and inputs received on the initial concept note. Existing taxonomies from various countries, regions, and organisations have also been reviewed with respect to the objectives, principles and approach.

7.2. Before finalisation, comments received through **public consultation** will be duly considered. Following this, the Department of Economic Affairs, Ministry of Finance will release the Framework of India's Climate Finance Taxonomy.

7.3. The framework document sets out the basis on which sectoral annexures will be prepared taking into account the objectives, principles, approach and flexibilities to address proportionality and sectoral context and pathways. In the second stage of work, the inputs from the STCs will be finalised as annexures to the framework document.

7.4. The framework document will be reviewed periodically.