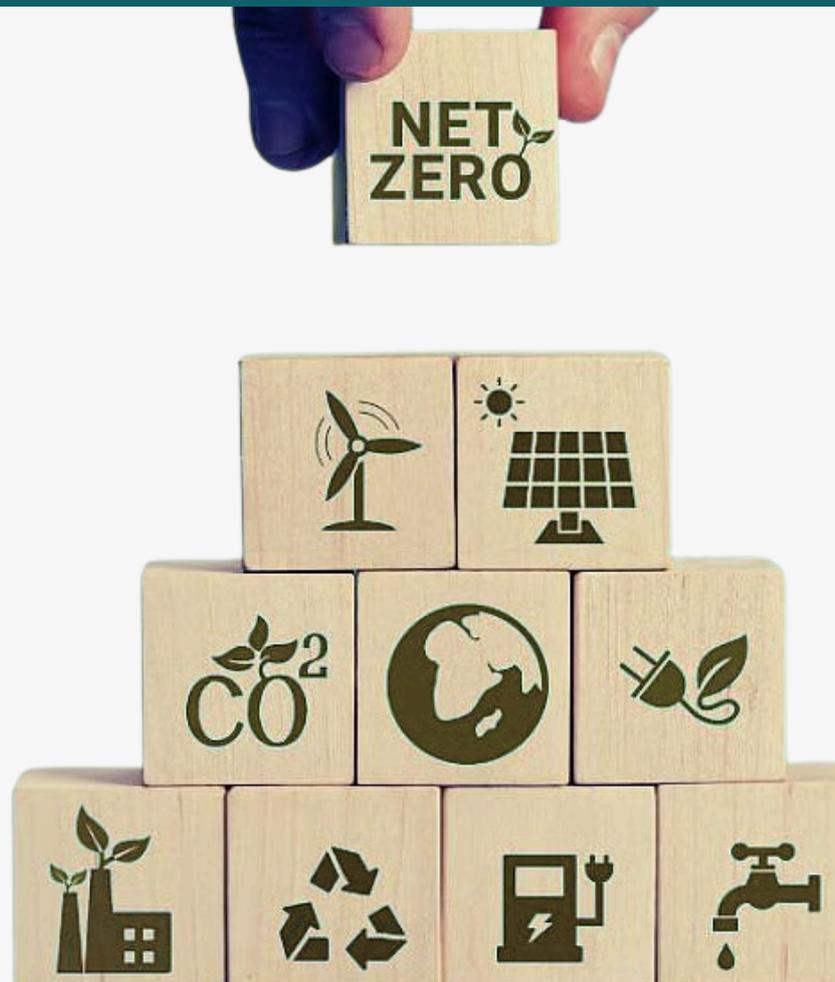




EARTH SUSTAINABILITY SOLUTIONS

# POLICY BRIEF

## TOWARDS NET ZERO: CARBON EMISSION MANAGEMENT IN INDIAN INDUSTRIES WITH A FOCUS ON KERALA



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## AUTHORS



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## KEY MESSAGES

- Among the Fortune India 100 companies, 52% have declared net-zero targets, 38% are progressing toward such goals, and 10% have taken no action, reflecting uneven adoption of decarbonization strategies.
- Net-zero target years vary widely, with some firms aiming for early adoption before 2040 and others extending commitments beyond 2050, highlighting sectoral differences in transition challenges and technology readiness.
- Only 10 Fortune 100 firms have validated SBTi targets and 3 are committed to setting them, indicating a relatively slow pace of science-based integration among India's largest corporations.
- Of 13 surveyed companies in Kerala, five have announced net-zero targets, while the rest are focused on emission monitoring, renewable energy adoption, waste management, and energy efficiency.
- Most Kerala firms remain in early stages, limited by financial allocation gaps, lack of Scope 3 reporting, and inadequate institutional capacity.
- Proactive companies are adopting clean energy, carbon sequestration, and circular economy practices, yet progress remains slow highlighting the need for stronger policy measures, including a Net Zero Act, to accelerate corporate climate action and ensure consistent accountability across sectors.

## WHO WE ARE

Earth Sustainability Solutions is a climate-focused organization dedicated to advancing global efforts toward sustainability and Net Zero targets. We offer comprehensive services in carbon offsetting, environmental clearances, CSR initiatives, and nature-based education to support the Sustainable Development Goals. With decades of combined experience across global and local projects, we provide innovative, scalable, and impact-oriented solutions for climate change and environmental resilience.

## INTRODUCTION

Global net-zero pledges, rooted in Article 4 of the Paris Agreement, have become the backbone of climate action. By COP26 in 2021, over 90% of global GDP was covered by such commitments, with major economies including India (2070) and China (2060) setting clear timelines. These targets aim to balance emissions with removals, driving rapid cuts and long-term sustainability.

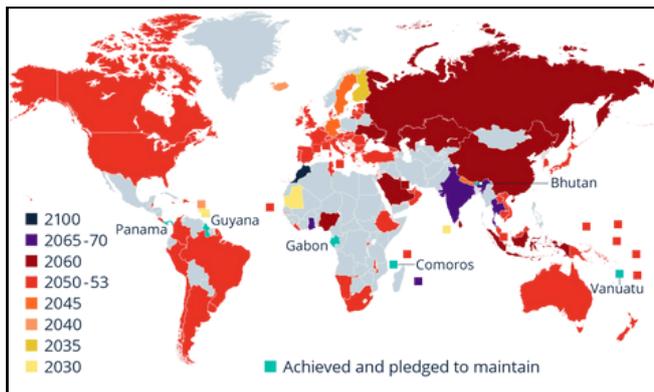


Figure 1. Global Net Zero Map (Source: Climate Watch Net Zero Tracker)

India, the world's third-largest emitter, has pledged Net Zero by 2070, guided by the Panchamrit plan.

### The 5 Goals Under India's Panchamrit Plan



Achieve 500 GW of non-fossil fuel energy capacity by 2030



Meet 50% of energy requirements from renewable energy by 2030



Reduce total projected carbon emissions by 1 billion tons by 2030



Lower carbon intensity of the GDP by 45% by 2030



Achieve net zero emissions by 2070

Complementary initiatives such as the LiFE mission, Mission Innovation, and the National Green Hydrogen Mission reinforce efforts to reduce fossil fuel dependence, advance clean energy, and promote sustainable lifestyles.

Kerala has set a more ambitious carbon neutrality goal by 2050, ahead of the national target. With per capita emissions of

0.41 tCO<sub>2</sub>e (well below India's average of 2.46 tCO<sub>2</sub>e), the state ranks among the lowest emitters nationally. SAPCC 2.0 outlines strategies to cut 57,000 ktCO<sub>2</sub> by 2030, supported by policies including the Carbon Neutral Kerala 2050 initiative, Eco Restoration Policy 2021, Kerala EV Policy 2019, and Energy Conservation Building Code Rules 2017. Together, these measures highlight Kerala's leadership in clean industry, sustainable mobility, and ecosystem restoration within India's net-zero pathway.

## METHODOLOGY

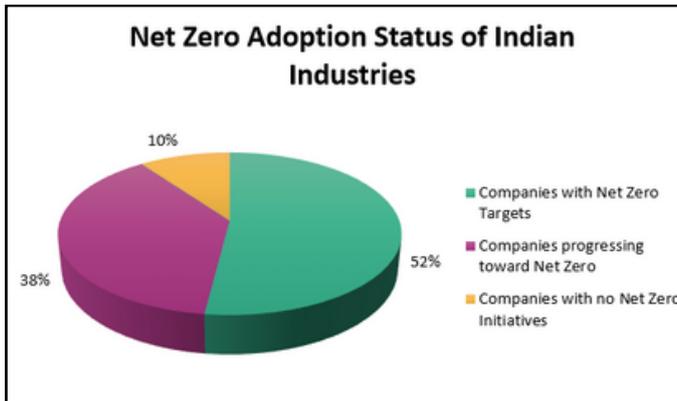
This study used a mixed-methods approach, combining national corporate data with regional insights from Kerala. The first phase analyzed sustainability data from the top 100 companies in the Fortune India 500 (2024), using Business Responsibility and Sustainability Reports (BRSRs) and commitments registered under the Science Based Targets initiative (SBTi). The second phase focused on Kerala, where field visits and surveys were conducted with companies in major industrial districts using a 16-question structured instrument to assess regional sustainability practices and climate commitments.

## RESULTS

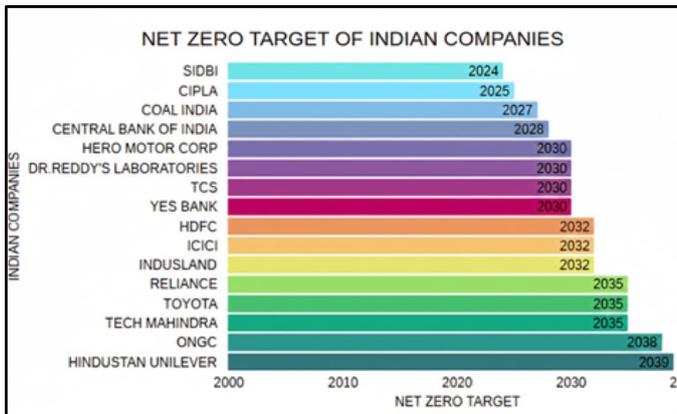
### 1. Net-Zero Initiatives among Fortune India 100 Companies

Among the Fortune India 100 companies, 52% have declared net-zero targets, marking a strong shift toward corporate climate accountability. Another 38% are progressing with sustainability initiatives, while 10% remain unengaged, highlighting uneven participation across industries (Fig 2). Early movers from low-emission sectors such as IT and pharmaceuticals have set ambitious near-term targets, signaling

leadership in sustainability. In contrast, energy-intensive sectors are adopting longer timelines, reflecting the complexity and investment required for deep decarbonization. Overall, the distribution underscores growing recognition of climate goals in India's corporate sector, while pointing to the need for broader engagement to achieve national carbon neutrality.



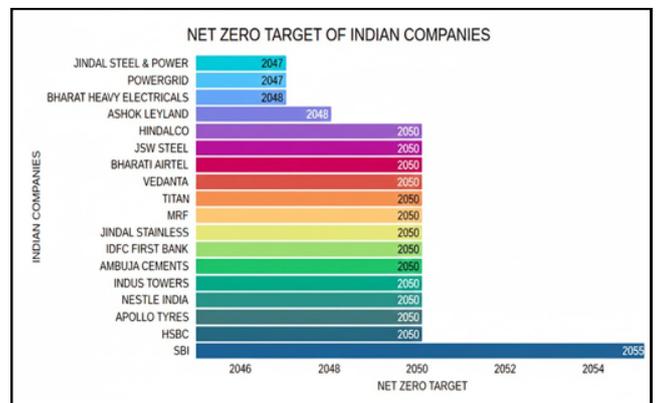
**Figure 2.** The current net-zero adoption status across Indian industries, showing the proportion of companies with declared net-zero targets, those progressing toward such goals, and those with no initiatives yet



**Figure 3.** Net-Zero Targets of Fortune India 100 Companies with Target Years Before 2040



**Figure 4.** Net-Zero Targets of Fortune India 100 Companies with Target Years between 2040 & 2046



**Figure 5.** Net-Zero Targets of Fortune India 100 Companies with Target Years between 2047 & 2055

## 2. Commitments of SBTi-Aligned Indian Companies Toward Net Zero

The SBTi has rapidly gained traction in India, with 127 companies committing to science-based climate targets by late 2024. However, adoption among major firms remains limited only 10 of the Fortune India 100 have validated SBTi targets and three have committed to set targets. Most participants come from lower-emitting sectors such as IT and pharmaceuticals, underscoring slower uptake in hard-to-abate industries. A few companies have been delisted due to expired commitments, highlighting challenges in meeting SBTi's disclosure and validation requirements.

**Table 1 –** The list of SBTi-aligned Fortune India 100 companies (Data source: SBTi. n.d)

Name of the company	Near term target year	Long term target year
Infosys	2035	
HCL Technologies	2030	
WIPRO	2030	2040
Tech Mahindra	2030	2035
UPL Ltd	2034	
MMTC PAMP India	2039	
Ambuja Cements	2030	2050
Indus Towers Ltd	2032	2050
Dr. Reddy's Laboratories	2031	
Capgemini Services	2030	2040
Ashok Leyland	Committed	
Jindal Stainless	Committed	
Apollo Tyres	Committed	

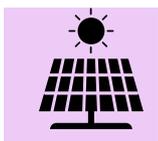
### 3. Net Zero Targets and GHG Mitigation Strategies in Kerala's Corporate Sector

A survey of 13 leading companies in Kerala reveals varied progress on climate action and net-zero goals. Five firms including DP World, HPCL, EMC, Palm Fibre India, and Apollo Tyres have formally declared net-zero targets, signaling strong commitment from high-emission sectors. The remaining eight are in the monitoring phase, focusing on measuring Scope 1 and 2 emissions to establish credible baselines. Most emphasized the need for data-driven planning before setting targets, reflecting a cautious but responsible approach. This marks a transitional phase in Kerala's corporate climate response, with growing intent but a clear need for technical and institutional support.

**Table 2** – The list of companies in Kerala with Net Zero Target and GHG Emission Reduction Initiatives

Companies With Net Zero Target And Their Net Zero Target Year	Companies With Initiatives To Reduce GHG Emission
DP World Ports And Terminals (2050)	AVT Natural Products
HPCL (2040)	South Indian Bank
Energy Management Centre (2030)	Cochin Shipyard
Palm Fibre (India) Pvt Ltd (2030)	Concor
Apollo Tyres (2050)	V Guard
	The Muthoot Group
	Malabar Cements
	Kerala Metals And Minerals Limited

### 4. Ongoing GHG Reduction Efforts by Companies in Kerala



Solar panel installations



Zero single-use plastic policies



Digital transformation (paper reduction)



Tree and mangrove plantations



Solid waste management & recycling

### 5. Insights and Recommendations from Corporate Respondents

**Awareness & Capacity Building:** Organize state-level workshops, industry seminars, and targeted outreach to bridge knowledge gaps, particularly among SMEs.

**Financial Support:** Provide government grants, subsidies, and low-interest financing to enable SMEs and mid-sized firms to invest in decarbonization.

**Internal Carbon Pricing:** Support companies in adopting internal carbon pricing models to integrate the financial impact of emissions into decision-making.

**Regulatory Frameworks:** Introduce a state or national Net Zero Act mandating or encouraging companies to set and report net-zero targets, especially for medium and large enterprises.

**Public-Private Partnerships:** Foster collaboration between industry, government, academia, and civil society to co-create region-specific net-zero solutions.

**Market-Based Mechanisms:** Facilitate access to carbon credits and voluntary carbon markets, turning emission reduction projects into business opportunities.

**Sustainability Certifications:** Promote participation in frameworks such as GreenCo Certification to institutionalize climate accountability and efficiency improvements.

**CSR & Green Finance Integration:** Align net-zero goals with CSR obligations and collaborate with green finance institutions to lower entry barriers.

**Scope Expansion:** Move beyond Scope 1 and 2 to include Scope 3 emissions, addressing supply chain and lifecycle impacts.

**Sector-Specific Tools:** Provide simple carbon footprint calculators and emissions tracking tools tailored to different industries to support baseline development.

**Electrification & Renewable Energy:** Transition major equipment, heating systems, and transport fleets to electric alternatives powered by solar and other clean energy sources.

## CONCLUSION

Corporate climate responsibility is steadily advancing in India, with many leading firms committing to net-zero targets. In Kerala, however, participation remains limited, with only a few companies declaring net-zero ambitions and others beginning early GHG reduction efforts. This uneven adoption reflects gaps in awareness, technical capacity, and financial resources, particularly among small and medium enterprises. Many businesses still view climate goals as secondary to profitability, highlighting the need for stronger alignment between sustainability and business strategy. A comprehensive policy response through a Net Zero Act, integration of targets into CSR obligations, and expanded access to green finance can accelerate progress. With added support from awareness programs, sector-specific tools, certifications, and public–private partnerships, Kerala’s corporate sector can move from intent to implementation, positioning climate action as a driver of competitiveness in India’s net-zero transition.

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2. Press Information Bureau. (2023). India is set to achieve its short-term and long-term climate targets under the Panchamrit action plan: Dr Jitendra Singh. Retrieved from <https://www.pib.gov.in/PressReleaselframePage.aspx?PRID=1961797>

