



Driving Sustainability, Indian Railways Plants 81 Lakh 59 Thousand Trees in 2025-26 Across Zones

Extensive Plantation along Railway Tracks is Preventing Soil Erosion; Making Our Journey Greener, Safer & a Better Travel Experience

Advancing “Our Power, Our Planet” Vision, Electrified Greener Railways using Treated Rain Water effectively & Building Bio Toilets

3.66 Lakh Bio Toilets Installed Since 2014 Ensuring Cleaner Tracks, Safeguarding Soil & Groundwater, and Improving Onboard Hygiene for Daily Passengers

With 99.6% Broad Gauge Network Electrified, Indian Railways Cuts Diesel Consumption and Minimises Dependence on Oil Imports Amid West Asia Crisis

8,313 Rainwater Harvesting Structures Since 2016-17 Catching Rain Efficiently & Strengthening Water Conservation Across Stations

With 26 New Water Recycling Plants Commissioned in the Past FY Alone, and a Total of 185 Treatment Plants Commissioned since 2015–16, the Railways are Leading a “Silent Revolution” towards Becoming Greener

109 Ponds, Tanks and Wetlands Restored on Railway Land, Recharging Local Aquifers and Creating Biodiversity Habitats Benefitting Communities Well Beyond the Railway Boundary

Commissioning of 909 MW Solar and 103 MW Wind Capacity with Additional 3,300 MW Tied Up, Helps Us, Make Self Reliant & Sustainable

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As the world observes World Earth Day 2026 under the global theme "Our Power, Our Planet," Indian Railways, reaffirms its commitment to environmental stewardship. Carrying over 2 crore passengers daily across a vast and diverse geography, Railways is not merely a mode of transport; it is an institution with the scale, reach, and will to drive India's transition towards a greener tomorrow.

Over the past decade, Indian Railways has systematically transformed its operations, embedding environmental accountability into infrastructure planning, station management, rolling stock, and land use. Today, it stands as one of the world's most consequential actors in sustainable transportation.

Growing Green, Running Safe: How Indian Railways' Plantation Drive is Reshaping the Route

Indian Railways' tree plantation drive is being implemented across all zones, reflecting a coordinated nationwide effort towards environmental sustainability. Out of the total 81.59 lakh trees planted during year 2025-26 across all zones, significant contributions have come from leading zones such as Northeast Frontier Railway (9.3 lakh trees), South Central Railway (9 lakh trees), Northeast Railway (8.7 lakh trees) and Northern Railway (8.5 lakh trees). Extensive plantation along railway tracks, station premises and available railway land is enhancing green cover across diverse regions. This initiative is reducing carbon footprint, supporting biodiversity and improving environmental conditions, making rail travel greener and healthier for passengers.

The large-scale plantation effort is also strengthening climate resilience by acting as a natural carbon sink, while helping in noise and dust mitigation. Improved green cover contributes to better microclimatic conditions at stations and along railway routes, enhancing passenger comfort during travel.

Additionally, plantation along railway tracks plays a vital role in improving infrastructure safety. Tree roots help bind soil, reducing erosion and preventing landslides, especially in hilly and high-rainfall areas. Vegetation cover further regulates surface runoff and enhances water absorption, minimizing risks of track destabilisation. These nature-based interventions not only protect railway assets but also ensure safer and more reliable journeys for passengers.

Water: Harvesting, Recycling, Auditing, Restoring

Water scarcity is one of the defining crises of our century. Indian Railways as an institution that operates hundreds of washing lines, maintenance depots, catering facilities, and passenger amenities consuming millions of litres daily has taken deliberate and measurable steps to de-stress its water footprint across all zones. The approach is comprehensive: harvest rainwater before it is lost to runoff, recycle wastewater for non-potable reuse, audit water consumption to identify waste, and restore degraded water bodies within railway land.

Rooftop Rainwater Harvesting (RWH): Catching Rain Where It Falls

Since 2016-17, Indian Railways has installed a cumulative total of 8,313 Rooftop Rainwater Harvesting (RWH) structures across all railway zones. The year two years alone saw the commissioning of 2,915 new structures including 1,215 units installed under the Jal Sanchay Jan Bhagidari (JSJB) campaign in 2024-25, underscoring active convergence with national water conservation missions. South Central Railway leads the initiative by a significant margin, having installed 3,128 RWH structures.

Indian Railways' rainwater harvesting infrastructure serves a dual purpose that becomes especially visible during extreme weather events. The rooftop harvesting systems installed at stations and yards collect and channel monsoon runoff, preventing waterlogging on platforms and adjacent tracks on one hand, and replenishing underground aquifers on the other. In water-stressed regions of Rajasthan, or along the rain-shadow zones of the Deccan, these systems are an operational lifeline. The harvested water feeds into station utilities like toilets, cleaning, and gardening, reducing dependence on tanker supply and municipal water connections that are often unavailable or unreliable at remote stations.

Water Recycling Plant

Across all zones, Indian Railways has commissioned a total of 185 Water Recycling Plants (WRPs). From a base of 21 plants that existed prior to 2015–16, commissioning has continued steadily, with last financial year emerging as the strongest year yet with 26 new plants commissioned. Northern Railway leads all zones with 27 plants, followed by Central Railway (21) and Southern Railway (20). These plants treat wastewater from coach washing and yard operations for reuse in non-potable applications like station cleaning, gardening, and industrial processes, reducing fresh water drawl from scarce aquifers and municipal systems.

When Chennai faced its severe water crisis in 2019, railway stations serving millions of passengers faced acute shortages. Southern Railway's water recycling plants at Basin Bridge and Egmore became critical assets, enabling coach washing and platform cleaning to continue even as the broader civic water supply faltered. The lesson was stark: water recycling plants are not merely an environmental measure; they are operational resilience infrastructure.

Water Audits

A total of 1,944 Water Audits have been conducted across all railway zones since 2015–16, with 2025–26 already recording 310 audits, the highest in any single year. South Central Railway leads with 442 audits, followed by Northern Railway (323) and Western Railway (216). These audits identify consumption hotspots, pipe leakages, and system inefficiencies, translating awareness into targeted savings. The discipline of measurement is the foundation of meaningful conservation.

Water Bodies Restored: Giving Back to Nature

Beyond internal operations, Indian Railways has restored 109 water bodies within or adjacent to railway land like ponds, tanks, and wetlands that had fallen into disuse, encroachment, or degradation. South Central Railway (34), SECR (44), and Western Railway (11) have been leading contributors. These restored water bodies recharge local aquifers, create biodiversity habitats, and serve as natural stormwater management systems, a benefit that extends well beyond the railway boundary to surrounding communities. The restoration of water bodies transforms idle or degraded parcels into ecological assets. It serves as natural stormwater buffers, making adjacent communities more resilient to both flood and drought.

India's First Water-Neutral Railway Depot in Kankaria, Ahmedabad

The Kankaria Coaching Depot under Western Railway in Ahmedabad has achieved a landmark that few industrial facilities anywhere in India can claim: complete water neutrality. The depot treats and reuses virtually all wastewater generated during coach washing and maintenance, eliminating dependence on external freshwater sources.

The Defining Intervention: Mission Electrification

If there is one intervention that has fundamentally altered the environmental character of Indian Railways, it is the aggressive electrification of the Broad Gauge network. India's Railways has electrified 99.6% of its Broad Gauge network, a transformation delivered in mission mode over the past decade. As of March 2026, 69,873 route kilometres (rkm) are electrified, a leap from just 21,801 rkm in 2014. All new line and multi-tracking projects are now mandatorily constructed with electrification.

Indian Railways saved 178 crore litres of diesel in 2024-25 relative to 2016-17, which is a saving of 62%, thus reducing the import dependency of crude oil. This directly reduces India's dependence on imported crude oil amid the West Asia crisis. By shifting progressively from diesel to domestically produced electricity, increasingly sourced from renewables, Railways has effectively decoupled its operations from global oil market volatility. Electric traction has been assessed as far more cost-effective and environmentally sound than alternatives such as biodiesel, making this not just a green choice but a fiscally responsible one.

Bio-Toilets: Eco-Friendly Sanitation on Rails

Indian Railways has made a significant contribution towards environmental sustainability and passenger hygiene through large-scale deployment of bio-toilets, with over 3.66 lakh bio-toilets fitted in passenger coaches since 2014. This initiative has effectively eliminated the direct discharge of human waste onto railway tracks, ensuring cleaner stations, improved on-board sanitation and a more hygienic travel experience for millions of passengers. The bio-toilet system uses indigenous technology based on microbial action to decompose human waste into water and gases, significantly reducing environmental pollution and foul odour while maintaining cleanliness across the network.

This initiative plays a vital role in protecting the environment by preventing soil and track contamination, reducing corrosion of railway assets and promoting eco-friendly waste management. By ensuring zero direct discharge and supporting sustainable sanitation practices, Indian Railways is improving passenger comfort while contributing to a cleaner ecosystem and a greener future.

Renewable Energy: Powering the Future from Sun and Wind

Indian Railways has made renewable energy a cornerstone of its long-term operational strategy. As of December 2025, approximately 909 MW of solar plants and 103 MW of wind power plants have been commissioned across the network. Beyond what is already operational, Railways has tied up a further 3,300 MW of renewable capacity, encompassing solar, wind, and hybrid round-the-clock (RTC) arrangements with developers across Rajasthan, Gujarat, Karnataka, Maharashtra, and Uttar Pradesh ensuring a sustained pipeline of clean power to support long-term energy security. This reflects a deliberate shift towards long-term, price-stable green procurement.

LED Lighting: A Network Illuminated Efficiently

Indian Railways has achieved 100% LED lighting across its offices, railway stations, service buildings, and residential colonies, a network-wide transformation that spans thousands of locations from remote wayside stations to the largest junctions in the country. The shift from conventional lighting to LEDs has delivered twin dividends: significantly reduced electricity consumption and improved illumination quality. For passengers, this means better-lit waiting halls, platforms, and subways. For the environment, it means a measurable reduction in the carbon burden of simply keeping a station open round the clock.

Energy Conservation: Winning National Recognition

Indian Railways' commitment to energy efficiency extends beyond individual measures to a systemic culture of conservation embedded across its operations. The procurement of BEE 5-Star rated appliances, BLDC fans, Variable Frequency Drives, and energy-efficient motors and pumps has steadily reduced the energy intensity of railway buildings, depots, and yards. This commitment has received formal recognition at the highest level. Indian Railways bagged 7 National Energy Conservation Awards in 2025, across 3 categories. These awards are not merely symbolic; they mark Railways as a benchmark institution in India's broader energy efficiency landscape, setting standards that other large public-sector organisations are now measured against.

Conclusion

Indian Railways, as an organisation that touches every part of India's geography and serves every segment of its population, carries both the power and the responsibility to lead. The progress achieved across electrification, water conservation, afforestation, sanitation, and renewable energy is the foundation. Every tree planted, every litre harvested, every kilowatt generated from the sun, and every depot made water-neutral is a step on that path.

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