

## Green Bonds to Expand Sustainable Infrastructure Development in India

Sustainable road infrastructure development in India is crucial for economic growth, enhancing regional connectivity, and reducing environmental impacts. It promotes efficient transportation and contributes to sustainable development goals.

The construction industry globally is advocating for innovative materials, automation, and machine control technologies to improve efficiency and reduce environmental impact. In India, efforts are underway to introduce new technologies into the industry. The road construction sector is being reshaped with a renewed focus on sustainable development using recycled materials such as concrete aggregate and asphalt to minimise the extraction of virgin resources. This involves adopting a circular economy model and the implementation of permeable pavements to manage stormwater runoff and reduce flooding, as well as using technology to optimise traffic management and enable early threat detection through predictive measures analysis.

India's road infrastructure has seen remarkable development over the past decade, driven by the Government's dedicated efforts, strategic initiatives and significant budget allocations. A multi-faceted approach to infrastructure development has led to the progression of a robust and efficient transportation network. The National Highways Authority of India (NHAI) has significantly increased its capital expenditure over the past five years, reflecting the government's commitment to enhancing the national highway network and infrastructure.

In its latest move, the NHAI's issuance of green bonds worth Rs 775 crores for the Delhi-Mumbai Expressway project is a commendable step towards integrating sustainability into the nation's infrastructure framework. The use of proceeds comprises eco-friendly measures such as solar-powered streetlights, extensive plantations, and animal underpasses, setting a precedent for future projects. This approach not only mitigates the environmental impact of construction but also conserves biodiversity and reduces carbon footprint.

The issuance is expected to catalyse investor awareness in developing sustainable infrastructure, yield cost savings by reducing energy consumption in the long term and mitigate the impact of vehicular emissions on India's biodiversity. With India's growing focus on environmental responsibility, such an initiative reinforces the nation's leadership in creating an eco-friendly, future-ready and climate-positive infrastructure supporting economic growth and sustainability.

With a rapidly developing economy, India faces unique challenges that require innovative financial solutions to balance growth with environmental stewardship. Road infrastructure development shall require significant resource deployment towards creative and sustainable road construction. Green bonds are specifically designed to raise funds for projects with environmental impact. By earmarking bond proceeds for sustainable initiatives, these financial instruments ensure that investments contribute directly to environmental sustainability. Green bonds represent an economic tool and a commitment to future generations.

CareEdge-ESG believes that NHAI's green bond initiative marks a transformative step toward sustainable infrastructure in India, reinforcing its commitment to reducing the environmental footprint in the road infrastructure sector. This initiative aligns with global ESG standards and will attract environmentally conscious investors and drive long-term cost efficiency, paving the way for a greener, more resilient future for India's Roads & Highways sector.

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