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GOVERNMENT OF INDIA
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THE ENERGY AND RESOURCES INSTITUTE
Creating Innovative Solutions for a Sustainable Future

ROUND TABLE ON-
STREAMLINING URBAN FREIGHT

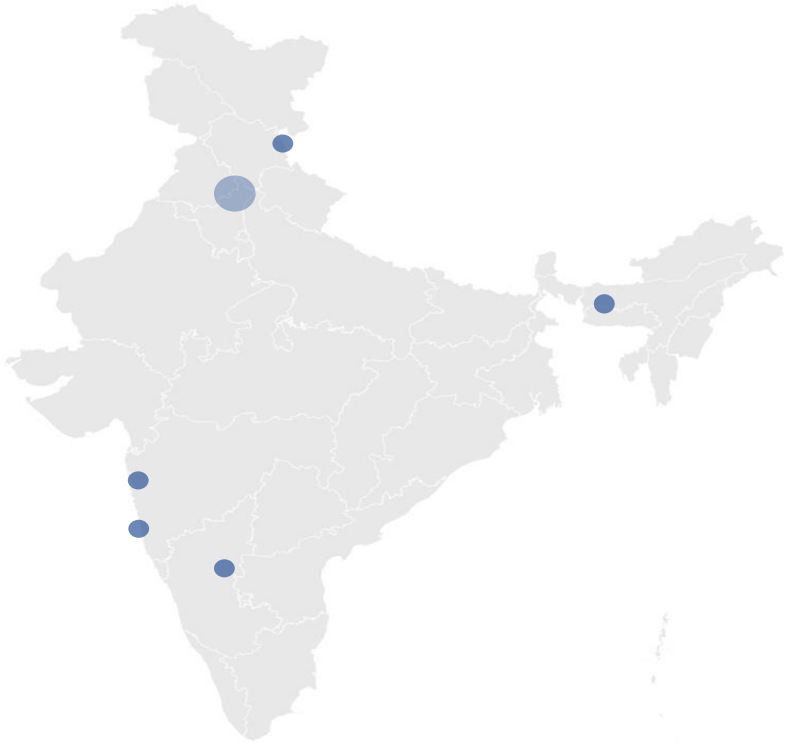
17th Urban Mobility India Conference & Expo 2024

Standardization and Optimization of Urban Transport Solutions

THE ENERGY AND RESOURCES INSTITUTE (TERI)

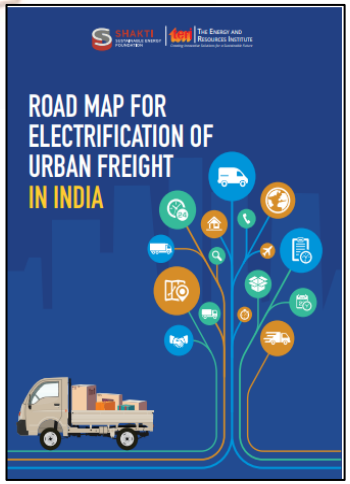
TERI is one of the **eminent think tanks** and research institutions in the field of **energy, climate change and sustainability,** established in 1974

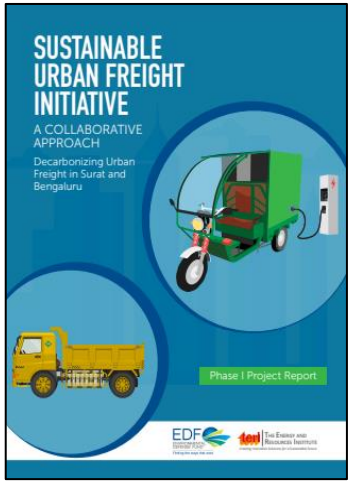
- **Six regional centers** across the country, namely Bengaluru, Gurugram, Goa, Guwahati, Mumbai, and Muktheshwar
- **600+** team of scientists, sociologists, economists, engineers, and others
- TERI's work is focused on :
  - Promoting efficient use of resources
  - Increasing access and uptake of sustainable inputs and practices
  - Reducing the impact on environment and climate

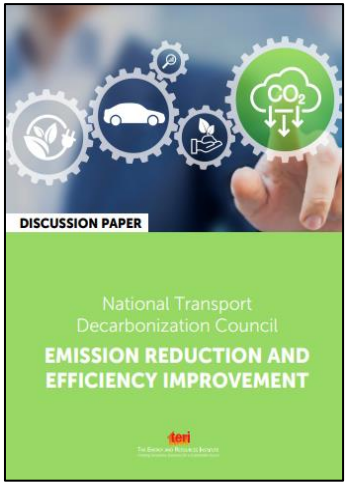


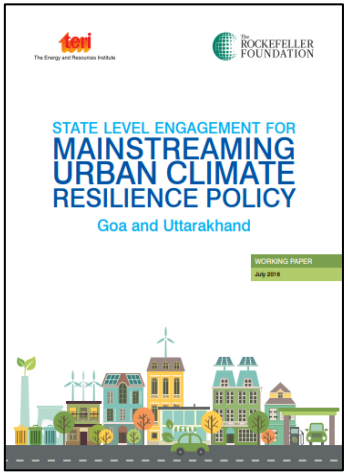
TERI'S WORK ON URBAN FREIGHT TRANSPORT

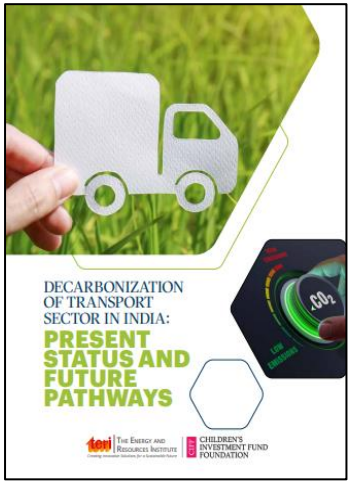
Urban Freight | Electrification | Fuel Economy | Resilient Cities











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TERI'S WORK ON SUSTAINABLE TRANSPORT

Long Haul Freight | Urban Freight | Public Transport | Intermediate Transport

Roadmap for Electrification- Department of Post

78% and 36% of **tailpipe** and **net emission reduction** is expected from MMS operations

Surat Municipal Corporation to use 300 e-tempos for waste collection in city

TNN / Updated: Mar 26, 2022, 08:35 IST 193 PTS SHARE AA FOLLOW US

New For You

With Surat Municipal Corporation's (SMC) focus now on reducing air pollution and promoting e-vehicles, it has started by deploying 300 e-vehicle for garbage collection.

SLMG to Convert its Vehicle Distribution Fleet to EVs

Lucknow-based SLMG Beverages, will be spending close to $12 million for acquiring 3000 electric vehicles to convert its existing ICE retail distribution fleet to EVs.

written by Aishwarya Saxena • September 4, 2023

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RAIL GREEN POINTS

Rail Green Statistics (Indian Railways)

43658233

*Carbon Emission Saved in TonnesCO2 (since 01-04-2022)

4.0 Estimation of Rail Green Point

The Energy and Resource Institute (TERI) has developed as calculator for estimation of Green House Gas (GHG) emission in tonnes of CO_2 for road and rail based on tonne-km. The GHG calculator of TERI is available at http://freightghgcalculator.com/. The same methodology will be used to estimate carbon emission saving on account of transportation by rail (instead of road) and the same will be termed as Rail Green Point(RGP).

As per latest details collected by CRIS/FOIS from TERI, the following emission factor may be considered: *(as modified from time to time)*

Mode	Emission Factor ($KgCO_2$ per ton-km)
Rail	0.009
Road	0.040

This incorporation by CRIS must be done under advice to TERI considering their emission factor is being used for the calculation of Rail Green Point.

DMRC to make passengers aware about CO2 emissions reduction due to Metro travel

The Delhi Metro Rail Corporation (DMRC) has launched a "CarbonLite Metro Travel" initiative for passengers to know how much carbon emissions they have saved while using the metro instead of petrol-fueled cars. "CarbonLite Metro Travel" was supported by research from The Energy and Resources Institute (TERI), Delhi, that each kilometer travelled by metro train instead of road vehicles "results in a noteworthy reduction of 32.38 grams of CO2 emissions".

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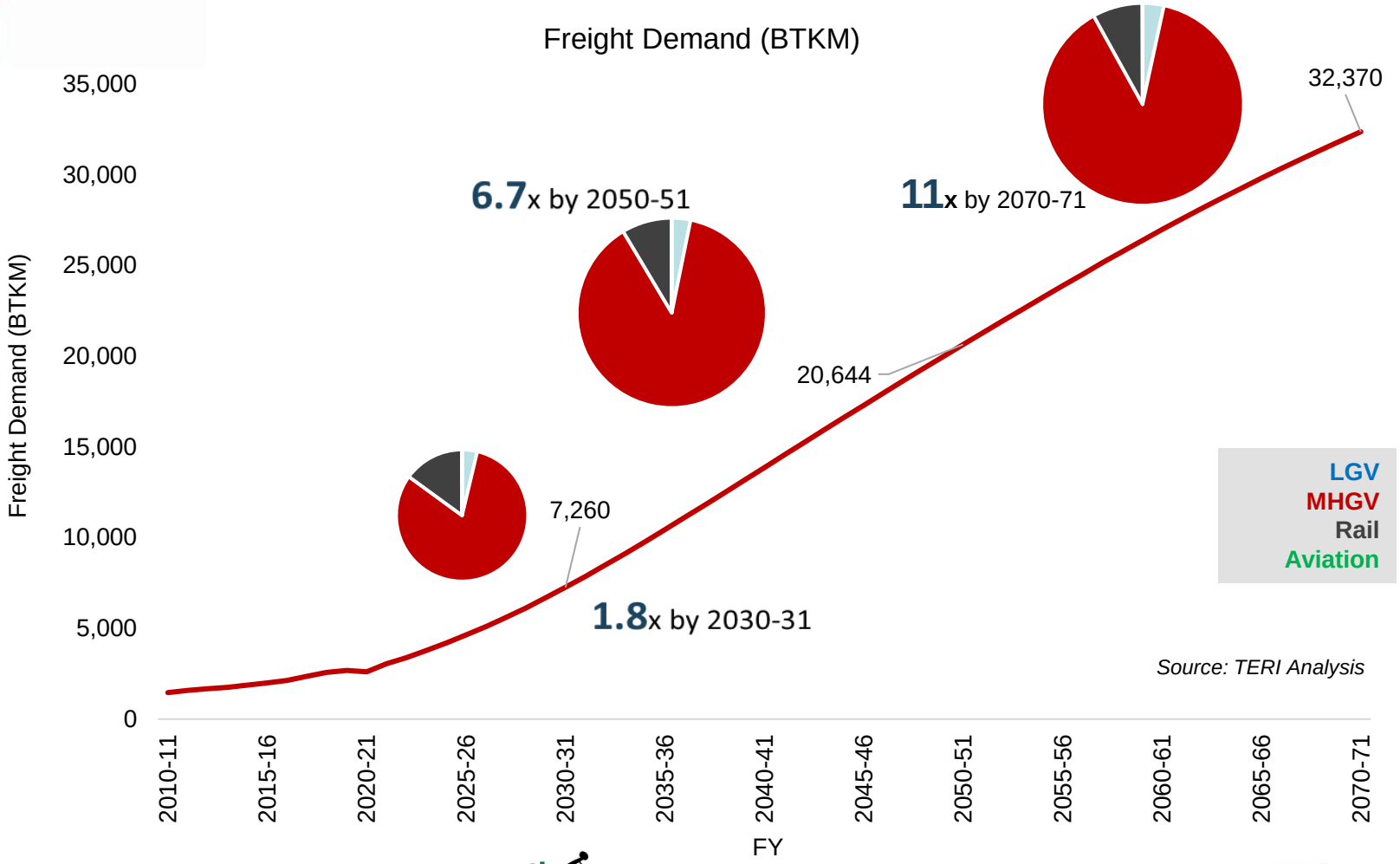
INDIAN FREIGHT DEMAND



Source: TERI Analysis

CITIES AND URBAN FREIGHT RELATED EMISSIONS

- **14 out of 20** most **polluting cities** are in India
- **Urban freight** traffic contributes up to around **15% of total vehicular movement**
- Freight movement is **largely dependent on ICE vehicles** and small share of CNG vehicles
- Urban fright significantly contributes to transport emissions, congestion, and safety

SNAPSHOT OF INDIAN LOGISTICS SECTOR

Logistics Emissions: Global

Responsible for **11% CO_2 emissions, 90% from Freight movement**

Transport Emissions: India

Transport is **3rd largest** contributor to Pollution, Accounting for 70 and 100 percent of diesel and gasoline consumption

90% Transport Emissions come from **Road Transport**

Indian Logistics Market

4.6 billion tonnes of goods

Market size of INR 9.5 lakh crore

Provides **livelihood to >22 million people**

Accounts for **14% of GDP**

Transportation and Inventory cost account for **90% costs**

INDIA'S E- COMMERCE & QUICK COMMERCE INDUSTRY

- **Fastest growing e-commerce market in the World**
- Projected to reach **$325 billion by 2030,** experiencing significant growth
- Third-party logistics providers are anticipated to manage approximately **17 billion** shipments by 2030-32.
- **Major hubs for e-commerce:** Karnataka, Delhi, Maharashtra, Tamil Nadu, Andhra Pradesh
- The quick-commerce market in India is currently valued at approximately **USD 5 billion.**
- Quick commerce market in India is projected to reach **~USD 10 billion** by **2029**, with CAGR growth of **> 4.5 %** over the forecast period (2024-2029)
- With **growing demand** of E-commerce and Q-commerce, addressing the freight challenges – emissions, congestions, etc. – becomes crucial

SESSION OBJECTIVES

Current trends and challenges in urban freight operations

Policies, Guidelines, Mandates to standardize and optimize the urban freight operations

Integration of Logistics Plan to other statutory planning documents

Potential shift and Scale up in technology and strategic planning to optimize operations– last-mile deliveries, micro-hub operations, etc.

Challenges, Support mechanism and Financial viability of clean technology vehicles

KEY CHALLENGES- URBAN LOGISTICS IN INDIA

Rapidly Changing Landscape

- Rapid urbanization- Congested cities
- Fragmented sector
- Constrained data availability
- Lack of long-term projection and planning

Infrastructural Constraints

- Hapazard development of warehouses and dark rooms
- Rapidly increasing freight vehicle movement
- Increased stress on existing infrastructure
- Significant share of GHG emissions due to high-reliability on ICE vehicles

Policy and Regulatory Support

- Limited focus on freight movement planning
- Lenient guidelines/norms for freight operation cities

Vehicle Technology

- Dependence on fossile fuel-based vehicles
- Slow uptake of EVs in tier 2 and 3 cities
- Need for tailoremade solutions

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LOOKING FORWARD TO THE DISCUSSION

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