Transport Forum





IKI O INTERNATIONAL CLIMATE INITIATIVE

on the basis of a decision by the German Bundestag



ITF Work in Decarbonising Transport

Highlights from

- NDC Transport Initiative for Asia (NDC-TIA) India
- Decarbonising Transport in Emerging Economies (DTEE) - India

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15th Regional EST Forum in Asia

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GIZ Deutsche Gesellschaft für Internationale Zusammenarbeit (SIZ) EmbH









Intergovernmental Organisation

linked to OECD 66 member countries

Think Tank

Policy analysis and research Modelling, data and statistics

Annual Summit

Forum for Ministers, industry, research





The DT initiative provides decision-makers with tools to identify CO₂ mitigation measures that deliver on their climate commitment.



- Launched in 2016 after the Paris agreement
- Provides targeted analytical assistance for countries and partners
- ✓ Gathers and shares evidence for best practices
- ✓ Shapes the climate change debate by building a global policy dialogue





Pathway Development (past and present)

- ✓ <u>Decarbonising Transport in **Europe**</u> (funded by EC)
- ✓ <u>Decarbonising Transport in Latin American Cities</u> (funded by IDB)
- <u>Decarbonising Transport in Emerging Economies</u> (Azerbaijan, Argentina, India, Morocco) (funded by IKI)
- <u>NDC Transport Initiative for Asia</u> (China, Vietnam, India) (funded by IKI)
- <u>Decarbonising Pathways for Urban Mobility in Mongolia</u> (funded by IKI)
- ✓ <u>Decarbonising Pathways for Urban Mobility in **Uzbekistan** (funded by IKI)</u>
- <u>Decarbonising Pathways for Freight Transport in the Philippines (funded by IKI)</u>



Highlights of Selected ITF Decarbonising Transport Studies: DTEE + NDC-TIA in India



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DTEE + NDC-TIA: Synergised Objectives

Support for Stakeholder Platform

- Multi-stakeholder dialogue
- Modeling capacity advancement
- Technical support, reports, outreach

Quantitative Assessment Framework

- Strategic CO2 modeling tool
- Base year emissions assessment
- Policy scenario impacts (2050)
- User-friendly, tailored visuals

Capacity Enhancement

- CO2 reduction pathways
- Mitigation policy measures
- Activities: Workshops, training, manuals

Policy Dialogue

- Regional findings dissemination
- Activities: Policy events, website, reports



Reviewing existing transport policy and modelling in India



Decarbonising India's Transport System Charting the Way Forward





See: https://www.itf-oecd.org/decarbonising-india-transport-system

Life cycle analysis for decarbonising transport in India



See: <u>https://www.itf-oecd.org/decarbonising-transport-india-learning-life-cycle-assessment</u>



ITF Transport Life-cycle Assessment Tool for India

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User Manual ITF Transport Life-cycle Assessmen Tool for India (v1.0)



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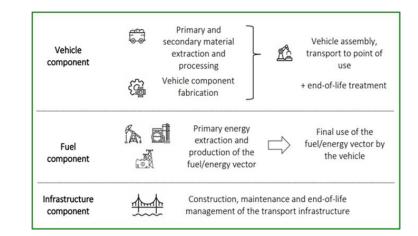
Download the tool

Transport Forum INTERNATION ITF Transport Life-cycle Assessment Tool for India on the basis of a decision by the German Bundest v1.0 (August 2023) Disclaimer The Tool and corresponding manual are supplied without a warranty. The ITF, nor its partners, nor the individuals acknowledged assume responsibility for the accuracy of the input data, calculations, results or methodology of the Tool, nor any decisions made on the basis of its outputs. Acknowledgments The Tool was developed by the ITF through a number of collaborations. Pierpaolo Cazzola (formerly ITF) developed an initial version of the Tool. Leeza Malik and Subrajeet Sengupta (IIT(ISM) Dhanbad) further improved the Tool, incorporating data sourced by Ravi Gadepalli (independent consultant, World Bank), Amar Shinde (IIT Pune), and Technology Information Forecasting and Assessment Council (TIFAC) . Tool development was managed by Malithi Fernando (ITF), with valuable input from Vatsalya Sohu (ITF) and Ravi Gadepalli. The Tool also benefited from the feedback of NITI Aayog, the NDC-TIA consortium members ICCT, WRI, GIZ, Agora, and REN21, in addition to the World Bank. A peer review workshop was held in January 2023 with representation from academia, international organisations, and transport practicioners in India as well as international experts. The feedback from this event and following was incorporated into the Tool and manual. In particular, they benefitted from the detailed review of Gerald Ollivier (World Bank), N Mohan (Government of Delhi), Sudhanshu Mishra, and Minal Chandra (UC Davis). The Tool is based on the GREET Model (2018) of the Argonne National Laboratory, developed by Michael Wang. This Tool is not associated with the GREET Model, though the authors are grateful to the Argonne National Laboratory and Michael Wang for support at points throughout the project. Direct inputs related to fuel and material properties are based on GREET Model results. The ITF Tool assumes the same system boundary. © COPYRIGHT 2017 UChicago Argonne, LLC Project Funding: The India LCA Tool has been developed in the framework of the ITF activities on the Decarbonising Transport in Emerging Economies (DTEE) and Nationally Determined Contributions - Transport Initiative for Asia (NDC-TIA) projects INPUTS>> Base inputs EM PHASES>> Vehicle manufacturing Transport Use Operational services Infras mmary Gran 100 Accessibility: Investig Display Set



The ITF Transport Life Cycle Analysis Tool for India

- It helps understand holistically the implications of changes in transport modes, vehicles and fuels in the Indian transport sector.
- It provides insights on how these different choices impact transport emissions from a holistic perspective.





Partnerships





MANIPAL INSTITUTE **OF TECHNOLOGY** A Constituent Institution of Manipal University







UCDAVIS India ZEV Research Centre





Download the report

Life-Cycle Assessment of Passenger Transport

An Indian Case Study





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Technical study on Life Cycle Assessment of Passenger Transport in India

- Jointly developed with the World Bank
- Focuses on the Indian passenger transport sector
- Lifecycle phases include: vehicle and battery manufacturing, transporting the vehicle to the point of sale, vehicle usage, and related infrastructure
- Results from three electricity grid evolution scenarios on GHG emissions per pkm, vkm and vehicle.

25 VEHICLE CATEGORIES



Private two-wheeler – ICE/BEV (Scooter) Private two-wheeler – ICE/BEV (Motorcycle) Shared two-wheeler – ICE/BEV (Scooter) Shared two-wheeler – ICE/BEV (Motorcycle) **Three-wheeler – ICE/BEV** Bus AC- ICE/BEV -9m Bus AC- ICE/BEV -12m Bus Non-AC- ICE/BEV -9m Bus Non-AC- ICE/BEV -12m Coach Bus AC ICE/BEV 12 m **Private car – ICE/BEV** Taxi/Ridehailing-ICE/BEV Metro/urban train



Recommendations

Initiate a modal shift from private vehicles to buses and prioritise their electrification

Promote electric two- and threewheelers Encourage a shift in the car fleet towards shared electric vehicles

Choose corridors with high passenger demand for new metro lines Accelerate the transition to battery electric vehicles and complement it with the provision of cleaner energy

Mainstream lifecycle assessment into public policy and investment decisions



What's coming up?

Advancing Freight Electrification in India:

- Collaborating with UC Davis India ZEV Research Centre
- Policy pathway for India's freight transition, to be published in early Q2 2024

LCA Tool Update:

- Second release underway, includes freight vehicles
- Currently collecting primary data
- Expected to be available in 2024







Thank you!

Contact the project team

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