



Implemented by:

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

On Behalf of:



Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

of the Federal Republic of Germany



Resource Efficiency and Sustainable Management of Secondary Raw Materials



A Bilateral
Indo-German
Project



KNOWLEDGE PARTNERS:



INSTITUT FÜR ENERGIE-
UND UMWELTFORSCHUNG
HEIDELBERG



Development
Alternatives

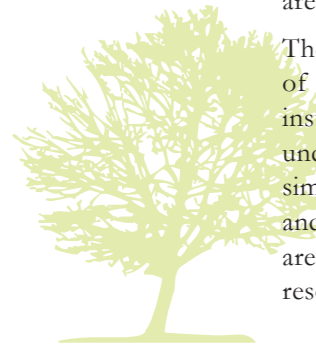
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Project Background and Objectives

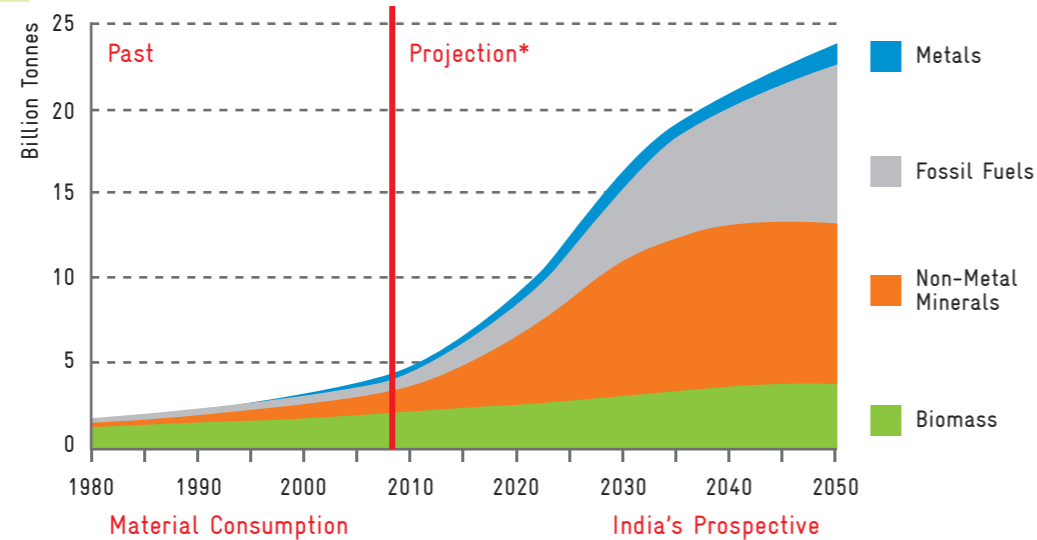
The German Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety (BMUB), under its International Climate Initiative (IKI), commissioned GIZ to implement jointly with the Indian Ministry of Environment, Forests and Climate Change (MoEFCC) a three year project until April 2017 titled **“Fostering Resource Efficiency and Sustainable Management of Secondary Raw Materials” (in short: Resource Efficiency)**. The focus of the initiative is on resource efficient utilisation of raw materials, especially minerals and metals, since they are required by the fast growing industry and thus critical to the Indian economy.



The project aims to enable Indian key institutions responsible for the formulation of environment, climate, and industry and resources policy to aid and establish institutional frameworks that improve resource efficiency. The project also underscores the link between conserving resources and recycling raw materials, while simultaneously saving costs and thus strengthening the competitiveness of industries and meeting India's future demand for resources. The primary focal areas identified are Automotive Sector and Construction and Demolition, due to their high volume of resource consumption and high expected growth rates.

The graph shows the projection to 2050 of resource consumption in various categories:

Main assumptions:
India follows typical material use pattern during development process; economic growth rates of about 8% p.a. until 2030, thereafter around 7% p.a. until 2035 and 6% p.a. until 2050.
Date sources: Dittrich, 2012; SERI, 2011; TERI, 2012; UN Data, 2012; World Bank, 2012



Chosen Sectors

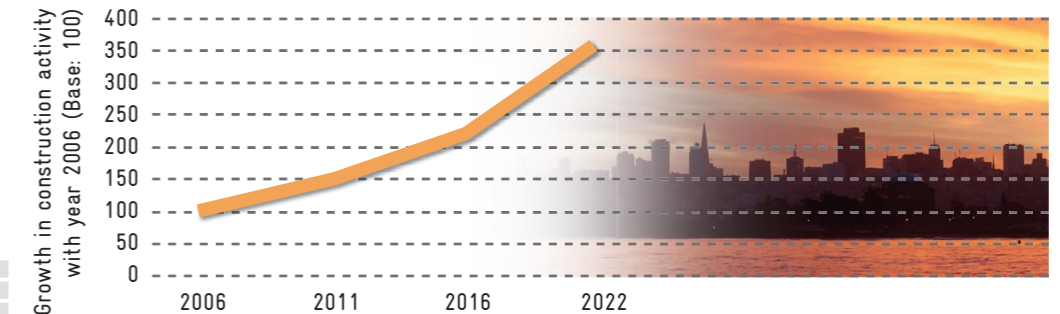
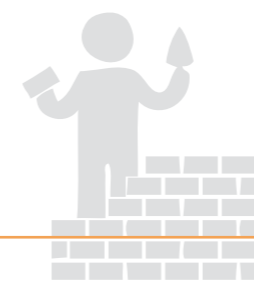
1. Construction & Demolition (C&D)

Facts & Figures:

- Only about 20% of the 10–14 million tons of C&D waste generated annually in India is recycled (i.e. metal, bricks).
- India has a consumption of around 200 billion bricks p.a. for which essentially 600 million tons of soil and 150 million tons of sand is being used.

The above C&D waste numbers, from the year 2001, are considered underestimates and are likely to be much higher than expectations.

Growth in India's construction activity:



2. Automotive

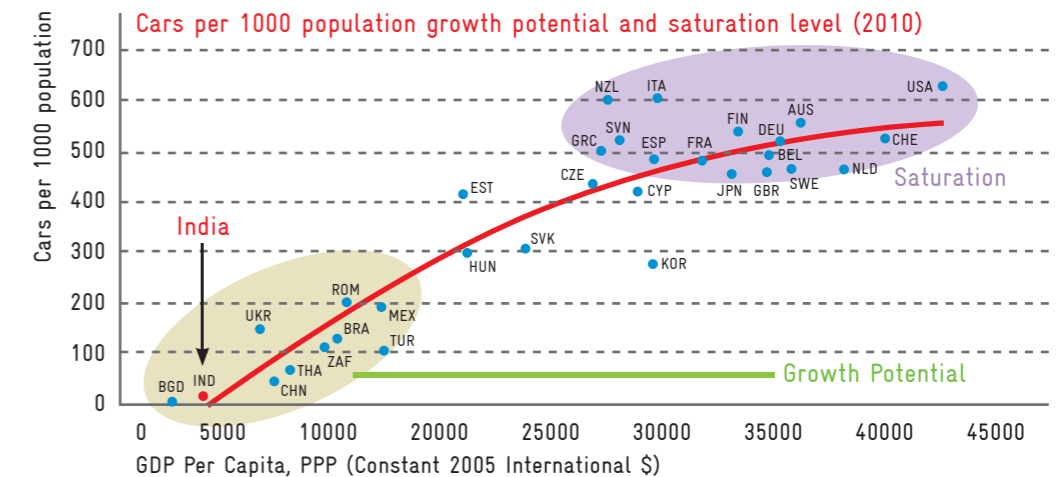
Facts & Figures:

- India currently records automotive sales of 17.8 million units. Considering an insatiable demand for vehicles on the back of an economy that is expected to grow at an average of 7% for the next 20 years, the Indian auto sector will require disproportionate amounts of natural resources and this will lead to resource restraints for an economy that already has supply side constraints.
- As per the CPCB-GIZ joint assessment study (2015), 8.7 million vehicles are likely to reach End of Life Vehicle (ELV) status in 2015. Handling of ELVs by the informal dismantlers and processors leads to loss of resources, leakages of hazardous constituents that need immediate attention considering the environmental and occupational risks.

Therefore, secondary raw materials originating from recycling/production wastes would help conserve natural resources.

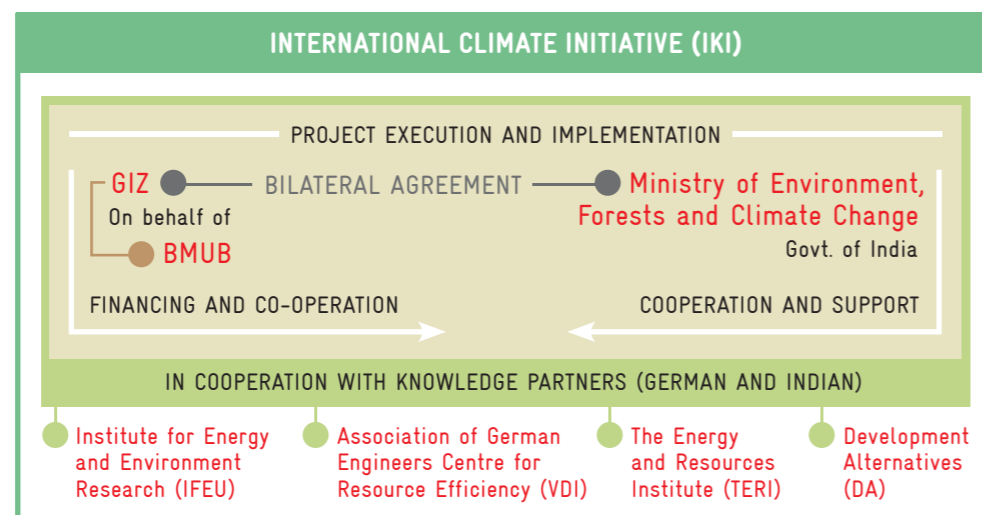


The graph shows car penetration in India (per 1000) as compared to other markets and the potential of growth:



Who's Who

Under the International Climate Initiative and financed by the German Ministry of Environment, the following partners are working in cooperation in the project:





Work Packages

The project is organised in three work packages with different but overlapping objectives:

Work Package 1 (Analysis of potential & constraints)

Developing a common understanding of the concepts of resource efficiency and use of secondary materials.

Work Package 2 (Agenda setting & policy dialogue)

Firmly establish the topic of resource efficiency amongst private and public institutions in order to design an enabling environment for resource-efficient production. "Indian Resource Panel" will be established.

Work Package 3 (Advisory services for corporations, SMEs & pilot projects)

Demonstration projects in the construction and mobility sectors will be undertaken to illustrate Resource Efficiency promotion.



Expected Project Outcomes

- Specific sectoral barriers as well as ecological and economic advantages that can be achieved through improved productivity and the use of secondary raw materials are analyzed for the selected material flows. The resulting key areas for action are identified.
- The recommendations for the action proposed by the Indian Resource Panel and initiatives for enhancing productivity and secondary raw materials management are adopted by the Indian Government.
- Options for improving resource efficiency and enhancing the quality of secondary raw materials returned to the economic cycle are demonstrated on a pilot basis for the selected industry sector.



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