



# Low Carbon Mobility Management in Chinese Cities

a Cooperation for Sustainable Development  
between Deutsche Telekom AG and GIZ

Dennis Horch  
ITS World Congress  
Orlando, FL,  
October 19, 2011



## GIZ Company Profile

### The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

- **Working efficiently, effectively and in a spirit of partnership**, we support people and societies worldwide in creating sustainable living conditions and building better futures.
- **GIZ's purpose** is to promote **international cooperation for sustainable development** and international education work.
- As a **100% federally owned**, public-benefit enterprise, we support the German Government in achieving its objectives in the field of international cooperation for sustainable development.
- GIZ operates in **more than 130 countries** worldwide.
- GIZ employs **more than 17,000 staff members** across the globe – some 70% of whom are employed locally as national personnel.



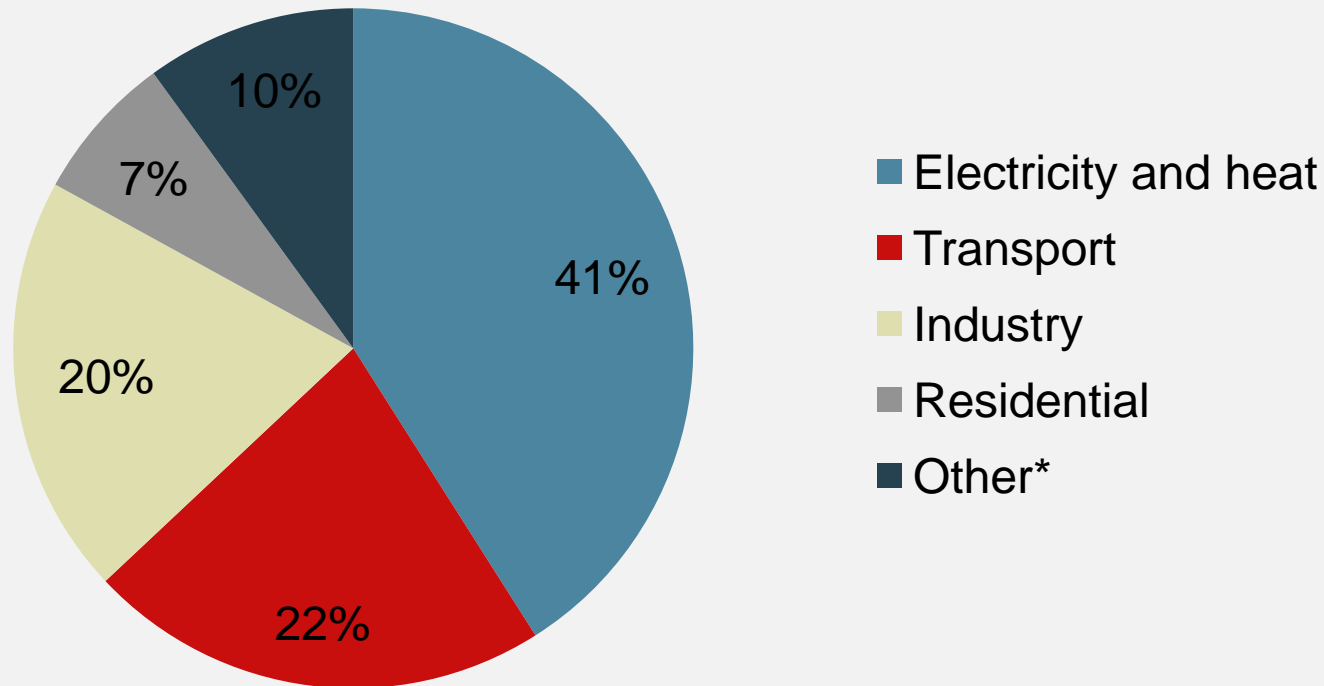
## Guiding Questions

- What are the Challenges in Transportation regarding Sustainability and Climate Protection?
- What are possible Strategies and which Instruments are available?
- Is there an Opportunity for Climate Protection Mechanisms Acceptance?



## CO<sub>2</sub>-Emissions by Sector (2008)

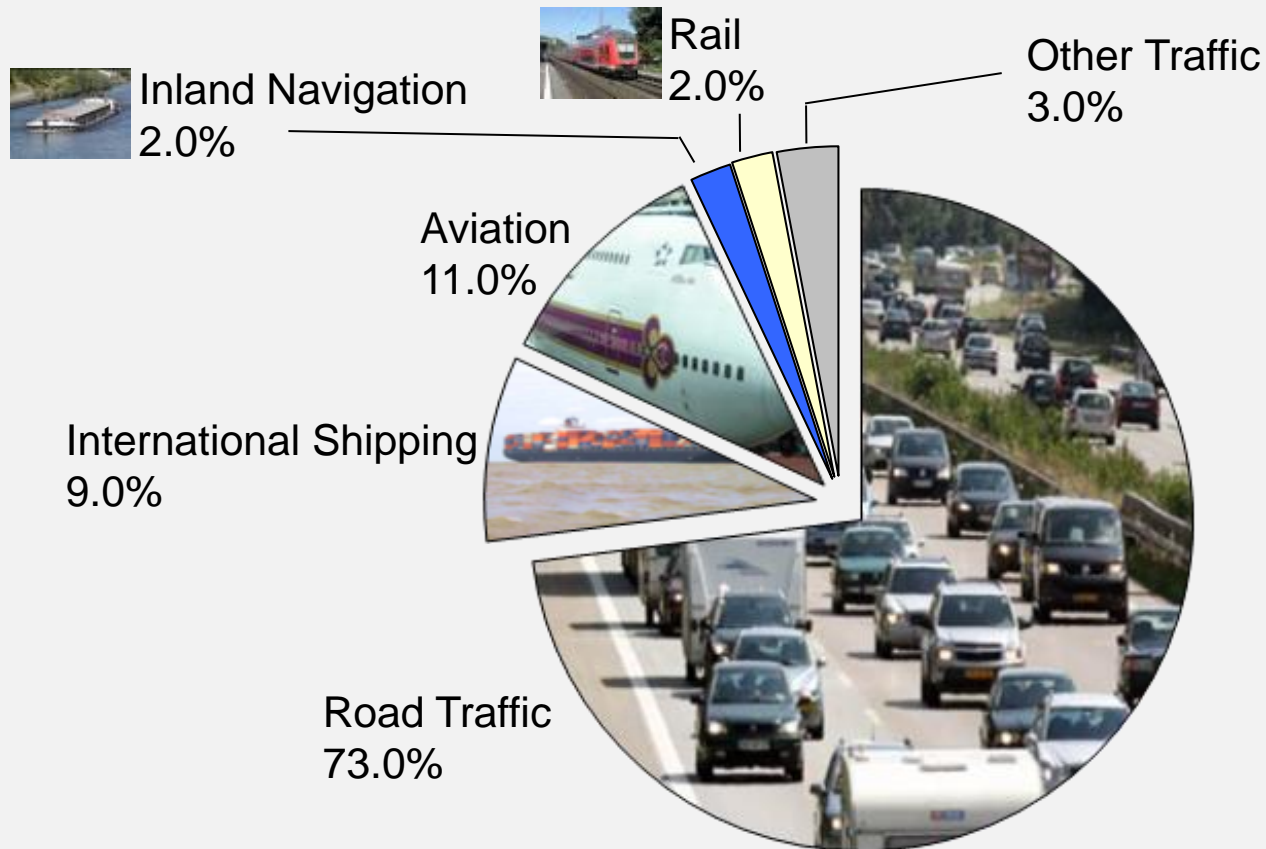
### World CO<sub>2</sub> emissions from fuel combustion by sector 2008



\*Other includes commercial / public services, agriculture / forestry, fishing, energy industries other than electricity and heat generation, and other emissions not specified elsewhere.



# Transport CO<sub>2</sub>-Emissions by mode

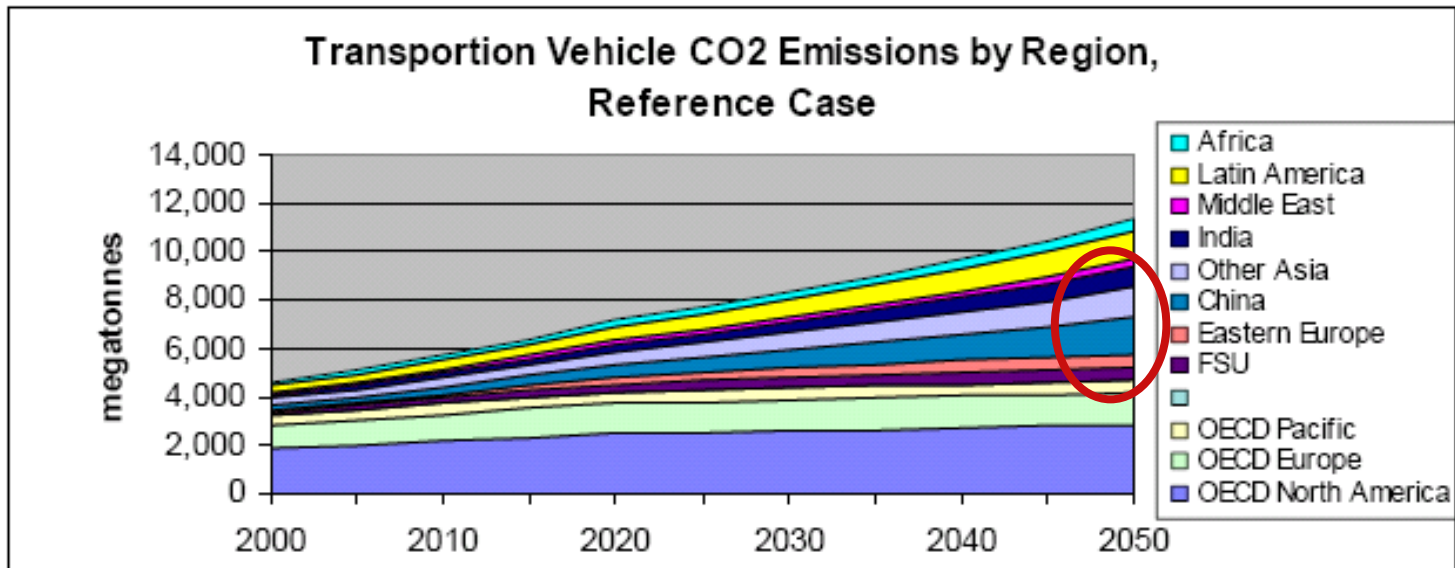


Within the transport sector,  
**road traffic** is responsible for the largest share of emissions:



## The Challenge in China

- Increase in the number of vehicles on Chinese roads from 27 million vehicles in 2004 to 63 million vehicles in 2009.
- The road network in China has already reached the limit of its capacity.
- Increase in traffic volume and GHG emissions by the traffic sector.
- Results are economic losses, air pollution, more traffic accidents, and more dependence on oil imports.



Transportation vehicle CO<sub>2</sub> emissions by regions (World Business Committee for Sustainable Development) (WBCSD, 2004)



## The Challenge in China (2)

- There are **large efficiency potentials** for transport service providers and logistics enterprises in cities such as Shanghai or Beijing.
- Such potentials comprise
  - a reduction of traffic congestion,
  - the integration of multimodal means of transportation,
  - and improved information systems to optimize routing.
- Various inefficiencies lead to big energy losses and thus unnecessary GHG emissions, such as
  - fuel consuming driving styles,
  - empty taxi trips in search for passengers,
  - unplanned detours,
  - or empty runs of logistics enterprises

A light gray world map serves as the background for the title. The country of China is highlighted in a solid red color. The text is centered over the map.

**Consulting Strategies  
and Instruments**

for

**Sustainable Transportation**



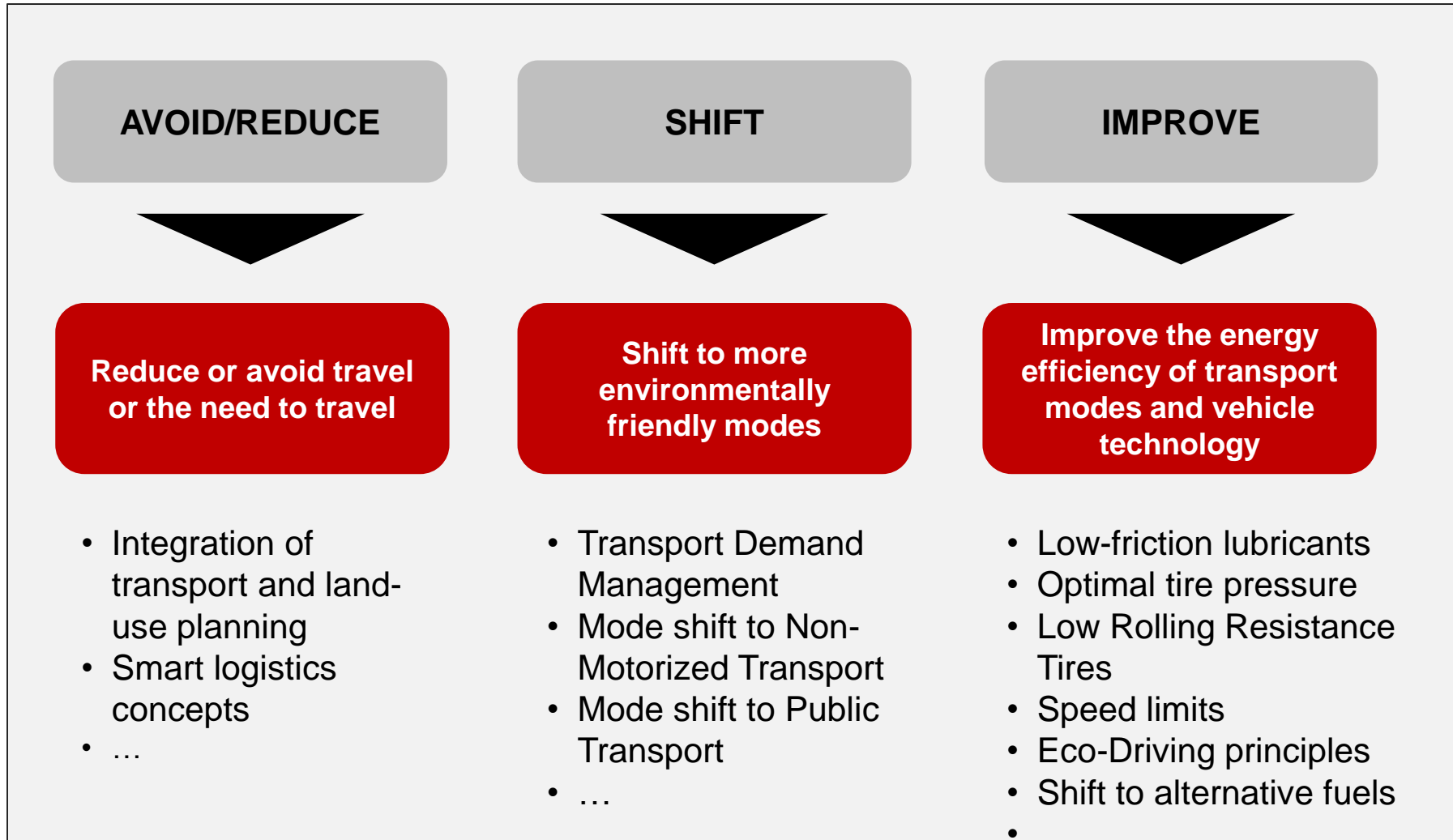
## Sustainable Transport Instruments

A **sustainable transportation system** is one that:

- allows individuals, companies and societies to **meet their basic mobility needs** in a way that preserves human and ecosystem health, and promotes equity within and between successive generations;
- is **affordable, efficient, offers a choice of transport mode**, and supports a competitive economy, as well as balanced regional development; and
- **limits emissions and waste** within the planet's ability to absorb them, **uses renewable resources at or below their rates of generation, and uses non-renewable resources at or below the rates of development of renewable substitutes**, while minimising the impact on the use of land and the generation of noise" (ECMT, 2004).

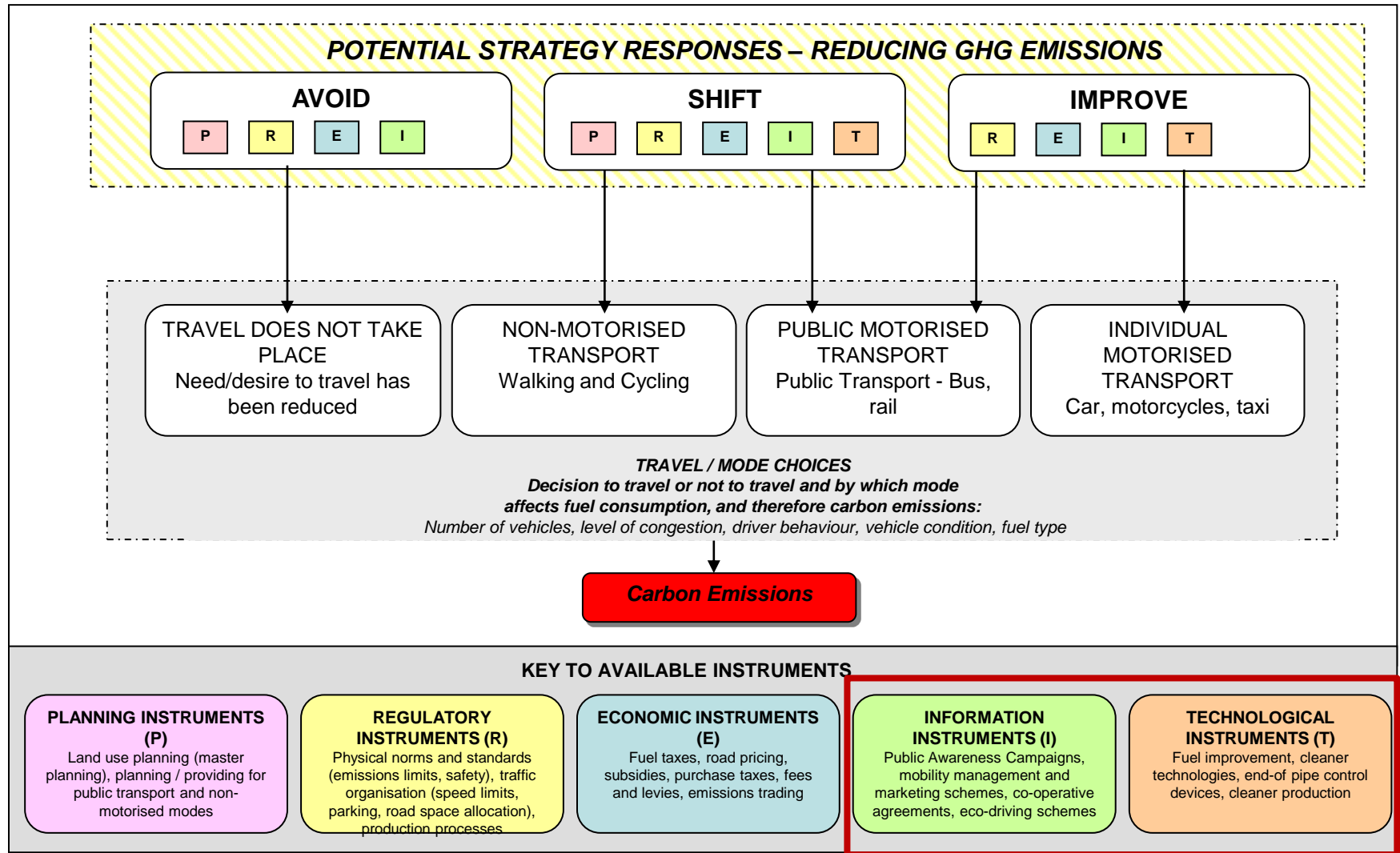


## GIZs Consulting Approach: Avoid / Shift / Improve

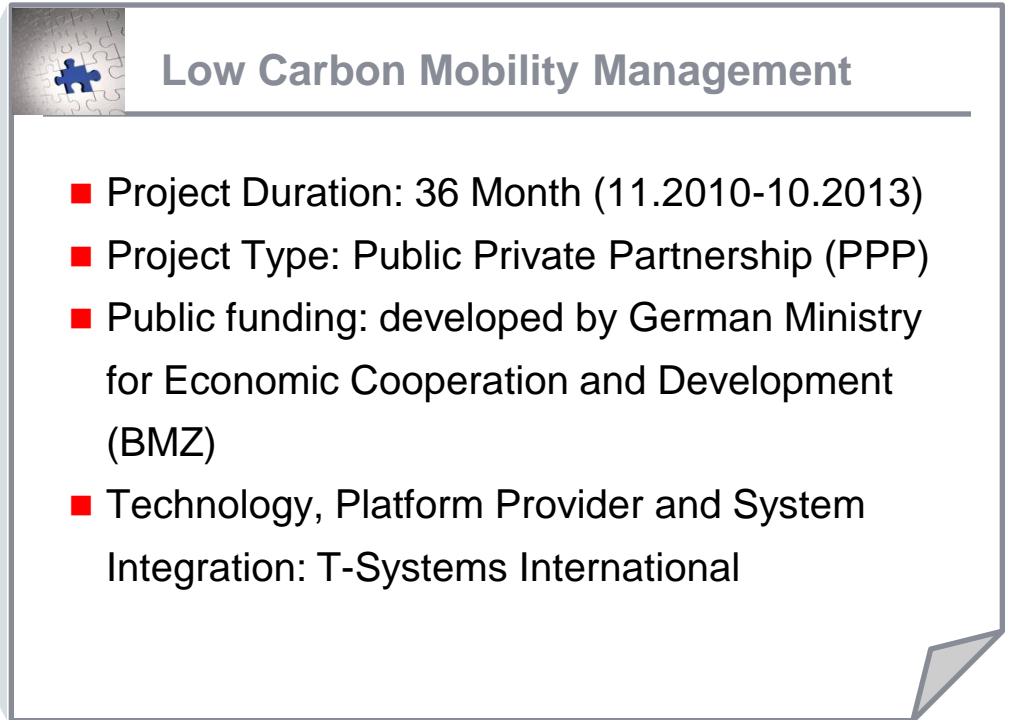




# Potential Strategy Responses



# DB Schenker, DT and GIZ initiate a cooperation with strong partners to realize low carbon mobility

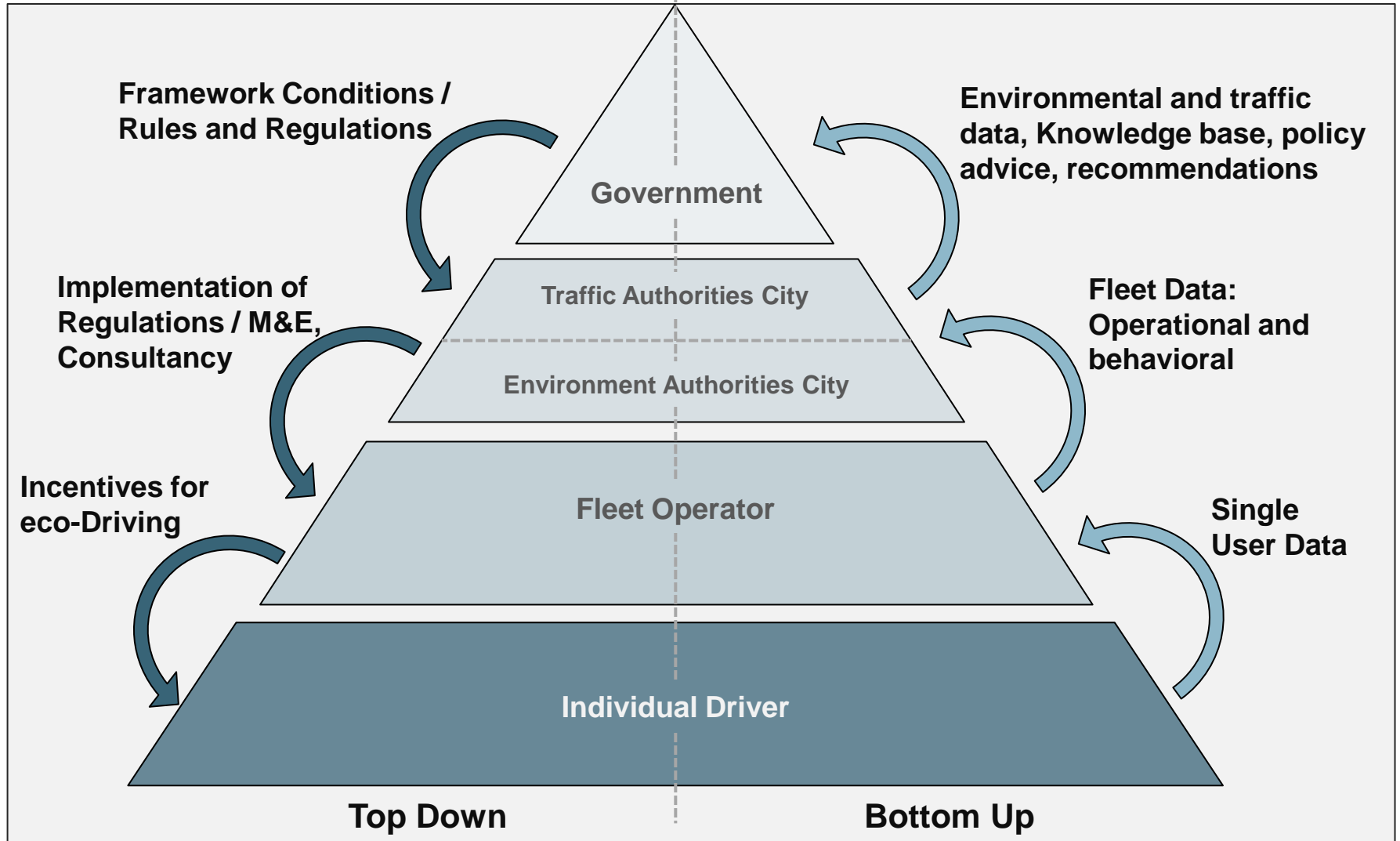


**Low Carbon Mobility Management**

- Project Duration: 36 Month (11.2010-10.2013)
- Project Type: Public Private Partnership (PPP)
- Public funding: developed by German Ministry for Economic Cooperation and Development (BMZ)
- Technology, Platform Provider and System Integration: T-Systems International

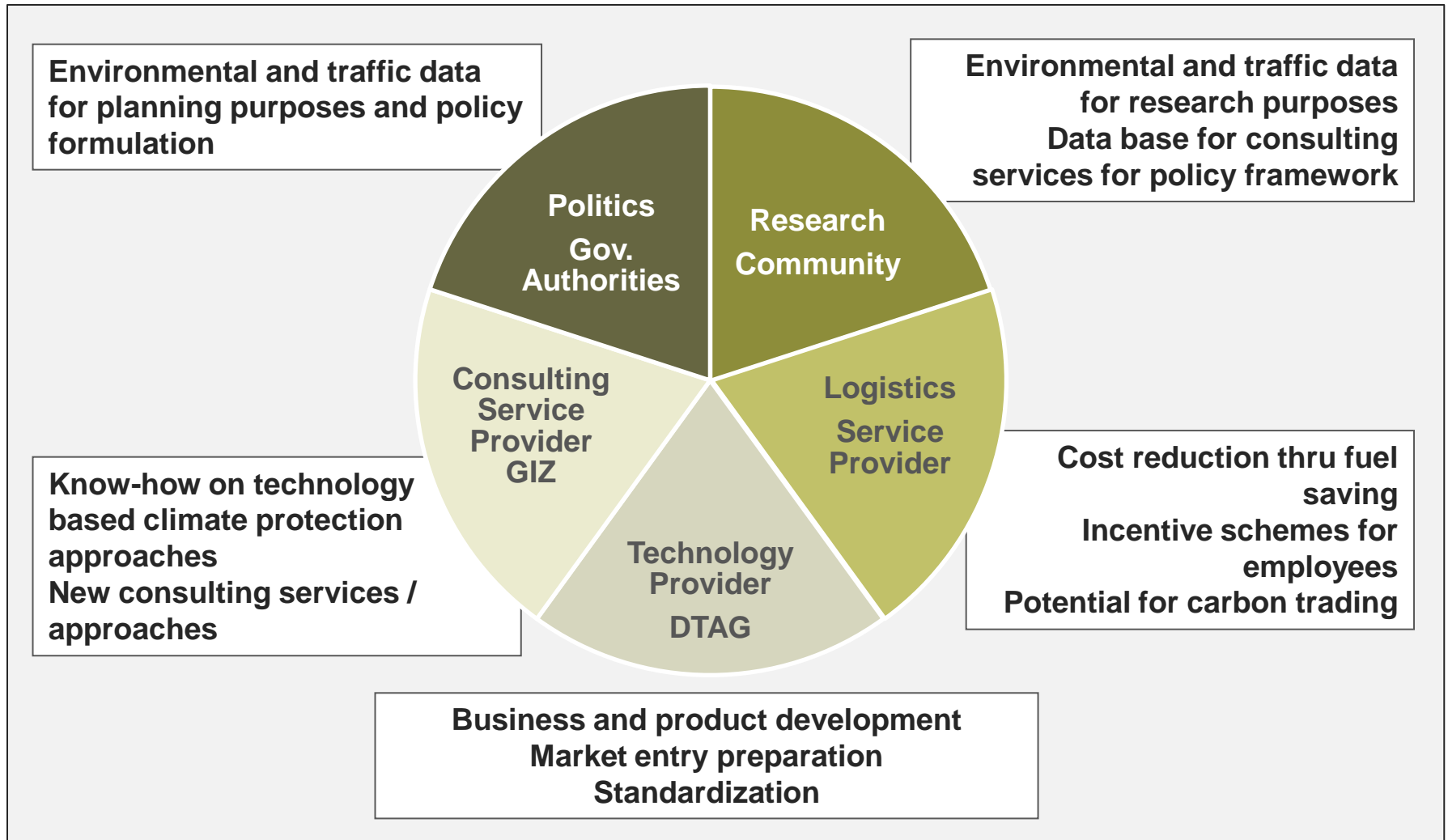


# Interaction of Levels involved





# Stakeholders and their Benefits





# Climate Protection Mechanisms in Transportation





## Clean Development Mechanism (CDM) and LCMM

### Problem / Challenge:

- Transport is proving to be one of the most difficult sectors in which to reduce GHG emissions as there are numerous small emission sources (i.e. vehicles) and, additionally, there is a seemingly close relationship with economic development.

### Approach:

- Clean Development Mechanism (CDM) as one Instrument for Climate Protection brings financial incentives for Municipalities and Mobility Operators via the opportunity of emission trading.



## Clean Development Mechanism (CDM)

### Approved (CDM)-Methodologies related to Transportation

- AMS-III.AA. Transportation energy efficiency activities using retrofit technologies.
- AMS-III.C. Emission reductions by electric and hybrid vehicles.
- *AMS-III.S. Introduction of low-emission vehicles/technologies to commercial vehicle fleets.*

### Key Elements of CDM-Methodology:

- **Baselining:** GHG-emissions before the project implementation as reference.
- **Additionality:** Project must prove that it would not have been implemented in the absence of a CDM.
- **MRV:** Measurement, Reporting and Verification of emission reduction



## Example: CDM approved Transportation Project

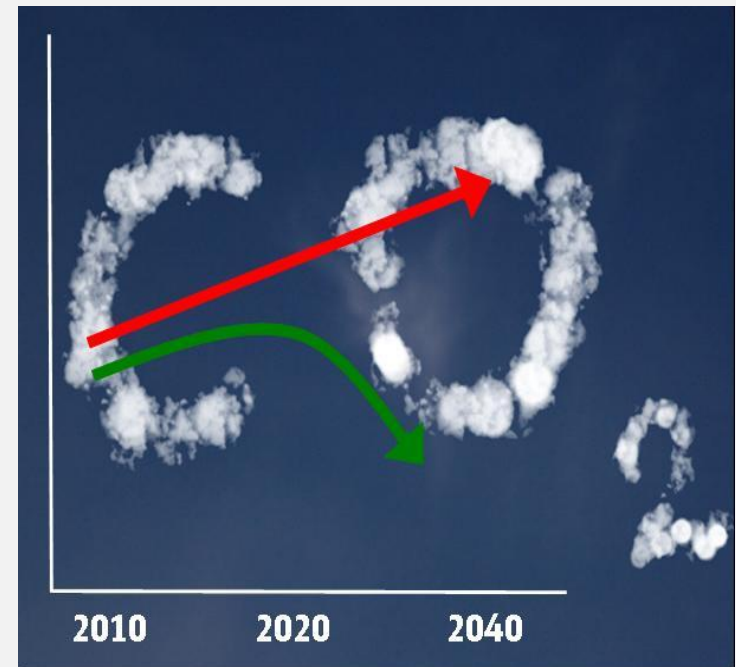
- TransMillenio / BRT for Bogota (large scale)
  - Infrastructure,
  - Buses,
  - Transit Management
  - Fare System
- Project duration (total accounting period) : 7 + 14 years, 2005 - 2026
- Approval by UNFCCC: Host Country NL, Target Country Columbia, value per tCO<sub>2</sub>eq : estimated 10-30\$
- Estimated reduction in tCO<sub>2</sub>eq : 13.5m
- Expected revenue from sales of emission reductions in U\$: 130-350m
- This covers 10% of total infrastructure investment costs.



## Outlook

- Future of CDM to be developed further within post-2012 climate regime.
- New methodologies esp. for small scale projects are to be developed and approved (PoA).
- Other political frameworks are developed in order to encourage emission reduction in developing countries (e.g. NAMA) .

### Decoupling CO<sub>2</sub>-emissions from transport growth...



- Transport growth
- CO<sub>2</sub> by transports



**Thank You for Your Attention**

**Dennis Horch (GIZ)**

for further information please contact me

[Dennis.Horch@giz.de](mailto:Dennis.Horch@giz.de)

see also:

<http://www.sutp.org>