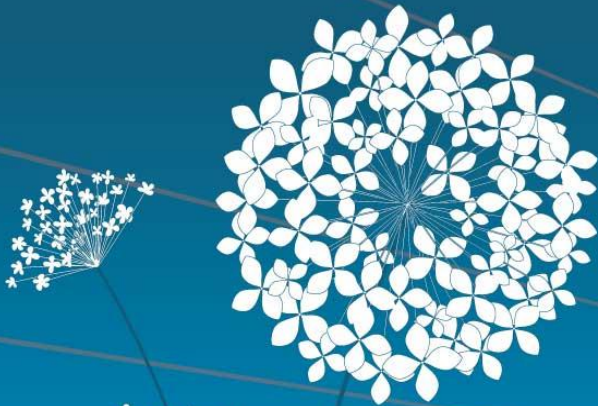


ANTWERPEN, 16 - 19 JUNE



Transport and Low Carbon Development Strategies

*RIE TSUTSUMI,
PROGRAMME OFFICER, UNEP*

Energy Efficiency, the best fuel to move our trains!

TRANSPORT AND ENVIRONMENT

Air Quality & Health

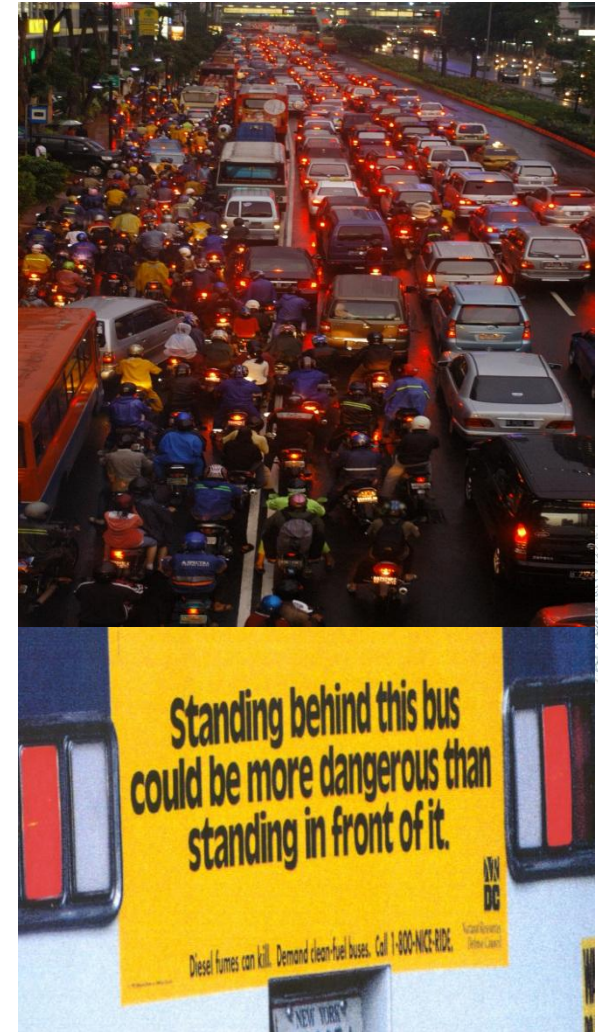
- Largest source of air pollution in many cities, with pollution exceeding WHO standards and costing more than 5% GDP

Energy Security

- Consumes **25%** of world energy, **90 %** are fossil fuels
- Transportation's fuel consumption has **doubled** since 1970

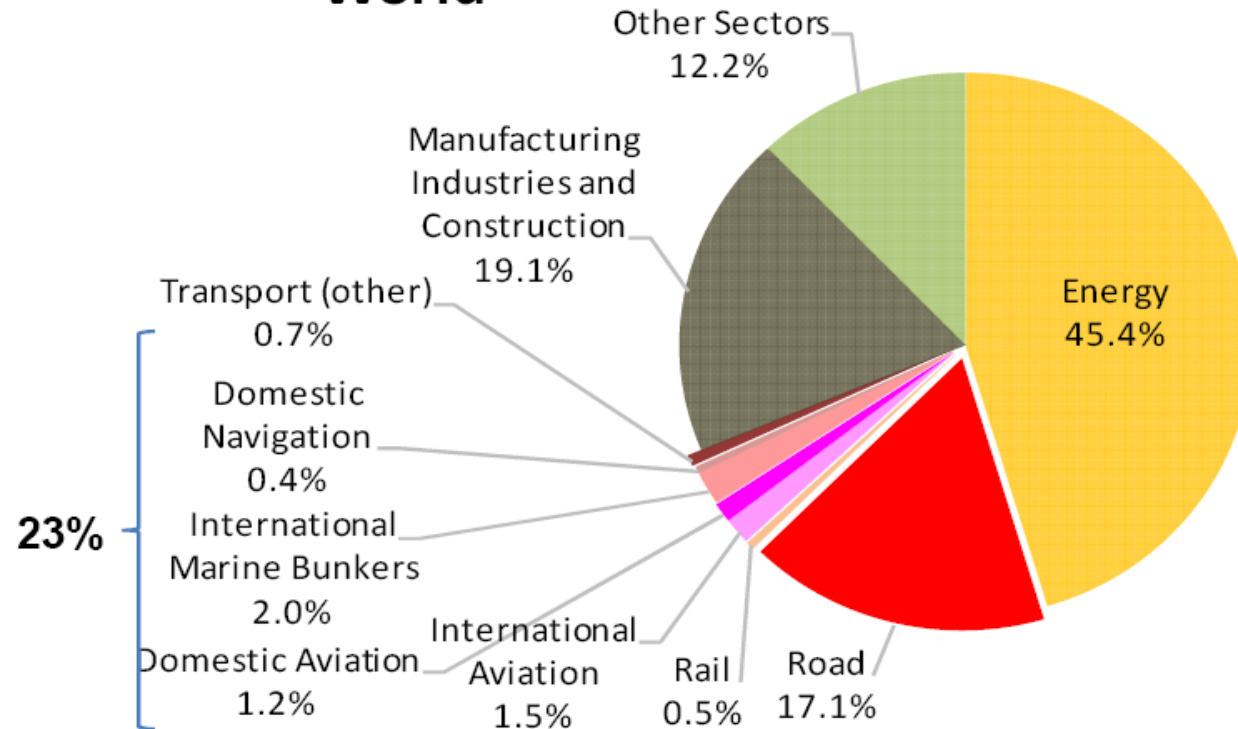
Climate Change

- Responsible for 23% global CO2 emissions
- Fastest growing sector in GHG emissions, 2.5% yearly until 2020



Outlook for Emissions by Sector

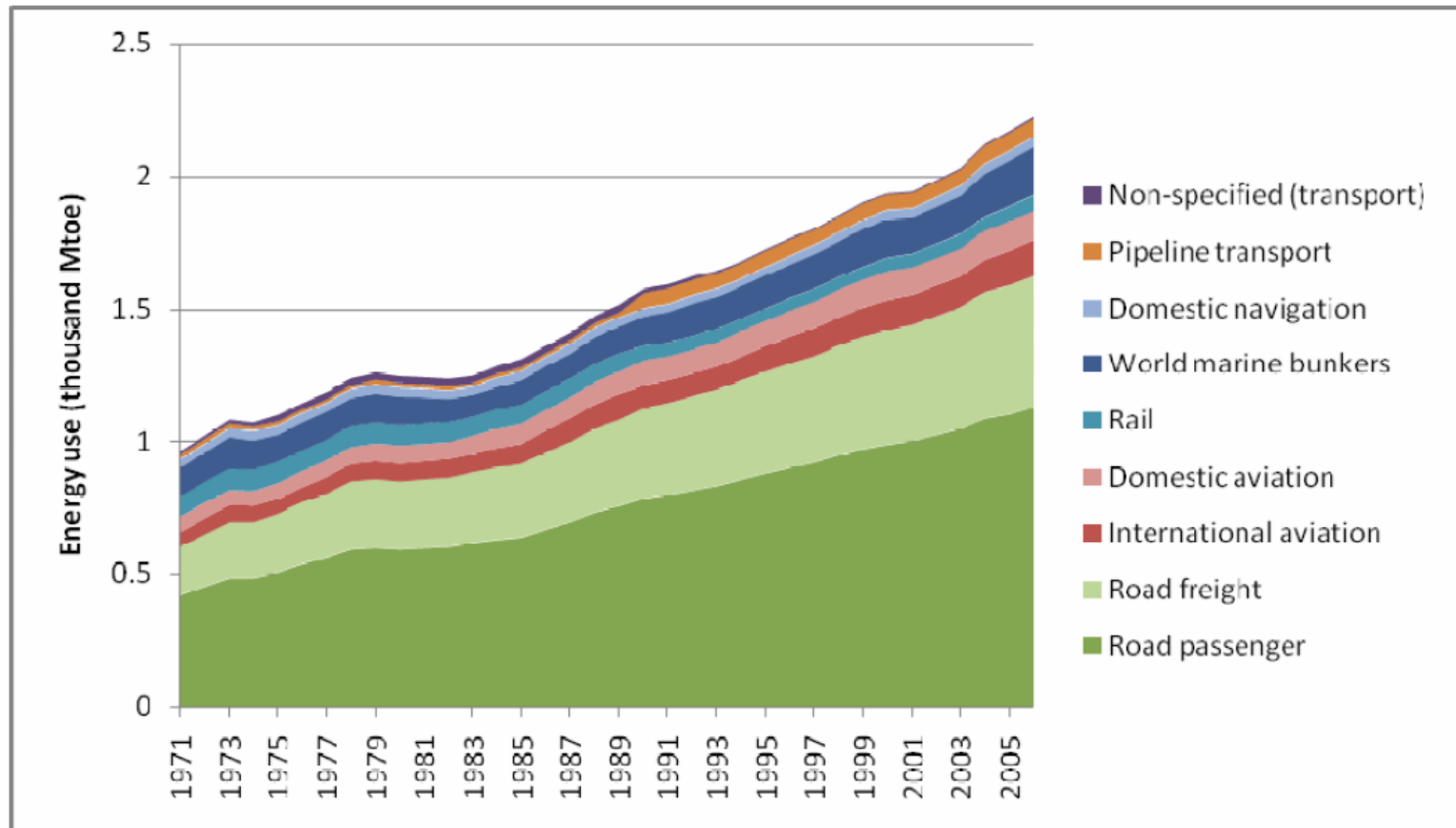
World



Climate Change: Road transport contributes 17% global CO₂ emissions, a third of future emissions

- CO₂ from transport to grow by **120% by 2050** (with respect to 2000 levels)

TRANSPORT ENERGY-USE BY MODES



UNEP TRANSPORT PROGRAMME:

CLEAN- EFFICIENT- SAFE- AFFORDABLE

SOLUTIONS

Objective to support countries to put in place policies towards a sustainable low emission transport pathway

- Thematic approach : climate change, green economy
- focus : technology, policy as well as redirect investment towards sustainable transport infrastructure
- areas of work : clean fuels and vehicles, public transport and non-motorized transport, ports
- Approaches :
 - capacity building, awareness raising, campaigns , technical support and demonstration projects
 - extend strategic partnerships with like-minded organizations to promote the environment – transport agenda



KEY PROGRAMMES / PROJECT

- Cleaner Fuels and Vehicles: Partnership for Clean Fuels and Vehicles (Global)
- Auto fuel efficiency: Global Fuel Economy Initiative (Global)
- Non-motorized transport: Share the Road (Africa focus)
- Promoting Low Carbon Transport in India (integrated approach; single country project)
- Transport, Health and Environment –Pan European Partnership (THE –PEP): Green Job programme **new*
- Mass Transit : BRT systems (Africa focus) **new*
- Ports : reducing particulate matter and black carbon (global) **new*
- African Sustainable Transport Forum (ASTF) – joint initiative of UNEP, UHABITAT and the World bank **new*



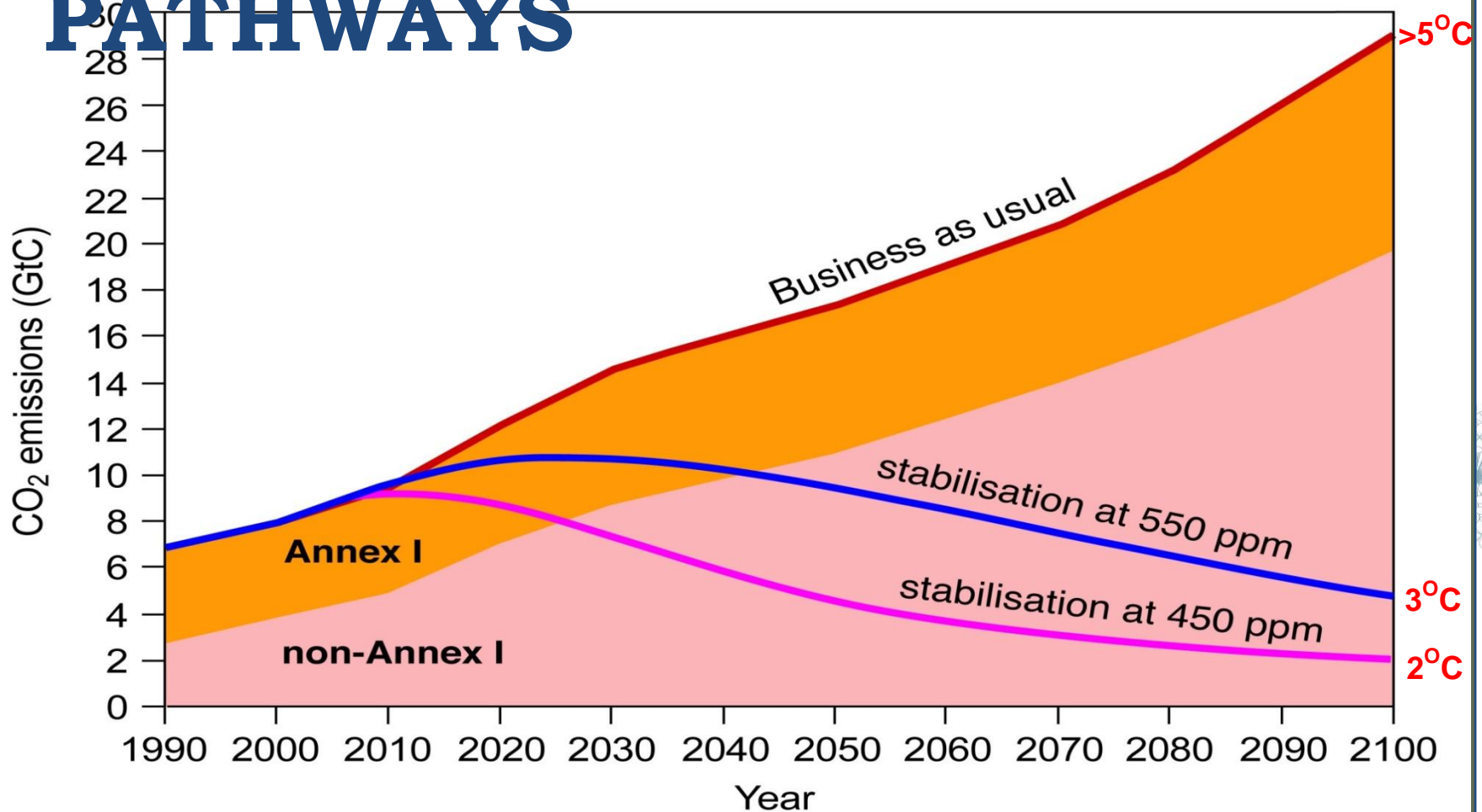
CASE STUDY: LOW CARBON DEVELOPMENT STRATEGIES

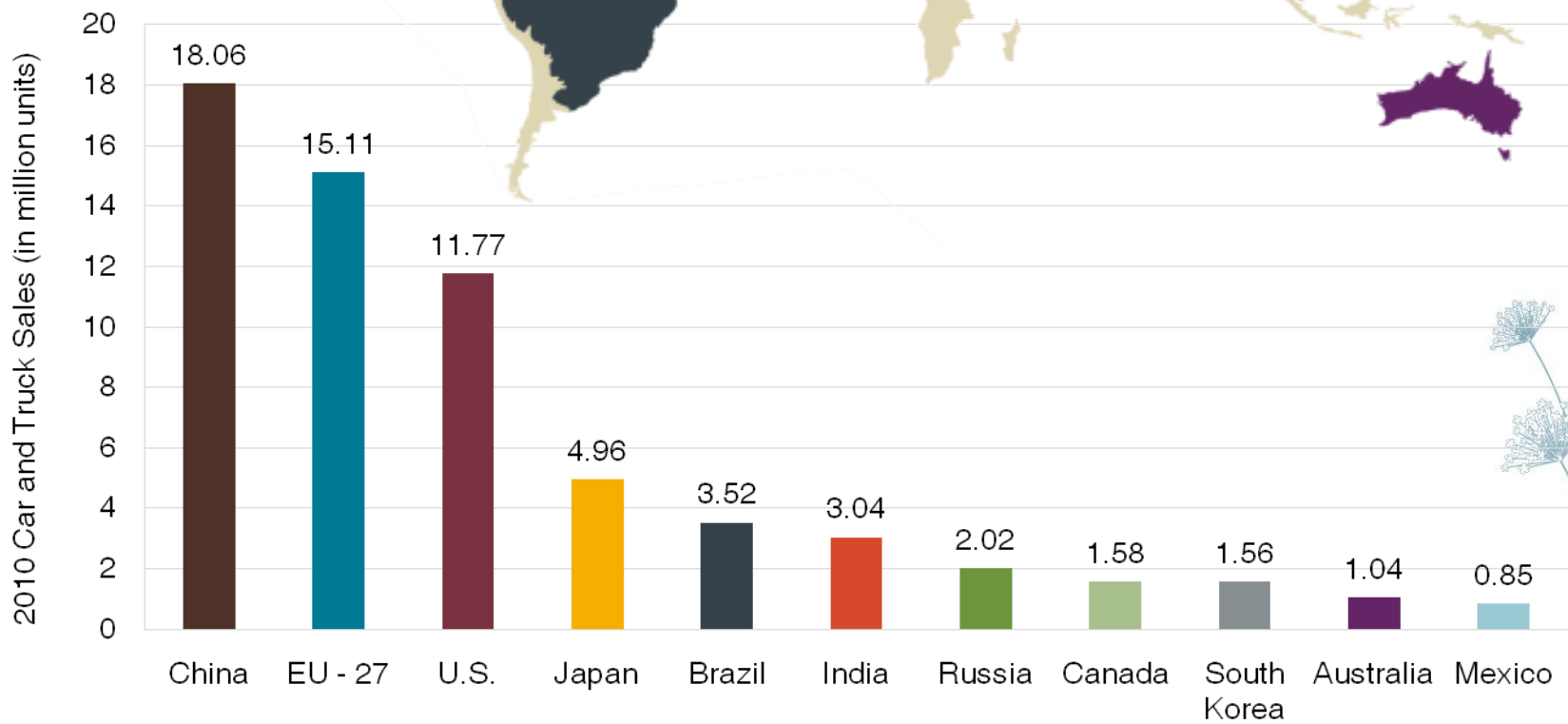
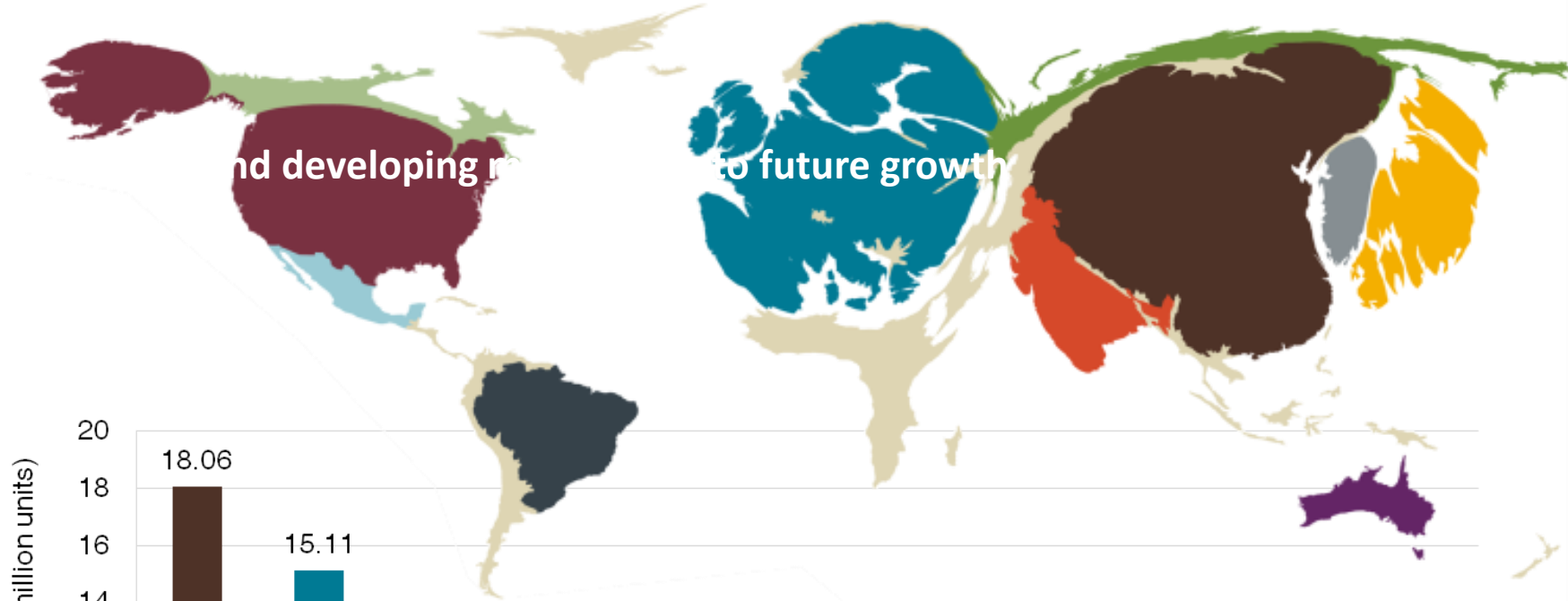
- Case study on The Delhi-Mumbai Dedicated Freight Corridor, India
- Study was undertaken by the Indian Institute of Management



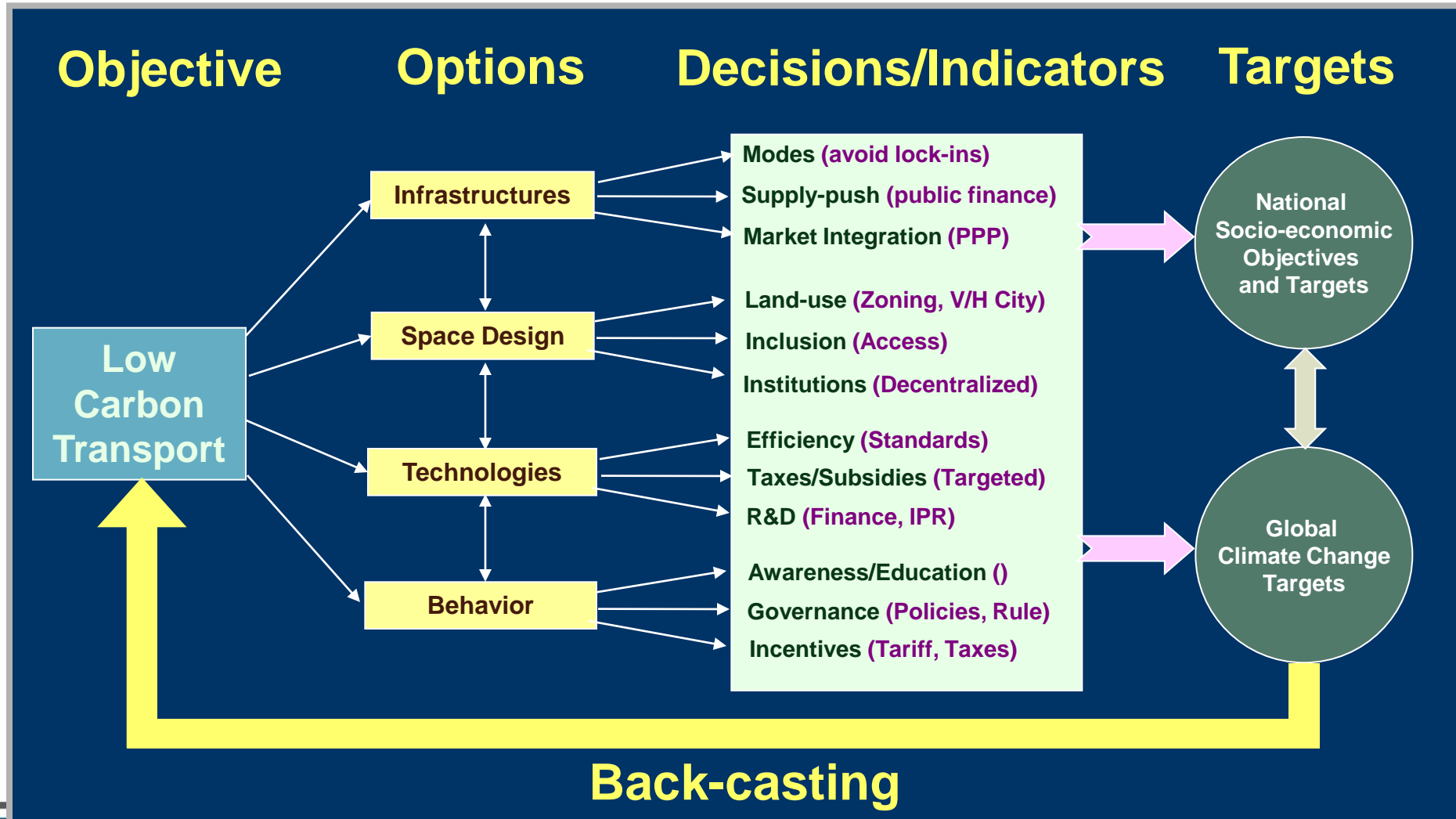
GLOBAL EMISSIONS

PATHWAYS





Sustainable Low Carbon Mobility



THE DELHI-MUMBAI DEDICATED FREIGHT CORRIDOR

- One of the largest transport infrastructure projects being implemented in India
- Would increase the relative share of rail in the freight transport sector
- Capacity of the existing rail network is saturated on most of the trunk routes and the road network is also highly congested
- More energy efficient, environment-friendly and less carbon-intensive mode of transport
- Crucial role in sustaining national economic growth and inducing regional economic development



CASE STUDY OF THE DELHI-MUMBAI DFC

➤ Premise

- Large infrastructure projects, such as the proposed DFC, are critical drivers of the national economy and have major implications for achieving low-carbon development goals.

➤ Purpose

- To provide a framework for long-term assessment of CO₂ emission reduction from transport infrastructure projects like the proposed Delhi-Mumbai DFC.
- To examine the implications of the proposed DFC project for achieving the twin goals of sustainable development and low-carbon growth.

➤ Scope

- Focus on CO₂ emissions (during operations phase of the project)
- Focus on long-term assessment (and macro transitions)



APPROACH AND METHODOLOGY

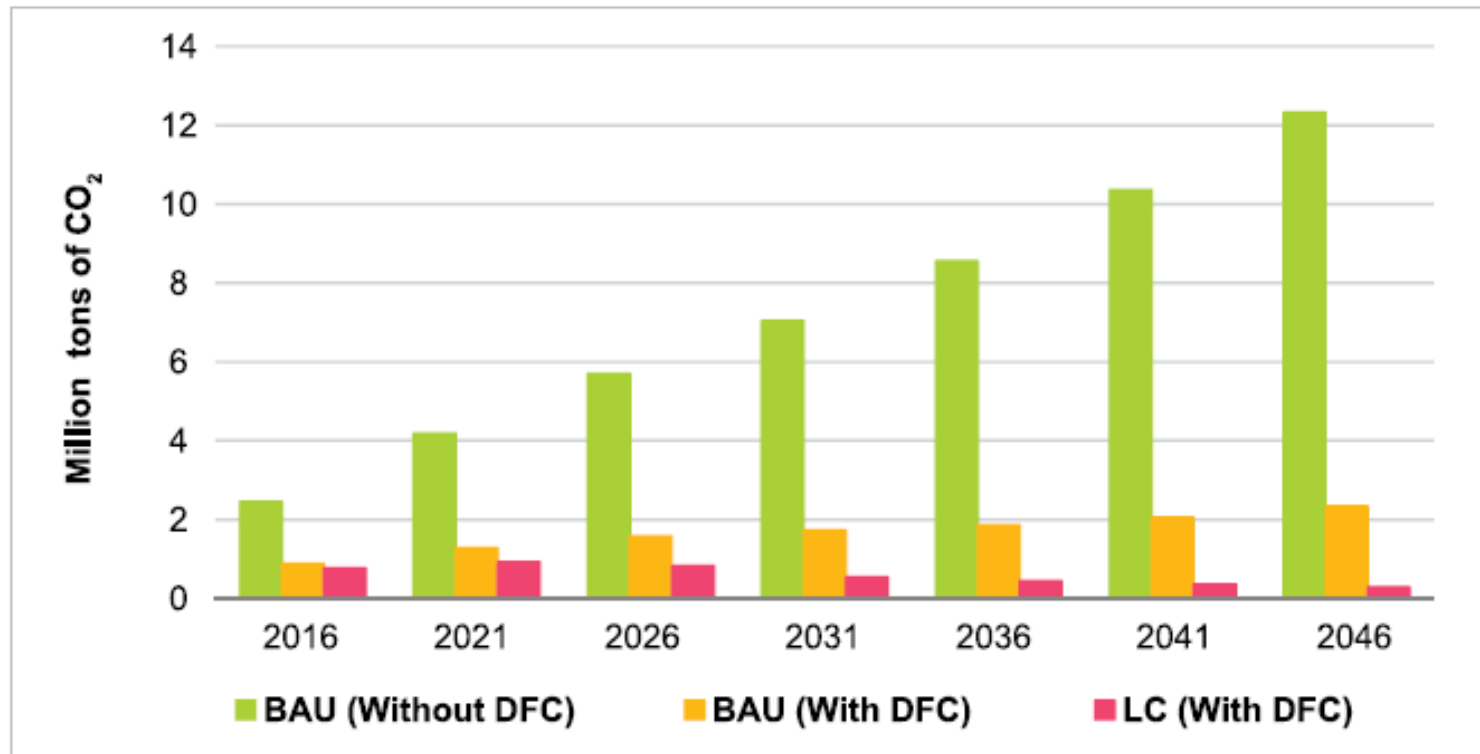
- The study provides long-term assessment of CO₂ emissions during the operations phase of the project over a 30-year time period
- Two business-as-usual (BAU) scenarios based on continuation of current trends of freight movement, technologies and energy mix at the national level
- Third scenario based on a low-carbon (LC) pathway at the national level, supported by a carbon tax, aimed at achieving the global CO₂ stabilization target (corresponding to 2°C global average temperature rise until the year 2100)
- Key steps in the study methodology:
 - Alternative scenarios
 - Future traffic projections
 - Projections of future energy demand
 - CO₂ emission factors (Integrated Energy-Economy model for India - IIMA)
 - Estimated future CO₂ emissions



KEY FINDINGS

Annual GHG Emissions from Freight Movement

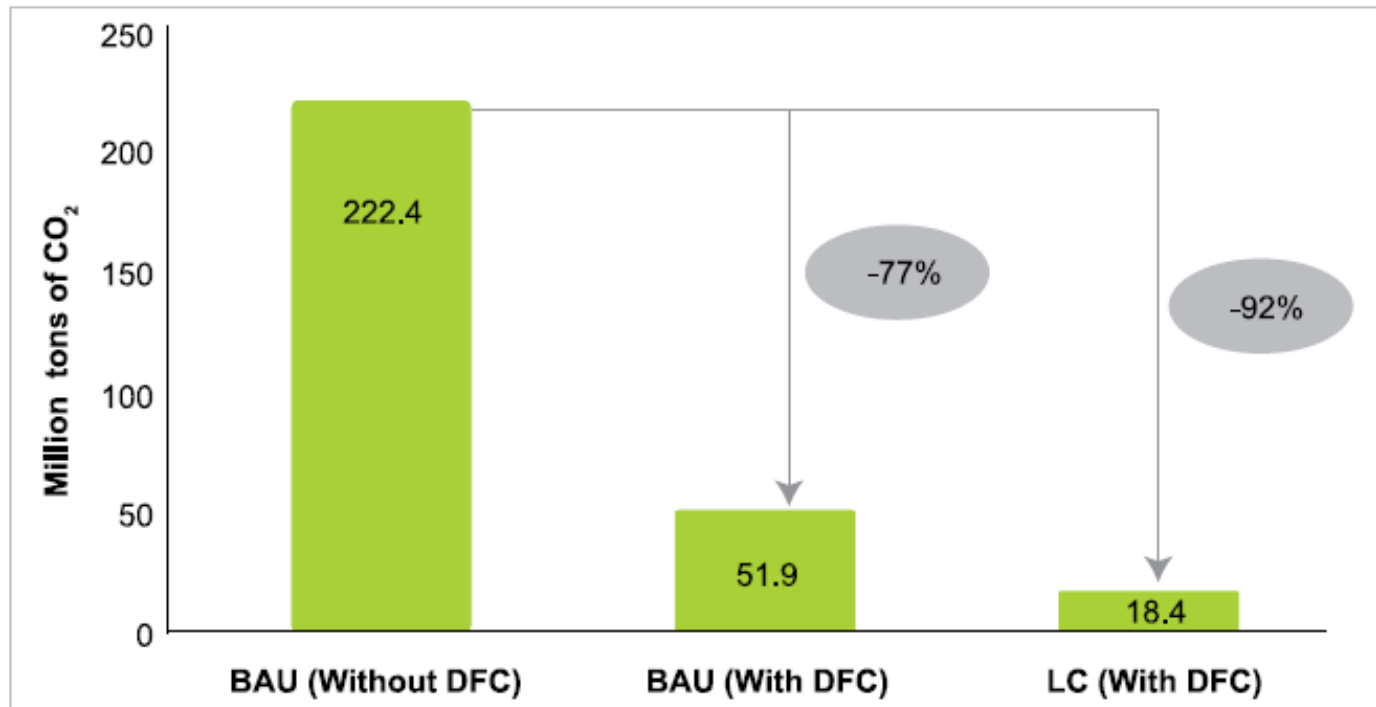
(Million tCO₂)



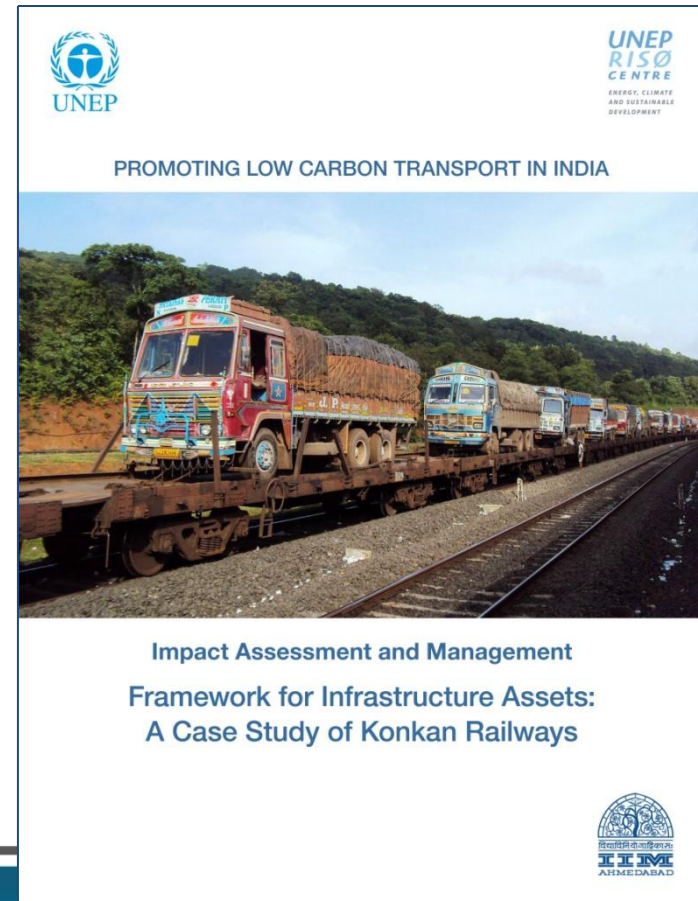
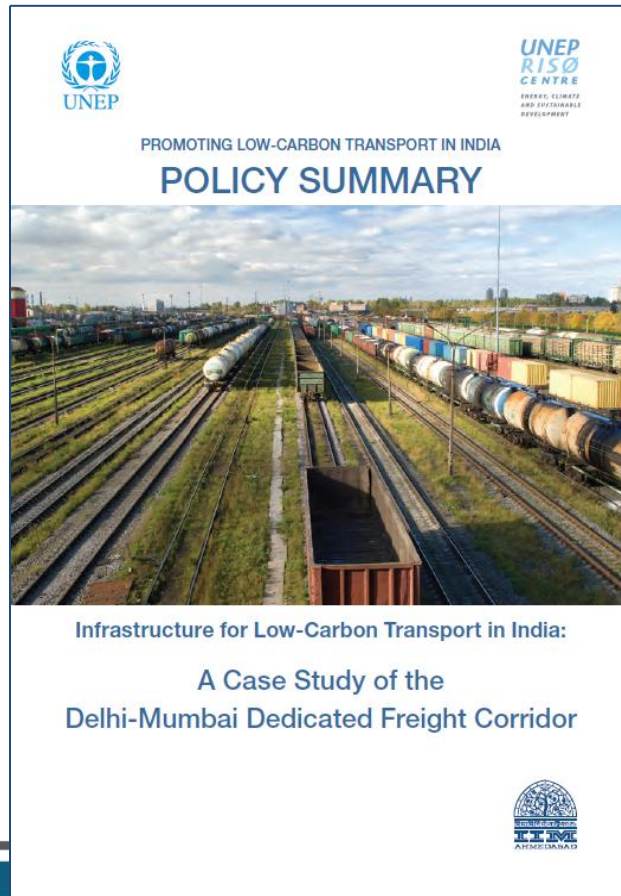


KEY FINDINGS

Reduction in Cumulative CO₂ emissions (2016-2046)



Publications : www.unep.org/transport/lowcarbon





TRANSPORT, ENVIRONMENT AND HEALTH IN EUROPE

- Air pollution: 9 months less life expectancy
- Traffic noise: 70 million affected
- Road Accident: 120,000 death
- GHG emissions from transport: 24%
- Reduced physical activity: 1 million death in UNECE region
- Total adverse effects of transport is 4% of GDP in European Union



CO-BENEFITS : POTENTIAL JOBS IN GREEN & HEALTHY TRANSPORT

Supporting
Active Travel

Improving
public
transport and
increasing its
attractiveness

Technological
measures to
reduce
emissions per
transport
mode

Encouraging
behavioural
change

Mobility
Management

Freight

Reducing car
use

Reducing
travel
demand

Tourism



6



7

INVESTING IN JOBS IN GREEN AND HEALTHY TRANSPORT

Number of jobs generated:

- USA: 36,000 jobs per USD 1 billion
- EU: 21, 500 jobs per Euro 1 billion

**Higher
job
intensity**

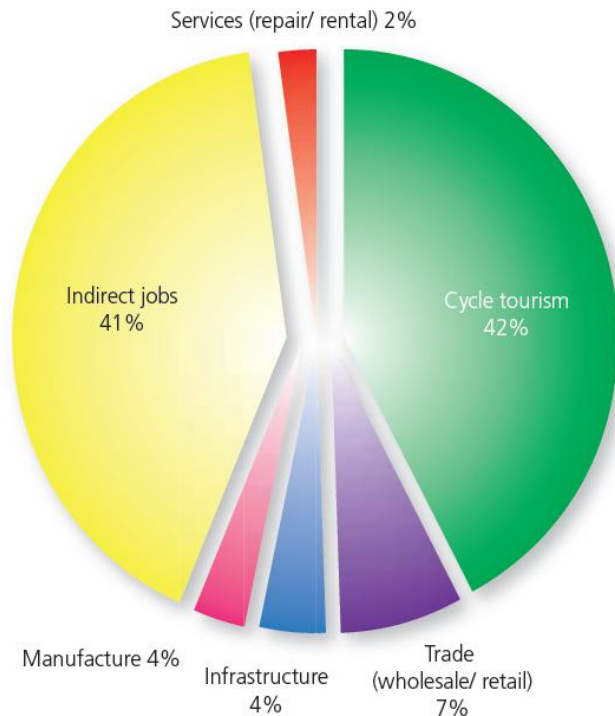
**More
Local jobs**

**Broad
range of
jobs**



JOBS IN GREEN AND HEALTH TRANSPORT

Spain
jobs in “sustainable”
transport: 297,109 jobs



(Avilés Palacios et al., 2011)

UK estimated that the number of jobs in associated with rail, light rail, bus, coach, and cycling industries were about 450,000, which represent 38% of all transport jobs in country



<http://www.unep.org/transport/>
<http://www.unep.org/Europe/>
<http://www.unece.org/the-pep/>

THANK YOU

