Moving Towards Sustainable Mobility

A STRATEGY FOR 2030 AND BEYOND FOR THE EUROPEAN RAILWAY SECTOR

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'Moving towards Sustainable Mobility: European Rail Sector Strategy 2030 and beyond'

- Jointly agreed and endorsed by members of UIC and CER in **December 2010** to provide a unified approach to environmental and sustainability topics in the European rail sector.

- It outlines how the rail sector should be performing in environmental terms in 2030 and 2050, and provides a framework that allows companies in the rail sector to make suitable long-term plans.

- It establishes a long-term vision and targets referred to the main environmental issues connected to rail transport.
The Targets

Climate Protection

Energy Efficiency

Noise and Vibrations

Exhaust Emissions: Nitrogen Oxides and Particulate Matter
**TARGET 1  CLIMATE PROTECTION**

**2020**
European railways will reduce their specific average CO2 emissions from train operation by 30% compared to the 1990 base year, measured per passenger-km and ton-km.

**2030**
By 2030 the European railways will reduce their specific average CO2 emissions from train operation by 50%. In addition, by 2030 the European railways will not exceed the total CO2 emission level from train operations in absolute terms even with projected traffic growth compared to the 1990 base year.

**2050**
The European railways will strive towards carbon-free train operation by 2050 and provide society with a climate neutral transport alternative.
**TARGET 2**
**ENERGY EFFICIENCY**

**2030**
By 2030 the European railways will reduce their specific final energy consumption from train operation by 30% compared to the 1990 base year, measured per passenger-km (passenger service) and tonne-km (freight service).

**2050**
The European railways will strive towards halving their specific final energy consumption from train operation by 2050 compared to the 1990 base year, measured per passenger-km (passenger service) and tonne-km (freight service).
2030
By 2030 the European railways will reduce their total exhaust emissions of NOx and PM10 by 40% in absolute terms, even with projected traffic growth compared to the 2005 base year.

2050
The European railways will strive towards zero emission of nitrogen oxides (NOx) and particulate matter (PM10) from non-electric trains by 2050.
TARGET 4
NOISE AND VIBRATIONS

2050
The European railways will strive towards noise and vibrations no longer being considered a problem for the railways – meaning that noise levels are socially and economically acceptable and allow for 24-hour passenger and goods operations in 2050.
The European railway sector will seek to supply its customers and society with attractive, **carbon-free** and **resource efficient** solutions for **sustainable mobility** and transport. Through responsible business leadership the European railway sector aims to maintain and expand its leading sustainability performance.
To ensure that all objectives are met, an UIC-CER Environmental Target Monitoring System has been established guarantying transparency and accountability including:

- The Policy for external communication of data
- The yearly UIC-CER reports
- The on-line tool for data collection
- The methodological rules for members
TARGET 1 – CLIMATE PROTECTION
...IS ON TRACK

Specific CO2 emissions trend 1990-2010:
Passengers: -26%  Freight: -41%
TARGET 1 – CLIMATE PROTECTION FOR SOME COMPANIES IT IS STILL A LONG WAY TOWARDS ZERO EMISSIONS

Specific CO2 emissions in passenger transport, 2010:
38 grCO2/pkm (average)

Specific CO2 emissions in freight transport, 2010:
18 grCO2/pkm (average)
TARGET 1 – CLIMATE PROTECTION
E-MOBILITY ALREADY HAPPENS ON RAIL …
… WITH ALMOST 30% OF RENEWABLE ENERGY

European Railways electricity mix, 2005 inside - 2009 outside
Source: IEA/UIC: Railway Handbook 2012
TARGET 2 – ENERGY EFFICIENCY

...IS ON TRACK, BUT STILL CHALLENGING

Specific energy consumption trend 1990-2010:
Passengers: -14% Freight: -19%
More railway operators will actively demand **green energy** and shift to CO₂-free energy sources. Due to European and national regulation more renewable and carbon-free electricity will come onto the market. **Need for closer cooperation with energy suppliers, facilities to store and clear definitions of ‘renewable energy’ (physical supply, certificates etc.)**

**Energy efficiency** will continue to increase through improved technology, **more efficient rolling stock and service efficiency**

New low carbon propulsion technologies will **replace diesel traction. Joint innovation efforts of industry and operators needed to develop alternative propulsion systems for carbon-free train operation (fuel cells, batteries etc.)**

High political support across national boundaries needed due to huge cost implications of **low noise solutions**. Quieter brake blocks to retrofit the freight wagon fleet will be the first step. **Innovative low noise technologies for rolling stock and infrastructure needed**
Conclusion

• The strategy is a strong commitment of the sector towards society and policy
• It supports railways’ **business** and the **political goals** of sustainable mobility
• On-going power is needed to fill the strategy with life and implement it
• The **innovation** process needs all players of the sector involved
• Let’s keep on track!
Thank you for your kind attention!