

EU policy: the key drivers for greening transport

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Drivers for greening transport: implications of EU policy

Opportunities and obstacles for rail

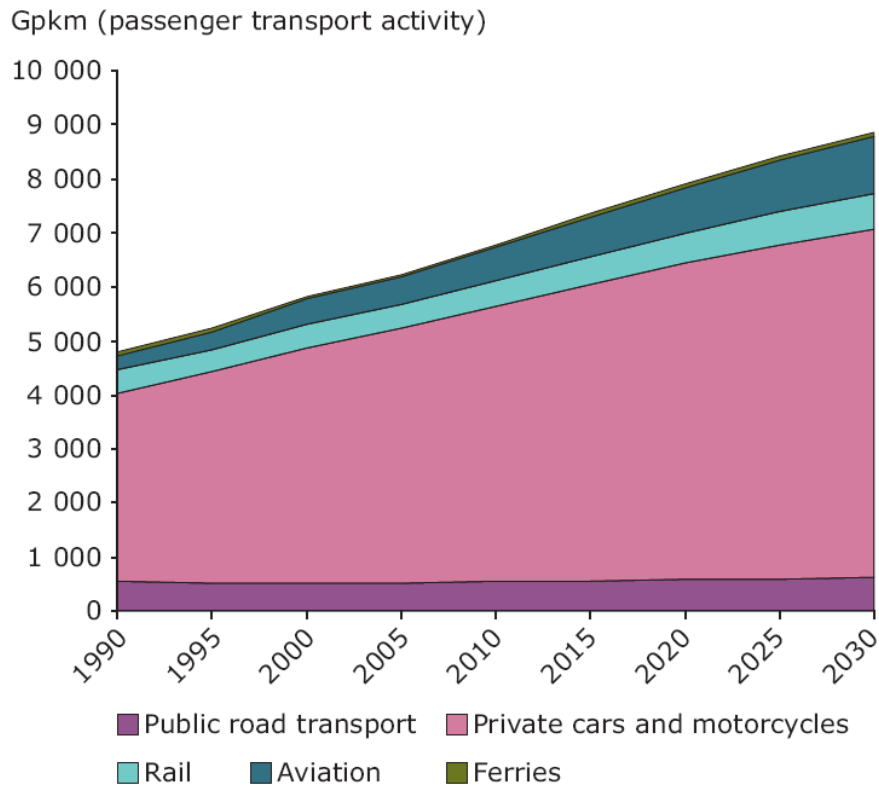
Conclusions

European transport forecasts: continued growth expected

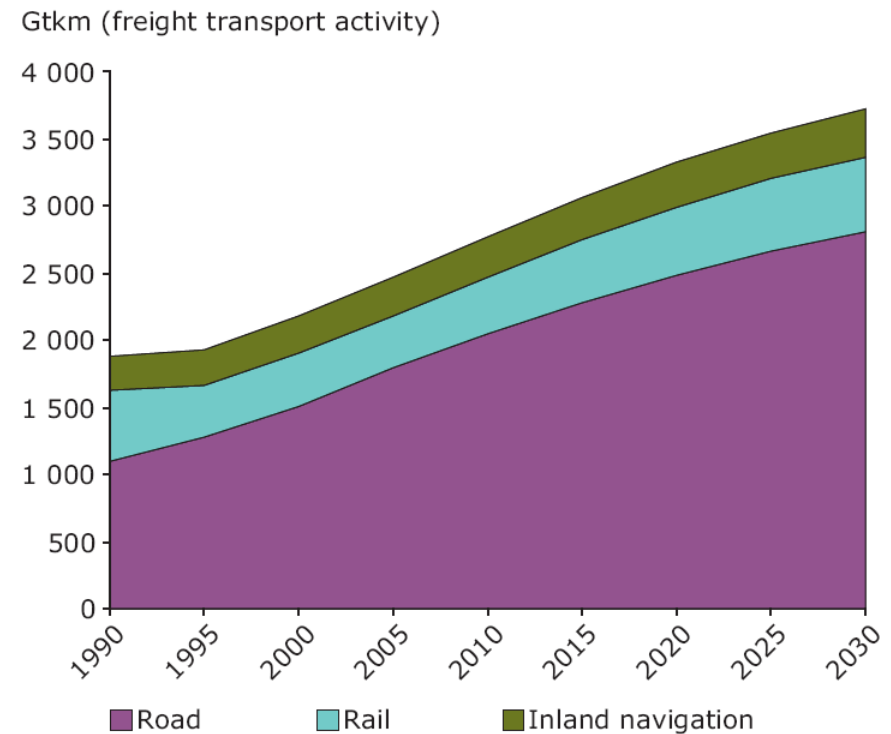


The Voice of European Railways

Mio. Passenger kilometres - EU 27



Mio. Tonne kilometres - EU 27



Source: European Environment Agency TERM Report 2009

EU plans for environmental improvement: key policies impacting transport



The Voice of European Railways

EU 20-20-20: targets for 2020 (agreed 2008)

Base year: 1990

-20%
greenhouse
gases

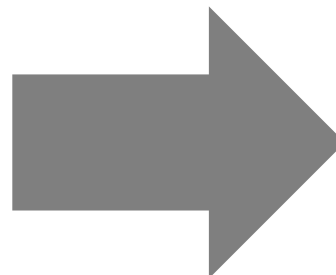
+20%
renewable
energy

-20%
overall energy
consumption

EU Transport targets for 2030 and 2050 (agreed 2011)

Base year: 1990

+8%
greenhouse
gases
by 2030



-60%
greenhouse
gases
by 2050

Key points for the ‘greening’ of transport

- Transport needs “to use less energy and to use cleaner energy”
- **Dependence of transport on oil** needs to be heavily reduced - currently powers 96% of EU transport
- **Standards for CO₂ emissions** needed, with requirements on energy efficiency where necessary
- Future development in transport must rely on:
 - Improving the **energy efficiency** performance of all modes
 - Developing and deploying **sustainable fuels**
- **Energy use reduction goals** to be considered for cars, road freight, and aviation - but not for rail!

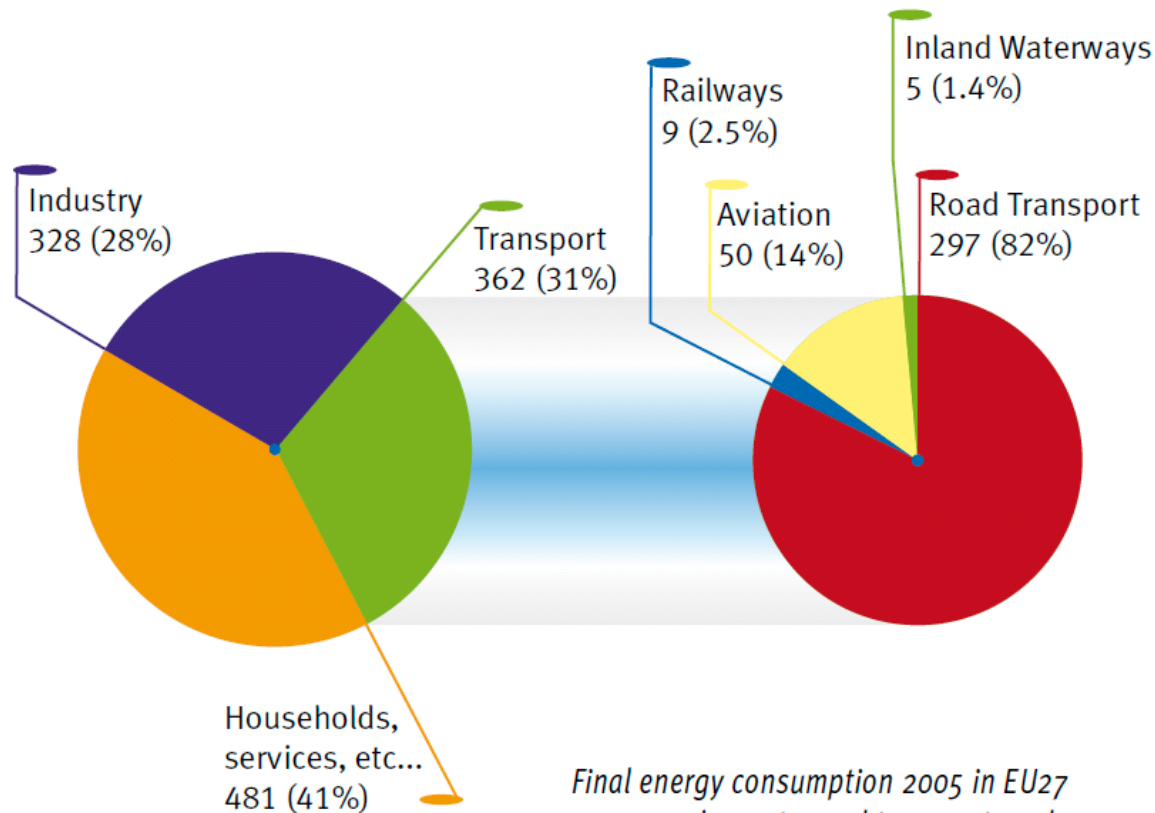
Resource Efficiency Roadmap (2011)

- Transport is identified as one of **three crucial sectors** where action is needed to improve resource efficiency
- By 2020, transport sector needs to:
 - use **less and cleaner energy**
 - **reduce its negative impact on the environment**

Energy Taxation Directive revision (ongoing)

- Aims to set up a new transport fuel tax structure, including:
 - a **minimum charge** for the CO₂ content
 - **raising the minimum tax on diesel** and linking it to its energy content

Energy consumption by mode - the EU transport sector today



Final energy consumption 2005 in EU27
by sector and transport mode
(million tonnes oil equivalent)

Source: DG TREN 2007

- Railways are on average **2-5 times more energy efficient than road**
- Rail's share of transport energy consumption is **2.5%**, while rail's market share is **6% (passenger)** and **10% (freight)**

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Clear advantages over other modes, but challenges affect rail

Rail has **clear advantages** over other transport modes in most environment and energy areas

But other transport modes are becoming 'greener'...

- pressure on road sector to improve efficiency is narrowing the gap with rail

... so rail sector needs to continue adapting

- continue improving the energy efficiency
- ability and capacity to absorb new traffic as a result of modal shift?



Energy policy

Decarbonisation of the EU electricity supply by 2050

- With full electrification, rail could be **fully decarbonised**
- Electrification of other modes **much more problematic**

CO₂ reduction

Once 'quick technology wins' achieved, **gains are more difficult**

- Greater focus on other approaches, e.g. implementation of **external cost charges** in all modes
- Greater emphasis on **modal shift?**

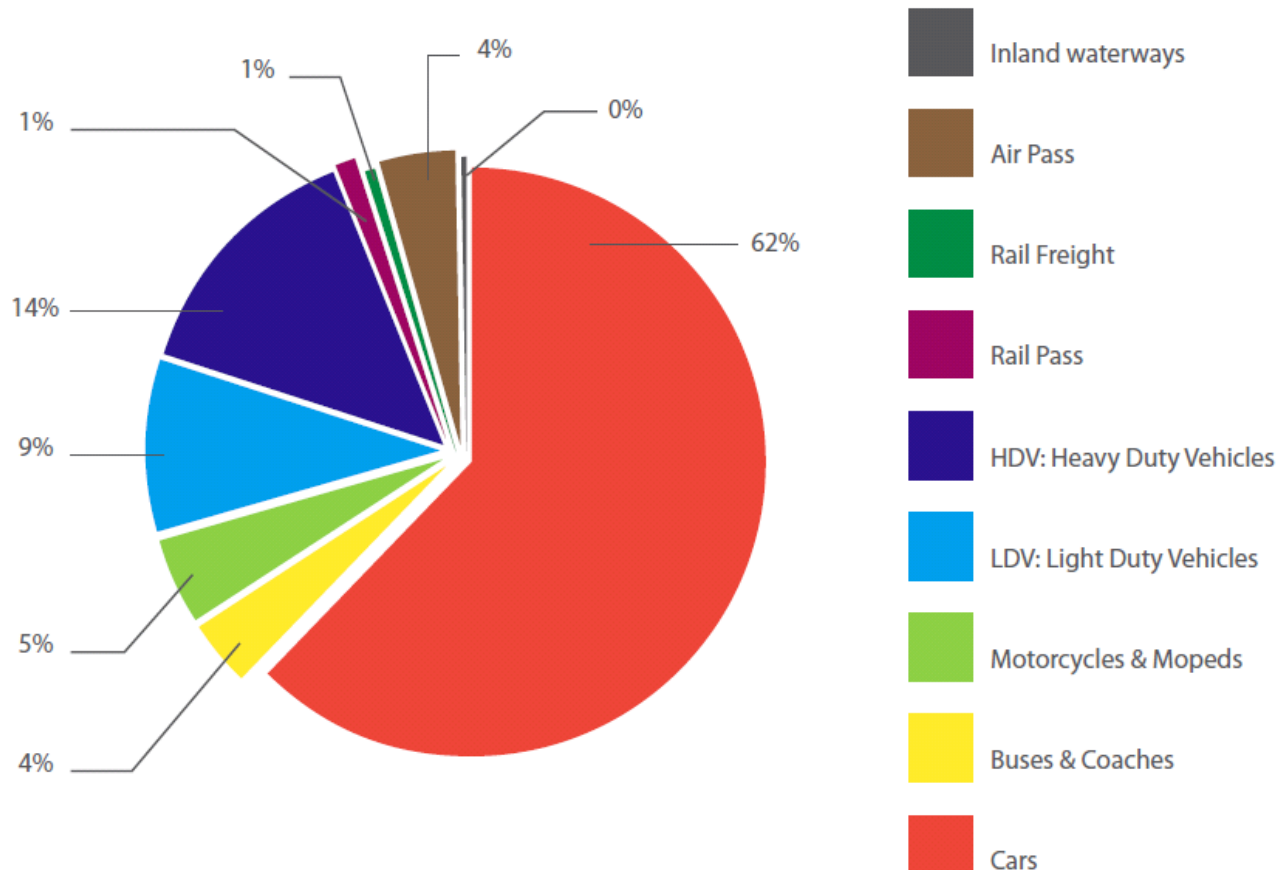
Rail growth

- Completion of the **high-speed network** by 2050 can facilitate the shift from cars and aviation to rail
- Proposed shift towards rail and waterways for medium and long-distance freight **will significantly increase rail freight**



A big opportunity for rail - but the rail sector needs to develop the capacity and ability to meet the challenge

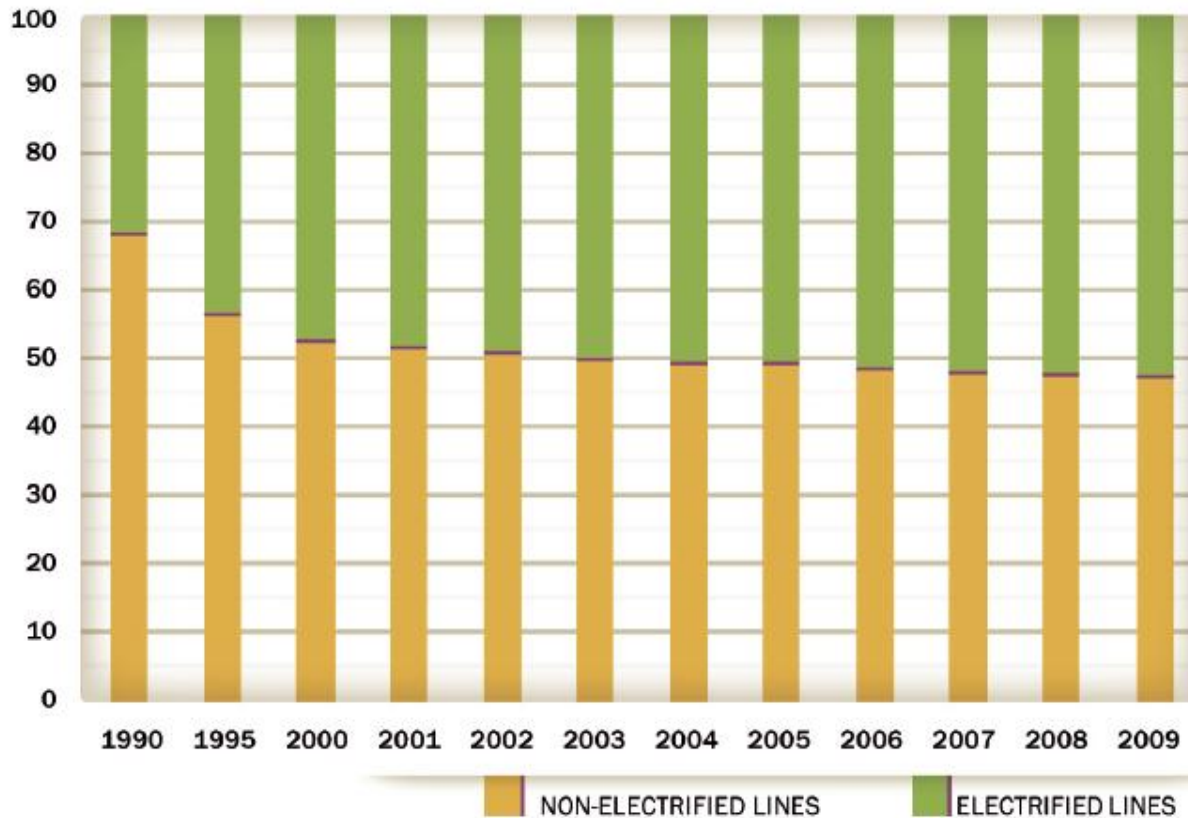
Total external costs of transport in 2008, by transport mode



Source: UIC 2011

- **Total external costs for the EU27 are estimated at €510 billion annually (excluding congestion) - 4% of the total GDP of the EU27**
- **Road sector users generate 93% of total external costs between them. Rail accounts for 2%, and the aviation passenger sector 4%.**

EU-27: share of electrified/non-electrified lines, 1990-2009



Source: elaboration based on UIC (2011a)

- Electrification of transport seen as the **easiest long-term way to reduce emissions**
- 80% of total European rail traffic **already travels on electrified lines**
- There are **no technical obstacles** to a fully electrified European rail network
- However, electrification of new lines **proceeds very slowly**, often due to lack of funding

Route of the EuropeTrain 2010-2012



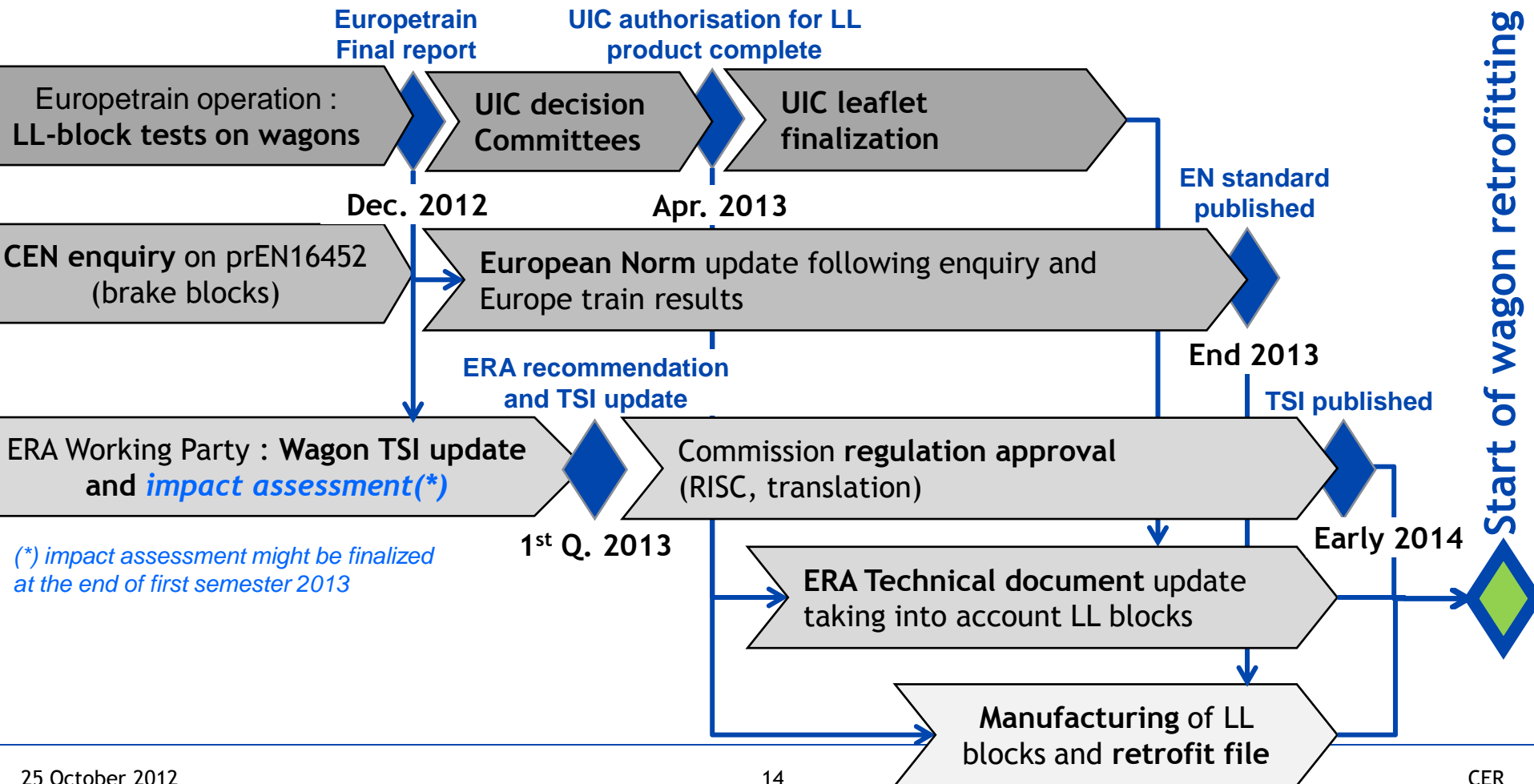
- Lowering rail noise at source most effective way to reduce impact
- September 2012: **Completion of EuropeTrain** (special train testing low-noise 'LL' brake blocks in different climatic conditions across Europe). Final results of the EuropeTrain expected December 2012.
- **Significant financial impact:** estimated cost of retro-fitting all European freight wagons: **€350m- €400m.**
- Possible EU financial support through the Connecting Europe Facility?

Upcoming steps for LL-block authorisation and wagon retrofitting



The Voice of European Railways

The authorization of wagons equipped with LL blocks is linked to ERA, CEN and UIC activities. The first retrofitted unit could now be in service by 2014.



Start of wagon retrofitting



Research funding

- EU attention tends to be focussed on modes where the problem is perceived to be **- not on rail!**
- “Horizon 2020” doesn’t take **energy efficiency for surface transport** properly into account, and lead in the right direction
- Greater need to define **specific relevant projects** in the annual work programme or in the Joint Technology Initiative (manufacturers and operators working together)

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The rail sector has **strong energy efficiency advantages** and **general political support** to **play a greater role** to meet broader environmental goals in transport.

But to make the most of these, rail needs to:

- **Actively support EU transport policy goals**
 - otherwise positive policy aims could be quietly dropped
- **Make further improvements within the sector with the help of EU research**
 - improving environmental standards
- **Set strategic growth targets**
 - in electrification and new high speed lines
- **Articulate and communicate its case**
 - by publicising the environmental and energy case for rail

Thank you for your attention!



The Voice of European Railways

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