Moving towards Sustainable Mobility

Rail Strategies to improve the Environmental Performance

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Outline

> Business environment – Costumer, Market, Competitors, Policy
> Sustainable management approach of UIC
> The Sustainability Strategy 2030 and beyond
> Targets 2030 and Vision 2050
> Conclusion
Business environment

Sustainable development or commercial success?
Modal Split in European Transport

Air: only domestic and intra-EU-25 transport; data under revision
Source: DG TREN Energy and Transport in figures 2006
Business and Ecology of Railways – A Stable Partnership?

Intermodal comparison for Germany, 2005:
Railways environmental advantage seems to be an iron law…

Source: Öko-Institut, DLR: Renewbility
Competitors: IATA

- Achieving carbon-neutral growth by 2020
- Improving fuel efficiency by an average of 1.5% per year from 2009 to 2020
- Reducing CO2 emissions by 50% by 2050, relative to 2005
Competitors: IRU

> Reducing CO2 emissions by 30% by 2030, relative to 2007
Competitors: Electric Cars

Example Germany*

> Aim 2020
  • 1,000,000 electric cars and
  • 500,000 fuel cell vehicles

> Aim 2050
  • Almost no use of fossil fuels for inner city transport

> Funding
  • 500 Mio. Euro from 2009-2011 for electro mobility
  • 1,400 Mio. Euro until 2016 for fuel cell and hydrogen technology, thereof 700 Mio. Euro from governmental funds

*source: website German Transport Ministry (www.bmvbs.de/)
Competitors Outlook 2030

Electric cars supplied by green energy could turn railways the bad guy …

Source: Öko-Institut, DLR: Renewbility
Background - Political Priorities

- December 2008, the EU Energy and Climate Package, created a new target of a 20% reduction in greenhouse gas emissions on 1990 levels by 2020.

- Commission President Barroso stated in September 2009 that lowering carbon emissions and tackling those from transport in particular as a key action for the new Commission.

- The new Commissioner for Climate Action, Connie Hedegaard, made clear that a package on transport and climate change measures would be a priority for her.

- The EU Environment Council in October 2009 agreed on the need to set a long-term target for emissions reduction at EU level, specifying a reduction target of 80-95% by 2050.
Costumers expectations

**Relevance of Green Mobility**
Source: A. Rützel: Die Publizität von Umweltkommunikation der Deutschen Bahn AG anhand einer Trendumfrage bei Bahnkunden, 2005

**Question:** How would you continue to use rail if it no longer had an environmental advantage?

**Answer:**
- 3 per cent of customers would no longer travel by train if rail were to lose its environmental advantage
- 24 per cent of customers would no longer use rail so frequently

**Driver of Green Logistics**
Source: INVL Studie: Grüne Logistik, 03/2010
sample of 108 carriers and logistic providers

Customer requirements concerning Sustainability and Green Logistics are increasing
- Declaration of CO₂ becomes a standard in call for tenders
- Specific declaration of transport CO₂-emissions needed

Sector requires a standardized methodology how to model CO₂-emissions
The willingness to pay for Green Logistics is still low
Business environment

Sustainable development and commercial success!
Consequences

Need for

> a strong commitment of railways towards a sustainable leadership in the transport sector

> a long-term environment and sustainability strategy for after 2020

> efficient activity planning of the whole rail sector to keep our pole position and being the mode of choice also in 2050

> to start the innovation process today, due to the long life cycle of rail vehicles and assets
Systematic sustainability management approach:
Declaration ➔ Strategy ➔ Tools

The UIC Declaration Sustainable Mobility & Transport is the commitment and the basis for the sustainability activities covering all sustainability issues for railways.

The UIC Sustainability Strategy prioritizes the issues of the declaration and sets up detailed goals.

Messages to the society

Sustainable Mobility & Transport

Social

Economic

Equitable

UIC Sustainability Strategy

Environment

Business for members

Supported by guidelines and tools:
- UIC Sustainability Indicators Guideline
- EcoPassenger
- EcoTransit
- UIC Energy & CO2 database
- Etc.

Supported by UIC General Assembly on 10 June
UIC Declaration Sustainable Mobility & Transport – Key Messages

> Meet the expectations of society:
We are the backbone for sustainable mobility and transport systems in our society
> Solutions to cope with the mobility and transport challenges of the future, lower impact on climate and environment than other transport modes, safest transport mode, relieves roads and reduces congestion, macro-economic advantages for society, enhances sustainable combinations of transport and mobility modes

> Meet the expectations of customers:
We provide attractive mobility and transport solutions for our customers
> Quality time, reliability, access to mobility for everyone, better environmental foot prints of customers, backbone for attractive and sustainable door-to-door-concepts, target-group specific services.

> Governance & Responsibility
We sustain the mobility and transport business by responsible leadership
Commitment to sustainability and sound corporate governance as a matter of course, sustainable value for stakeholders and shareholders, attractive employers, comprehensive management, precautionary approaches, internationally accepted ethical standards, dialogues with stakeholders.
Sustainability Strategy 2030 and beyond

The concept of the strategy:

> Improving the sustainability performance of rail
  - Long term guideline for improvement of the sector
  - Use for communication on political level and interested public

> Voluntary commitment of the rail sector
  - Similar to CER CO2 reduction commitment

> Strategic targets 2030 and visions 2050
  - Climate Protection
  - Energy Efficiency
  - Exhaust Emissions
  - Noise & Vibrations

> Roadmaps

> Scope
  - Focus today: Europe and main environmental topics
  - In future: Extension of regional scope and inclusion of other issues connected to Sustainability in a second step
Sustainability Strategy 2030 and beyond

Vision 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 maintains and expands its leading position while continuously improving its sustainability performance.

* It is acknowledged that the rail sector depends on further changes in the generation of green electricity by the energy supply industry in particular, in order to strive towards the vision of carbon-free operation in 2050.
Sustainable strategy – main items

**Climat Protection:**
- 50% CO$_2$ till 2030 (by 1990); carbon free in 2050

**Energy Consumption:**
- 30% till 2030 (by 1990); halving in 2050

**Exhaust Emissions NOx, PM10:**
- 80% in 2030 (based on 2005), zero emission 2050

**Noise & Vibration:**
- Noise levels in 2050 socially/economically accepted

Figures for 2030: targets – for 2050: vision
Steps

Steps taken so far

> Draft elaborated by UIC Environment Platform in cooperation with CER
> Coordination process outside UIC/CER with UNIFE and EIM

Next steps

> Specification of roadmaps and detailed activities (how to reach the targets?)
> Harmonisation with EIM and UNIFE
> Feeding of ERRAC process
Conclusion

> The strategy is ambitious + feasible = credible

> It strongly supports railways’ business and the political goals of sustainable mobility

> Staying power is needed to fill the strategy with life and implement it

> The innovation process needs all players of the sector involved

> Let’s go for it!
Thank you for your kind attention
Backup
Targets 2030 and vision 2050

Climate Protection

Target 2030
- Reduction of specific CO2 emissions from train operation by 50% compared to base year 1990; measured per passenger-km (passenger service) and gross tonne-km (freight service).
- Not exceeding total CO2 emission from train operation in absolute terms even with projected traffic growth compared to base year 1990.

Vision 2050
- European railways will strive towards carbon-free train operation by 2050
Targets 2030 and vision 2050

Energy Efficiency

> Target 2030
  • Reduction of specific final energy consumption from train operation by 30% compared to the base year 1990

> Vision 2050
  • European railways will strive towards halving their specific final energy consumption from train operation by 2050 compared to the base year 1990; measured per passenger-km (passenger service) and gross tonne-km (freight service).
Targets 2030 and vision 2050

Exhaust Emissions

> Target 2030
  - reduction of specific exhaust emissions from non-electric train operation in terms of Nitrogen oxides (NOx) and particulate matter (PM10) by 80% compared to base year 2005
  - reduction of total exhaust emissions of NOx and PM10 by 40% in absolute terms even with projected traffic growth compared to base year 2005.

> Vision 2050
  - The European railways will strive towards zero emission of nitrogen oxides (NOx) and particulate matter (PM10) from non-electric trains by 2050.
Vision 2050

Noise & Vibration (no target 2030!)

- The European railways will strive towards noise and vibrations no longer being considered a problem for the railways and its neighbours – meaning that noise levels are socially and economically acceptable and allow for 24-hour passenger and goods operations by 2050.
Rail: CO$_2$ reduction commitment

Members of CER agreed to a sector-wide target on reducing the specific emissions of CO2 from rail traction by 30% from 1990 to 2020

(CER GA 8 May 2008)

Is this enough on the long run?