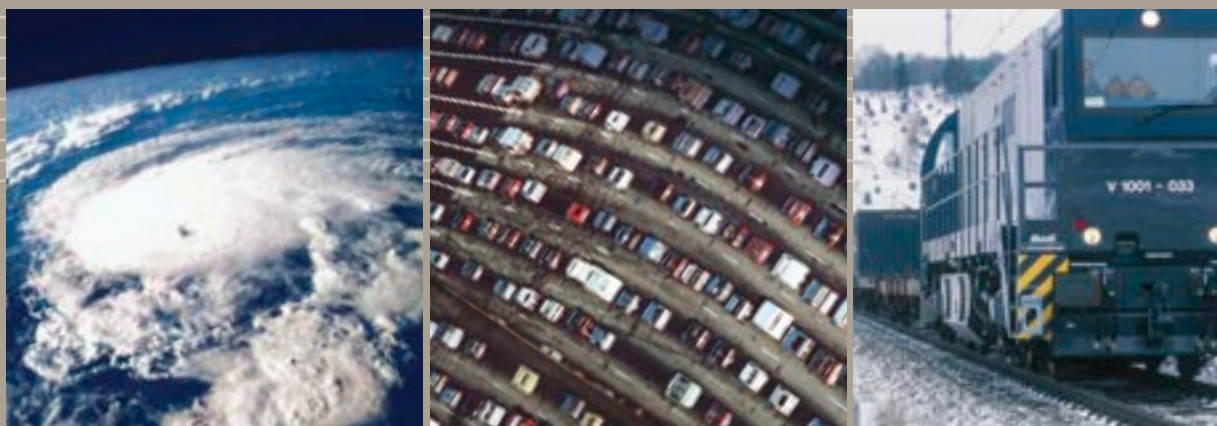


# MAKING EUROPE'S MOBILITY SUSTAINABLE!



WHY A REVISED EUROVIGNETTE DIRECTIVE IS NECESSARY

APRIL 2008

*The Voice of European Railways*



COMMUNITY OF EUROPEAN RAILWAY AND INFRASTRUCTURE COMPANIES  
COMMUNAUTÉ EUROPÉENNE DU RAIL ET DES COMPAGNIES D'INFRASTRUCTURE  
GEMEINSCHAFT DER EUROPÄISCHEN BAHNEN UND INFRASTRUKTURGESELLSCHAFTEN





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## SUMMARY

Europe can learn many things from the Swiss, especially on transport policy. In Switzerland, there is a clear political commitment to shift freight crossing the sensitive Alpine environment from road to rail. The main mechanism to achieve this change is the introduction of a toll on trucks, including external costs (i.e. cost of car and truck pollution, cost of road congestion, cost of accidents, costs on human of pollution on human health), with the resulting revenues used to finance also rail infrastructure.

Europe's politicians have long discussed how tolls on trucks along Europe's motorways could be set (Eurovignette Directive). While the 'polluter pays principle' on transport has been agreed, the next step of implementing the Eurovignette Directive might appear relatively simple but unfortunately, the current Directive, which was amended in 2006 has several weak points:

- First, there is no obligation on Member States to adopt tolls for trucks, which effectively means that many will continue having a policy of not charging for road use, in contrast to the railways where access charges are invariably levied.
- Secondly, the Directive does not allow Member States to include external costs in tolls. This means that they are prevented from following the Swiss example and setting tolls that include the real costs of using the roads in accordance with the polluter pays principle and which would encourage the shift of freight from road to rail.
- Thirdly, the current Directive allows Member States to decide how the revenues from tolls should be used, which means they are not obliged to retain the revenues within the transport sector.

The current regime, therefore, is fundamentally flawed. As long as external costs cannot be internalised, the toll level will not reflect accurately the true costs and the polluter pays principle will not apply for the least environmentally friendly mode. In contrast, the provision to internalise external costs already exists for rail through Directive 2001/14. Consequently, competition between rail and road is deeply distorted. Market-based instruments are one of the most important tools in reducing the external costs of transport and fair and efficient pricing would send realistic signals to the various players in the market, in order to make the choice of the transport mode more rational.

Much is at stake. Ensuring the market leader – trucks – pays the true economic cost of its activities would have a significant impact on revitalising the rail freight market and securing a balanced growth of freight in Europe. This paper explains the significance of bringing about this important change.

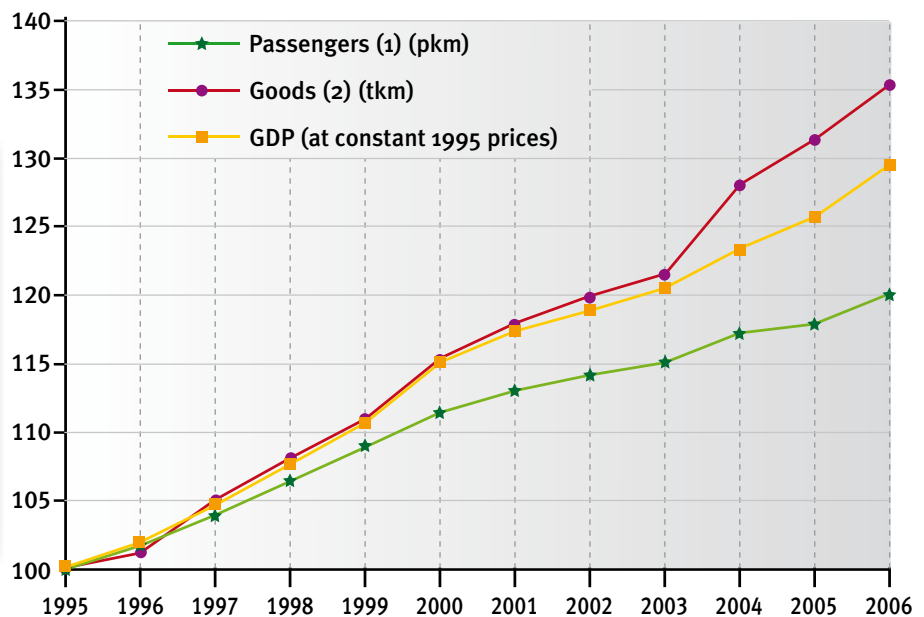
## SUSTAINABLE MOBILITY

In 1992, when the United Nations launched the idea of sustainable development and adopted the “polluter pays principle”<sup>1</sup> in the Rio de Janeiro Declaration, transport had already been singled out as a priority sector. However, awareness of its importance among the public and the politicians was not that high. Today, both the general public and policy makers are very sensitive to the negative side-effects of transport, such as climate change, air pollution, accidents, noise and congestion. According to the European Environment Agency report<sup>2</sup>, pollution has a direct impact on human health. Almost 25% of the population of the 25 Member States lives within 500 metres of a road carrying at least three million vehicles per year and this has a well documented effect on health. The Agency estimates that almost four million life-years are lost each year as a result of high pollution levels.

1. The “polluter pays principle” was formally adopted by the European Union in 1992 and formed the basis of the European Commission’s 1995 Green Paper on Fair and Efficient Pricing in Transport and the 2001 White Paper on Transport Policy. In 2001, the Gothenburg Council called for the “full internalisation of social and environmental costs of transport”

Today more goods are transported over longer distances than ever before. As a result, the freight transport volume, as shown in Figure 1, grew by 35% between 1995 and 2006, faster than the GDP, which grew only by 30%, and road freight transport growth in the EU is projected to continue.

Figure 1: Transport Volumes and GDP evolution – EU 27

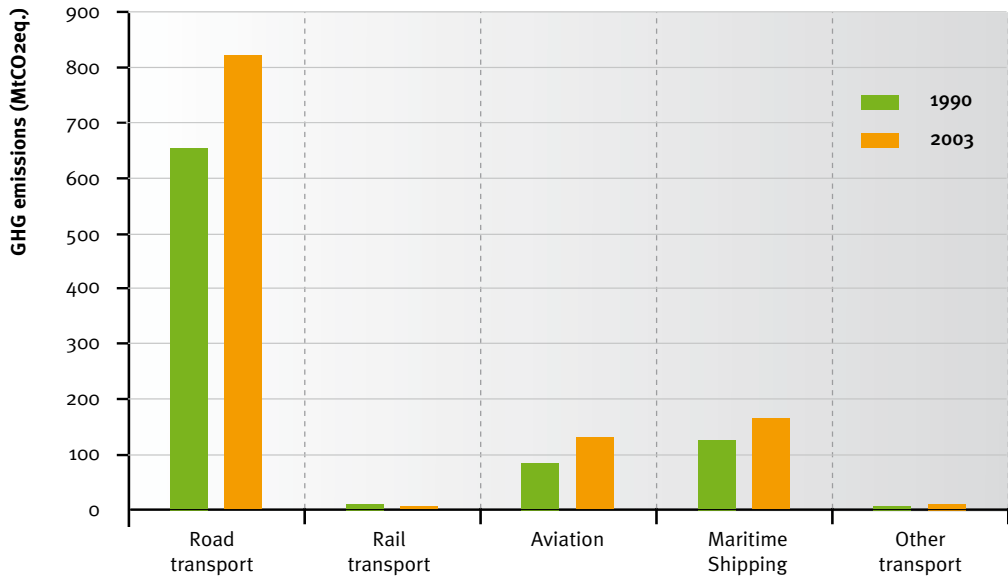


Source: European Commission: Energy and Transport in Figures, 2007



2. The figures in this section are from: European Environment Agency (EEA): Transport and environment: on the way to a new common transport policy, 2007

Figure 2: Greenhouse Gas Emissions of the Transport Sector



Source: European Environment Agency, 2007



In Europe (EU 27) transport is responsible for 22% of total greenhouse gas (GHG) emissions (most important is CO<sub>2</sub>), without including international aviation and maritime transport. While emissions from other sectors (energy supply, industry, agriculture, waste management) fell between 1990 and 2003, emissions from transport increased substantially, as a result of increased transport volumes. Figure 2 compares total greenhouse gas emissions from transport in 1990 and 2003.

Road transport is by far the biggest transport emission source; emissions have increased every year for both passenger and freight transport, rising by a total 51 per cent between 1990 and 2003). The Executive Director of the European Environment Agency, Professor Jacqueline McGlade, stated that “transport has been a free-rider for too long when it comes to the fight against global warming and carbon emissions. Governments and citizens need to rethink radically their approach to transport policy — if nothing else, out of self-concern in protecting their health. We cannot continue to give privileges to less efficient transport modes”<sup>3</sup>.

3. Professor Jacqueline McGlade, Executive Director of the European Environment Agency, 3rd March 2008, presentation of the report *Climate for a transport change*. TERM 2007: indicators tracking transport and environment in the European Union, 2008

## SUSTAINABLE MOBILITY



Jacqueline McGlade, Executive Director of the European Environment Agency

The same message comes also from OECD. In its report “Environmental Outlook to 2030” it is clearly stated that **“transport prices rarely reflect their full social and environmental costs, resulting in over-use and sub-optimal choices about the type of transport to use”**<sup>4</sup>.

The transport sector in the EU must apply rigorous measures to help Europe meet its greenhouse gas emission targets. **Better technology in the individual transport modes and the introduction of renewable fuels are not sufficient to offset the growth in transport volumes.** There will also need to be a shift to much more efficient transport modes such as rail if there is to be a continued growth in transport while at the same time reducing its environmental impact. By applying the “polluter pays principle” the heavy distortion in competition between the modes will be reduced, encouraging a shift from road to rail.



Sometimes, the production of renewable fuels itself is counter-productive from an environmental point of view, as it often means cutting forests to make space for the otherwise water-consuming agricultural productions for exaggeratedly-called “bio-fuel”.

4. OECD, Environmental Outlook to 2030, 2008, Summary, p. 11



## SUSTAINABLE MOBILITY



5. For example, in 2002 the German Railways reached their aim of reducing their CO<sub>2</sub> emissions by 25% of the 1990 level three years ahead of schedule, and have already set ambitious aims for reducing energy consumption by a further 20% by 2020. These results and ambitions, amongst others, have been achieved by the 'EnergieSparen' (Save Energy) project. Energy consumption has been reduced by 5% alone by teaching and encouraging drivers to drive in a more energy-efficient manner. See: CER, Rail transport & the environment, 2008 (forthcoming book).



6. See brochure CER, UIC: Status Report: Noise reduction in European Railway infrastructure, 2007, available at [www.cer.be](http://www.cer.be)
7. For example, driver training to improve operating behaviour, installation of filters in order to reduce air pollution, development of new engines with reduced emissions, etc.
8. PROSPER: Procedures for rolling stock procurement with environmental requirements
9. REPID: Railway Environmental Performance Indicators and Data Formats



# Railways improve their environmental performance

Railways are already far more environmentally sustainable than other transport modes, but the rail sector is not resting on its laurels concerning its good environmental performance. Rather, it is working continually on improvement methods, both at the company and sector levels. The most important activities are:

## Improving energy efficiency



Most railways have introduced energy management systems with ambitious energy reduction targets and programmes. This will encourage the implementation of energy efficiency technologies and operational measures and further improve the environmental performance<sup>5</sup>.

## Noise reduction of freight trains<sup>6</sup>



After the homologation of the composite brake components in 2003, CER members have agreed to use this type of braking devices on new freight vehicles exclusively. Currently, most of the existing 600 000 freight wagons in Europe use so-called cast iron brake blocks. Retrofitting these vehicles with composite blocks will cut the rolling noise by around 10 dB, which means a reduction of perceived noise by the human ear to the half. The cost of retrofitting each vehicle amounts to € 4 500 but is much more efficient than investing in passive noise abatement measures.

## Reducing diesel exhaust emissions



Most trains in Europe use electric traction. In Western Europe 76% of freight trains are powered by electricity which means there are no exhausts emissions along their path. Emissions occur only in generation of the electricity, at power plants where it is possible to fit an efficient emission control and filtering system. Diesel traction has not the advantage of an efficient stationary emission control. Therefore railways make efforts to reduce the emissions from diesel locomotives by a mix of measures<sup>7</sup>.

## Eco-procurement



In order to integrate environmental aspects in procurement projects and to ensure the use of a common language, the railways and the manufacturers have co-operated to create two projects: PROSPER<sup>8</sup> and REPID<sup>9</sup>, which together have created a framework for harmonised eco-procurement in the rail sector, which is outlined in the UIC leaflet “Environmental specifications for new rolling stock”(2006).



## GETTING THE PRICE RIGHT!

As stressed above, in most of Europe today, the price paid by road freight hauliers does not reflect the full social cost, particularly environmental effects. There is no price mechanism which confronts customers with the external costs - such as climate change, air pollution, accidents, noise or congestion – when making their decision to use one mode or another. For the rail sector, Directive 2001/14 already allows for external costs to be taken into consideration in the infrastructure charges<sup>10</sup>. **Without applying the ‘polluter pays principle’ the strong distortion in competition between the modes will continue.**



10. In Directive 2001/14/EC (article 7) it is clearly stated that “the infrastructure charge may be modified to take into account the cost of the environmental effects caused by the operation of the train”

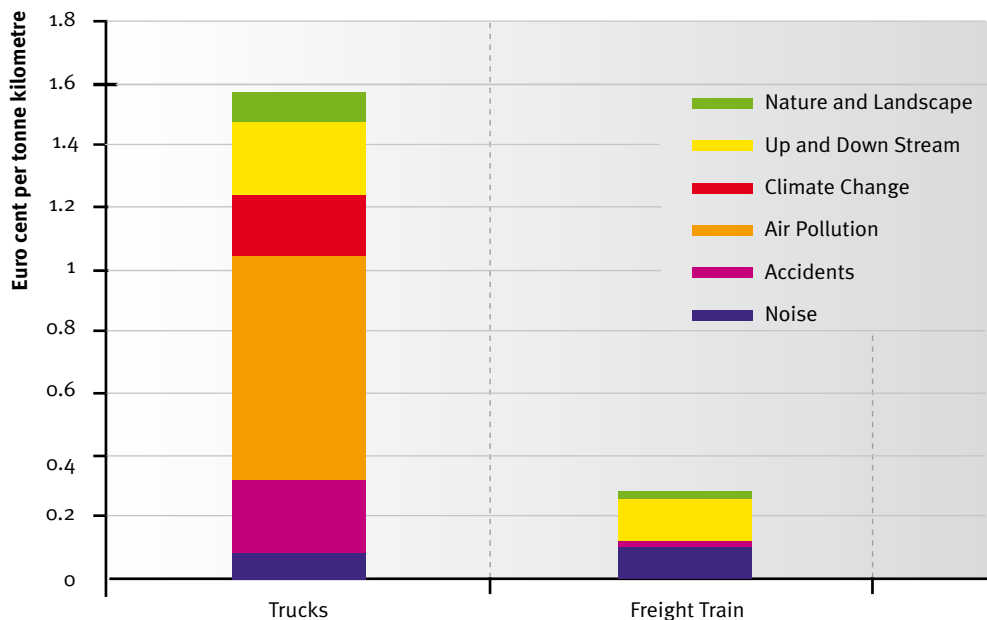
## GETTING THE PRICE RIGHT!

As requested by the amended Eurovignette Directive of 2006, the Commission is currently examining the best ways to internalise external costs for all transport modes. The Commission initiated a study (IMPACT) which produced the “Handbook on estimation of external costs in the transport sector”. Drawing on existing research, it has identified the same seven cost categories as INFRAS/IWW 2004<sup>11</sup>. Overall, the handbook proves that there is a general consensus amongst scientists about how to evaluate and price external costs.

As an example, the marginal external costs of interurban transport at day time are shown in Figure 3. The costs from Heavy Duty Vehicles are more than five times higher than of an electric freight train.

11. INFRAS/IWW: External costs of transport, update study 2004

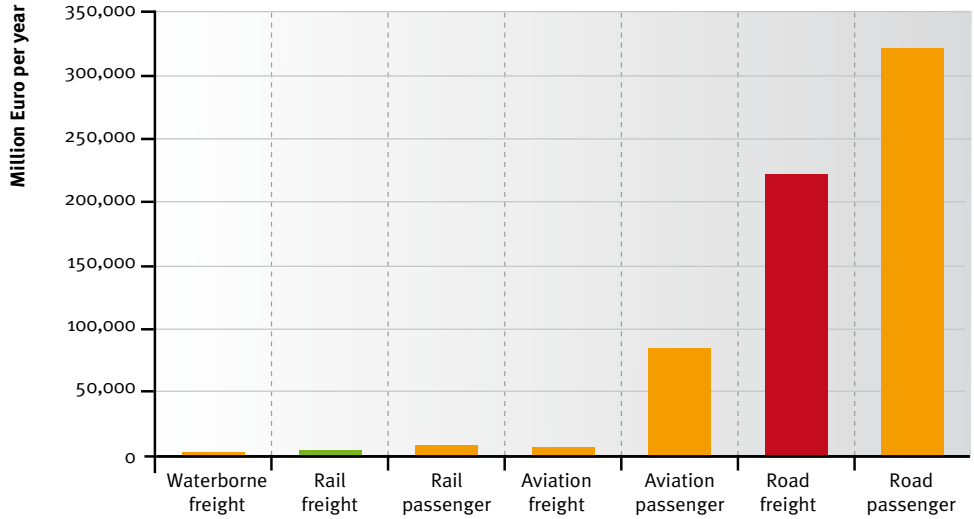
Figure 3: Comparison of marginal external costs for road and rail Freight



Source: CE Delft, Handbook on estimation of external costs in the transport sector (2007)

Note: Values for Day Interurban travel. Rail refers to electric traction. Average load factors used.

Figure 4: Total external costs of all modes for year 2000



Source: INFRAS/IWW (2004)

Figure 4 shows the total external costs for the year 2000 (excluding congestion) in Western Europe (EU 17) by modes of transport evaluated by INFRAS/IWW (2004), a study which is frequently quoted in the handbook.

Table 1: Detailed external costs of all modes for year 2000

Million € per year	Waterborne freight	Rail freight	Rail passenger	Aviation freight	Aviation passenger	Road freight	Road passenger	TOTAL
Accidents	0	0	262	0	590	19194	136394	<b>156439</b>
Noise nuisance	0	782	1354	195	2903	18877	21533	<b>45644</b>
Air pollution	1652	2096	2351	360	3875	108838	55444	<b>174617</b>
Climate change	506	800	2094	5438	74493	42911	69472	<b>195714</b>
Nature Landscape	91	64	202	87	1211	7254	11105	<b>20014</b>
Up-down stream	383	608	1140	170	1592	22243	21240	<b>47376</b>
Urban effects	0	137	426	0	0	3797	6112	<b>10472</b>
<b>TOTAL</b>	<b>2632</b>	<b>4487</b>	<b>7828</b>	<b>6250</b>	<b>84664</b>	<b>223114</b>	<b>321301</b>	<b>650275</b>

Source: INFRAS/IWW (2004)

## GETTING THE PRICE RIGHT!

Table 1 presents the detailed external costs for the year 2000 (excluding congestion) in Western Europe (EU 17) by modes of transport and cost categories. Looking at a scenario in which the cost of CO<sub>2</sub> is relatively high – € 140 /ton for a reduction of 50% CO<sub>2</sub> in 2030 – the total external costs of transport represent 6% of GDP.

At a Stakeholder conference, organised by the European Commission in January 2008, Transport Commissioner Jacques Barrot expressed his determination to proceed with a revision of the Eurovignette Directive to include the internalisation of external costs. From the European Parliament, Paolo Costa (MEP – ITALY – ALDE) supported the internalisation of external costs and argued for a shortened timeframe for implementation<sup>12</sup>. He expressed support for using the revenues from internalisation for infrastructure investments of less polluting modes, thus helping modal shift.

The internalisation of external costs is possible and an important process that not only would set the prices right but also would send a signal to the market actors of the real costs of transport. Other measures are also needed, but the pricing mechanism is the most important, especially within a market economy, supporting a shift from road to rail.



Revenues from internalisation should remain within the transport sector to be used to promote sustainable mobility. The use of such revenues should not be exclusive to one mode but rather favor combinations of modes, with the aim of minimizing the overall negative external effects of transport. For example, investments in combined road and rail transport, in the context of co-modality/intermodal combined transport, would make it possible to benefit from the strong competitive points of both modes.

12. The actual directive foresees an application in 2012



## CREATING A MODERN EUROPEAN RAIL FREIGHT NETWORK

### Freight traffic is set to grow

Europe needs a higher rate of economic growth. This requires greater trade between Member States and with the rest of the world, leading to an increase in freight traffic, which according to a forecast from the European Commission will rise by 50% from 2000 levels by 2020<sup>13</sup>. However, such an increase will prove unpalatable to EU citizens who are not prepared to accept the relentless growth in trucks along Europe's motorways, with all the associated impact on the local and global environment. The European Union has rightly consistently recognised the role rail can play in providing a more balanced transport system.

Modern logistics consists of combining the use of trucks, trains, planes and ships to move goods as quickly and cheaply as possible around the world. In this context, the economics of rail – high fixed costs and low variable costs – means that it can compete well over long distances. However, in order to compete more effectively with other privatised modes of transport, the European rail freight market also recognises that it has to reduce costs and improve quality.

### The challenge facing rail

This challenge for the rail sector is clearly identified in the Commission's 2001 White Paper<sup>14</sup>. Three types of policy are identified to improve the performance of the rail sector:

- opening the European rail freight market to competition;
- ensuring that prices between the modes are 'fair and efficient'; and
- providing sufficient rail infrastructure.

On the first point, the European rail freight market opened up to competition from January 1<sup>st</sup> 2007, which has been a significant political achievement. Rail freight operators are under great pressure to reduce costs and provide new services that meet market demands. However, far less progress has been made on the remaining two points – efficient pricing and modern infrastructure, which are interlinked.



13. European Commission, Keep Europe moving – Sustainable mobility for our continent, 2006



14. European Commission, COM(2001) 370, White Paper: European transport policy for 2010: time to decide

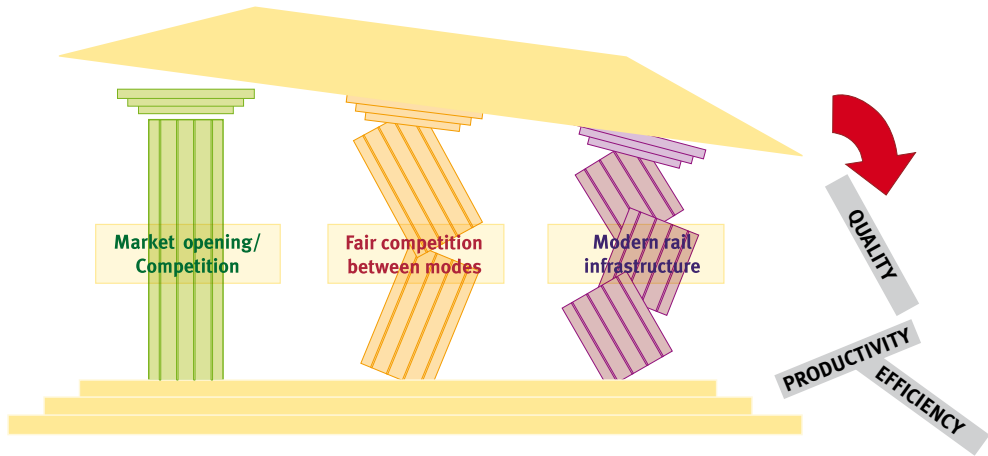


Figure 5: The current imbalance of the European transport policy

**The weak points of European transport policy:**

- Unfair competition between modes
- Insufficient rail infrastructure

**The weak points of transport policy jeopardize:** the railways' efforts in quality, productivity and efficiency

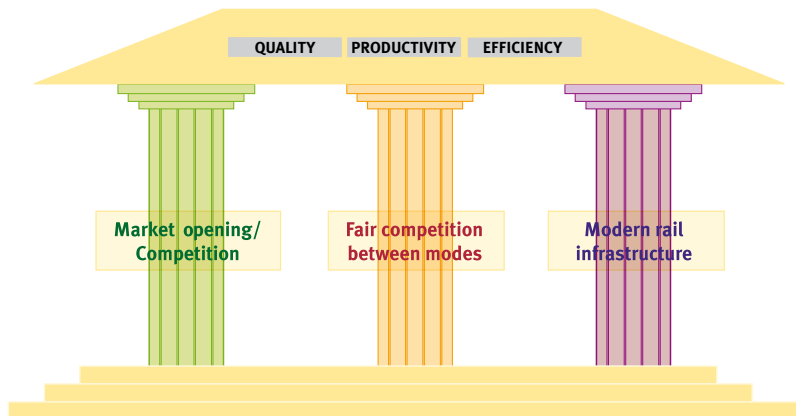


A revision of the Eurovignette Directive – setting out the structure and levels of charges that can be introduced on Europe’s motorways – is the key to solving the remaining two issues. Setting a fair price for the market leader will determine in effect the level of competition between the various freight modes. The Directive, more than any other piece of legislation, will determine whether competition between modes is ‘fair and efficient’. By ensuring a flow of funds for investment, the Directive will also enable the rail sector to provide a greater degree of internal financing for infrastructure.

Figure 6: Correcting the imbalance

**Get the pillars of Transport Policy straight with Eurovignette**

**On 3 “pillars”, the railways' efforts in quality, productivity and efficiency will bear full fruit**



# CREATING A MODERN EUROPEAN RAIL FREIGHT NETWORK

## The need for modern rail freight corridors



Without modern infrastructure, rail cannot provide an attractive alternative to road. While parts of Europe's rail freight network are in very good shape, most rail infrastructure was built to serve the national needs of previous generations. In order to be able to compete with trucks, Europe's rail

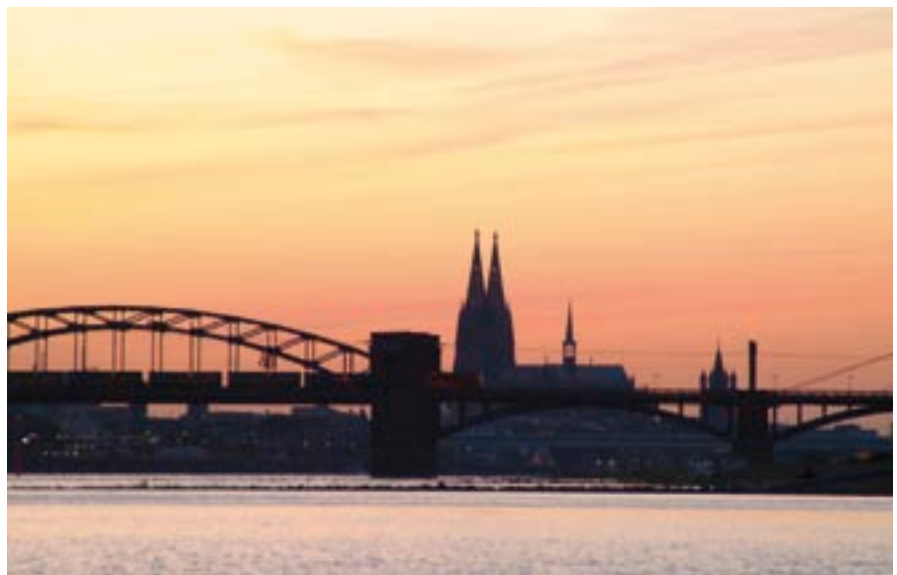
freight sector needs a number of key international freight corridors, allowing long, high-capacity trains to run day and night.

For over ten years, there has been discussion of developing a 'European dedicated rail freight network', but unfortunately, little has happened in practice. In autumn 2007 CER, with the support of UIC and McKinsey, developed the vision for a Primary European Rail Freight Network (PERFN)<sup>15</sup>:

- It set out the need for a core rail network of freight-dedicated and mixed-traffic trans-European lines, which can be defined as the backbone of a wider network catering for rail freight. This network originates in six ERTMS<sup>16</sup> corridors for which business cases are shown in Figure 7.
- The PERFN would provide enough capacity to absorb a growth of 72% of rail freight by 2020. With an expected total transport growth of 30% to 40%, this implies an increase of the rail modal share from 17% today to about 22% in 2020.
- The creation of this network requires investment of up to € 145 billion of which € 36 billion is already committed.

15. See CER, Towards a primary European rail freight network, 2007, available at [www.cer.be](http://www.cer.be).

16. European Rail Traffic Management System



# CREATING A MODERN EUROPEAN RAIL FREIGHT NETWORK

Figure 7: Primary Freight Network

Six business cases for a Primary Freight Network  
Original ERTMS corridors are marked in continuous lines  
Extensions to the original ERTMS corridors are marked in dotted lines

- ERTMS Corr. A (Rotterdam – Genoa)
- ERTMS Corr. B (Naples – Stockholm)
- ERTMS Corr. C (Antwerpen – Basel / Lyon) + extensions
- ERTMS Corr. D (Valencia – Ljubljana) + extensions
- ERTMS Corr. E (Dresden – Prague – Budapest) + extensions
- ERTMS Corr. F (Duisburg – Berlin – Warsaw) + extensions

#### **BUSINESS CASES:**

##### **Investments needed**

- Parameter upgrades
- Bottleneck prevention
- Terminal capacity
- ERTMS fitting

##### **Benefits**

- Productivity gains
- Extra traffic volumes



As with the general discussion on the Trans-European Transport Network (TEN-T), the key issue is funding the necessary investment. By the end of November 2007 the European Commission proposed to allocate 74.2 % of its € 5.1 billion budget to rail projects within the TEN-T priority projects, but this EU fund is only a small part of what has to be invested. Clear commitments are necessary from the four key players: the European Commission, national governments, rail infrastructure managers and railway freight undertakings.

If the polluter pays principle is adopted with the inclusion of the external costs of transport in user charges, considerable additional sums of extra money would become available for infrastructure projects. The Swiss experience is a very good practical example of the benefits of such an internalisation scheme, both to the economy and wider society.



## SWISS TRANSPORT POLICY - SUSTAINABLE TRANSPORT!

Since the 1980's, Switzerland has developed a political framework to reduce the negative impacts of transport and make the transport system more sustainable for the economy, its citizens and the environment. When the policy was adopted, neighbouring states and the European Union were rather suspicious of the motives behind the Swiss transport policy. But this has changed over the last ten years and European policymakers are becoming increasingly convinced that this is a way forward. The Swiss transport policy has even been quoted as a positive example in the White Paper 2001 by the European Commission.



## SWISS TRANSPORT POLICY - SUSTAINABLE TRANSPORT!

The Swiss transport policy has three key objectives:

- Transport must become environmentally sustainable and negative impacts from transport, like CO<sub>2</sub>-emissions or pollution, must be reduced.
- Transport must be efficient and affordable. The value of railways in achieving this objective is recognised, even though it is accepted that their maintenance and modernisation are expensive.
- Transport does not stop at the borders. Therefore the Swiss transport policy must be integrated with European transport policy.

Since 1987, Swiss citizens repeatedly have confirmed their commitment to these objectives and approved the Swiss transport policy in referendums<sup>17</sup>.

The objectives are being achieved through a package of five measures:

- Rail reform<sup>18</sup>
- Bi-lateral agreement between the European Union and Switzerland
- Modal shift policy
- Modernisation of rail infrastructure
- Swiss Heavy Vehicle Fee (HVF)

In 2001 the Swiss people accepted the bilateral agreements with the EU: Switzerland will increase the weight limit for lorries step by step to the EU level of 40 tons from its original maximum of 28 tons whilst, in parallel, significantly increasing the transit price for heavy vehicles.

In return, the EU has endorsed the policy because it has accepted that the main goal of the Swiss transport strategy is to transfer goods from road to rail. It has also agreed that Switzerland is allowed to introduce the HVF throughout the entire country.



17. Most important votes: Rail 2000 (1987), New Alpine rail links (1992), Alpine Initiative (1994) with shift from road to rail, Swiss Heavy Vehicle Fee (1994) and HVF law (1998), Bi-lateral agreement EU/CH (2001), Avanti - Initiative (2004) rejected, no 2nd road tunnel through the Gotthard

18. The rail reform in Switzerland entered into force in 1999 with: Open access to the Swiss rail network according to EU directive 91/440, more entrepreneurial freedom, but also more responsibilities for railway undertakings, cancellation of the debts of the Swiss Federal Railways (SBB) and new legal status.

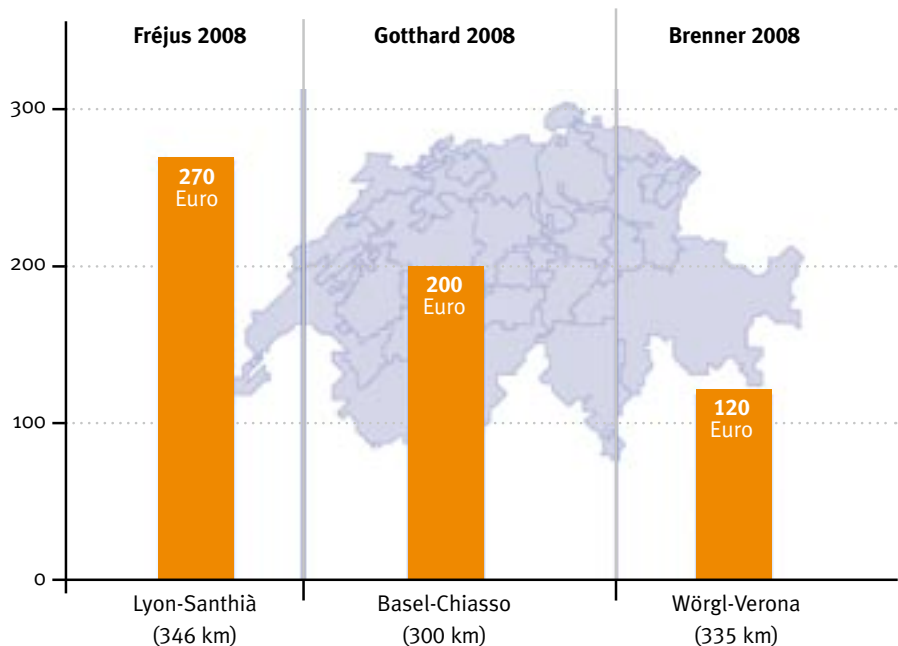
# SWISS TRANSPORT POLICY - SUSTAINABLE TRANSPORT!

## Swiss Heavy Vehicle Fee (HVF)

The HVF is a fee based on distance, weight and emissions applied to all vehicles above 3.5 tons and on all roads within Switzerland. Domestic vehicles are treated in the same way as foreign ones in order to follow the principle of non-discrimination. The HVF is of great importance for Switzerland, because it represents a market-determined economic compensation for the loss of the 28-ton limit which previously applied to lorries. Two thirds of the revenue is used to finance major rail projects.

The purpose of the fee is to ensure heavy vehicles pay their true infrastructure and external costs. On 1 January 2001, Switzerland introduced the first stage of the HVF. At the same time the weight limit for HGV was increased to 34 tons and this subsequently was increased to 40 tons in 2005. After the opening of the first Lötschberg NEAT rail tunnel in 2007, the HVF has now reached its maximum level of CHF 0.0275 per ton km. This is equivalent to a price of CHF 325 (approx. € 215) for a transit from Basel to Chiasso.

Figure 8: Costs for transit in Switzerland



Source: Swiss Federal Department of the Environment, Transport, Energy and Communications (UVEK)



Modal shift policy

Since the introduction of these policies in 2001, the trend in the number of transalpine trucks has been reversed<sup>19</sup>. Whereas previously there was constant growth, between 2000 and 2006 the number of HGV crossings has fallen by 16%. Combined transport increased to 17 million tons and the modal split for transalpine rail freight reached 66% in 2006<sup>20</sup>. There was also a productivity effect in road traffic: the number of empty vehicles decreased, while the average load factor rose.

Figure 9: Effect of the heavy vehicle fee

Indexed development of alpine crossing freight traffic

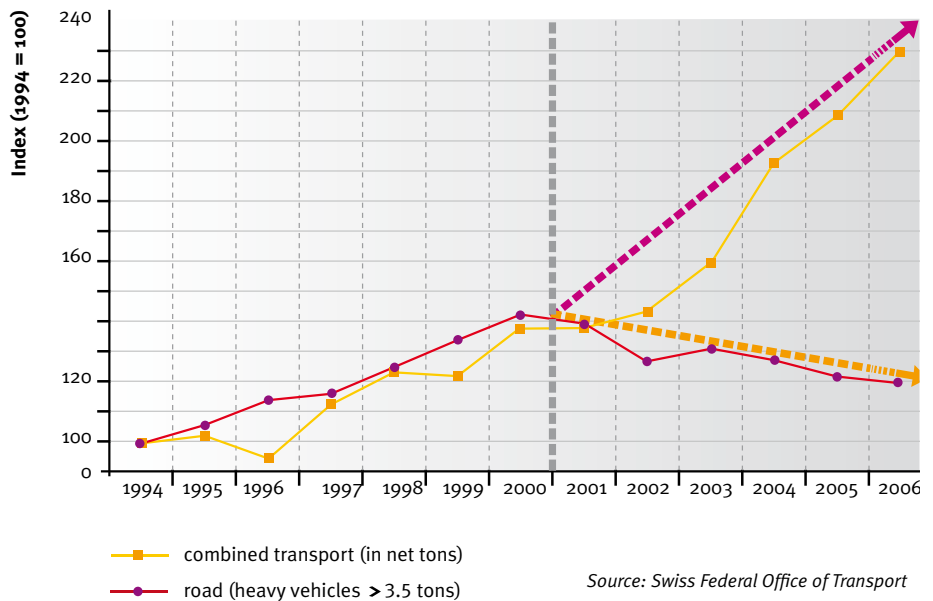


Figure 9 shows that both combined transport and road transport grew at the same rate from 1994 until 2001. However, after the introduction of the HVF in 2001, while road transport decreased substantially, combined transport continued to rise, thus gaining modal share.

To achieve the final modal shift target (650 000 HGV per year), Switzerland is currently developing the Alpine Crossing Exchange. Similarly to the trading system for CO<sub>2</sub>-emissions in the EU, every HGV crossing the Alps will need a permit.

19. The number of HGV increased from 300 000 in 1981 to 1.4 Million in the year 2000

20. Also Swiss passenger trains are very successful with a modal split of 22 % for public transport

# SWISS TRANSPORT POLICY - SUSTAINABLE TRANSPORT!

## Financing rail infrastructure

Every year approximately a sum of € 2 billion from the federal budget is used to support public transport. As the revenues from user charges are not sufficient to cover the costs of infrastructure, there are investments from the ordinary budget for:

- Maintenance and renewal of the existing infrastructure
- Small expenditures of the infrastructure

The federal budget also covers subsidies for services in freight and regional passenger transport.

The extra money available from the fund for major rail projects provides the finances for four big rail infrastructure projects:

- New rail links through the Alps (Lötschberg and Gotthard)
- Rail 2000 (passenger transport)
- Links between the Swiss rail network and the European high speed network
- Noise abatement measures

The fund for major rail projects receives revenues from the Swiss HVF, part of fuel tax payments and 0.1% of VAT. According to the Swiss Federal Office of Transport, the revenues in 2007 of the Swiss HVF amounted to about CHF 1.3 billion (approx. € 815 million), of which 2/3 or about CHF 870 million (approx. € 550 million) went to the fund.

The Swiss experience demonstrates that it is possible to internalise external costs, creating a shift of goods from road to rail. The results have all been positive. There has been no negative impact on the Swiss economy, rail traffic has increased as has the productivity of the road industry and funds have been provided for investment in rail infrastructure.

Switzerland has acted as a laboratory for efficient transport policy in Europe. The full effect of this small-scale experience is however not as large as one could expect, largely due to the fact that it has been run on a very small and isolated part of the European continent. To get the full effect, a full-size roll-out to the whole of Europe is now necessary.



## THE EUROVIGNETTE DIRECTIVE – HELP AT HAND?

### What is at stake?

By determining the charge for trucks to use roads, the Eurovignette Directive will have a direct impact on the market share of rail freight. Socially-efficient pricing for trucks will increase the demand for rail freight along major congested corridors - often as one component of a multi-modal logistic chain.

The Directive will also have important effects on the ability of the rail sector to finance its own infrastructure investments. In a business such as rail freight where there is scope to obtain considerable returns to scale, higher volumes increase the ability of operators to pay access charges that better reflect the cost of modernising rail infrastructure. This is in addition to any specific proposal within the Directive to allow cross-modal financing through mark-ups on standard truck charges.

### Actual situation

In 2006 the Directive<sup>21</sup> on the charging of heavy goods vehicles for the use of certain infrastructures (Eurovignette Directive) was amended by Directive 2006/38/EC of the European Parliament and of the Council of 17 May 2006.

The main points of the Directive are:

- If a Member State operates tolls it has the right to extend the tolls to trucks with a weight between 3,5 and 12 tons; from 2012 all vehicles above 3,5 tons must be included
- Right of Member States to apply tolls on roads not included in the trans-European road network (TEN-T); for tolls on other roads the general rules of the Treaty apply (non-discrimination and proportionality)
- Member States are allowed to vary fees on the basis of day of the week and time of day, and are obliged to vary fees on the basis of 'Euro' emission classes or PM / NOx emissions
- Member States are allowed to add 'mark-ups' on top of the weighted average fee in mountainous areas if the additional revenues are used for a priority TEN-T project in the same corridor<sup>22</sup>.
- Revenue from charges should be used to benefit the transport sector and optimise the entire transport system.
- No later than 10 June 2008, the Commission shall present a model for the assessment of all external costs, to serve as the basis for future calculations of infrastructure charges.



21. Directive 1999/62/EC, of 17 June 1999, on the charging of heavy goods vehicles for the use of certain infrastructures amended by Directive 2006/38/EC of the European Parliament and of the Council of 17 May 2006

22. For cross-border priority projects the mark-up may be 25% at most, for other priority projects it can be a maximum of 15%

## THE EUROVIGNETTE DIRECTIVE – HELP AT HAND?

- The report and the model shall be accompanied by proposals to the European Parliament and the Council of Ministers for further revision of the Directive.

### Further revision of Eurovignette necessary

The amendments to the Eurovignette Directive are welcome, but they are not sufficient to guarantee efficient pricing, taking into account the polluter pays principle. In this respect the revision should tackle the following aspects:

- There is no obligation for Member States to apply an efficient pricing policy, and therefore many countries may continue with a policy of free roads. It is clear that this cannot satisfy the broad aims of the Community transport policy, given that rail freight operators have to pay access charges.
- The introduction and the amount of mark-ups are strongly restricted, which prevents Member States from applying the ‘polluter pays principle’ and using tolls to reflect external costs. Therefore tolls will remain too low, particularly on the most congested parts of the European network<sup>23</sup>.
- The principle of subsidiarity is introduced for the use of revenues, which means Member States are not obliged to retain the revenues from the tolling system within the transport system as a whole.

A mandatory tolling scheme along all motorways – imposed from Brussels – does not seem realistic; however, in the short run such a mandatory scheme should be introduced on the whole trans-European road network and then extended step by step. It is therefore vital that the Eurovignette revision should at least allow Member States to follow the Swiss example. That means it should be possible to internalise external costs without limitation of their revenues and use the revenues to fund rail investment.

23. For a review of this evidence, see the discussion on page 60 of a report by the Institute of Transport Studies (ITS) at the University of Leeds - ITS, 2004, The Commission's 2001 White Paper - assessing progress to date, available at [www.cer.be](http://www.cer.be) under "brochures and reports"





## CONCLUSION

Europe's politicians have consistently recognised the potential for rail freight in Europe. The rail freight market was fully opened in 2007 – and operators are under continuing pressure to reduce costs and increase quality. However, CER remains concerned that this is far from sufficient to guarantee an increased market share for rail. Two additional conditions must be met: more efficient pricing across the modes and a modern network of rail freight corridors, allowing rail freight to operate long interoperable trains both day and night. Without these conditions, there is a real danger that market share will fall, and economic growth will be constrained.

Charging trucks to use Europe's motorways is the key to delivering these two aims – it is a direct mechanism for setting socially efficient tolls, based on the external costs, including damage of using infrastructure; it is also an indirect mechanism to allow rail to fund a greater portion of the costs of upgrading strategic corridors via access fees. This is not an argument for rail against road; rather, intermodal and combined traffic can be an important approach to bring together the strong points of rail and road with the aim of attaining sustainable transport.

CER now calls on European politicians, who have been consistent in their thinking on these issues for several years, to take the necessary logical next step to ensure a sustainable basis for growth in both freight and Europe's economy.







## APPENDIX: QUESTIONS AND ANSWERS

### **What are external costs (externalities)?**

External costs are economic costs not taken into account in markets and in the decisions made by market players. The external costs are borne by the whole of society and not by the polluter. In transport the most important cost categories stem from: climate change, accidents (not covered by insurance), air pollution, noise, up- and downstream effects, damage to nature and the landscape, and congestion.

### **Are there no external benefits of transport?**

There are important benefits for the national economy. But these benefits cannot be considered external, since they work to the direct advantage of the users themselves who pay for their transport and are offset by compensatory services. Transport generates no real external benefits of any significance.<sup>24</sup>

### **Is it possible to evaluate external costs?**

Yes: On European as well as on national level many scientific studies have evaluated external costs and estimated total costs, average costs and marginal costs. The CE Delft “Handbook on estimation of external costs in the transport sector” published by the European Commission in early 2008 has compared all important existing research and concluded that there is a general consensus amongst scientists about the evaluation of external costs. In the Handbook the same seven cost categories are presented as in the INFRAS/IWW 2004 study.

### **What is internalisation?**

Incorporation of external costs into the decision making process through pricing. In the narrow sense, internalisation will be implemented by charging the polluters with the external costs of the pollution generated by them.

### **Will higher charges reduce the competitiveness of the economy?**

No: Even if transport costs would increase, the benefits from internalisation would lead to a favourable net impact on the economy, especially if revenues are used in an efficient way. The introduction of the Swiss Heavy Duty Vehicle Fee confirms this; Switzerland still being the most competitive economy in Europe (World Economic Forum, 2007).

<sup>24</sup>. See: Infrac/IWW 1995, European Commissions White Paper 2001

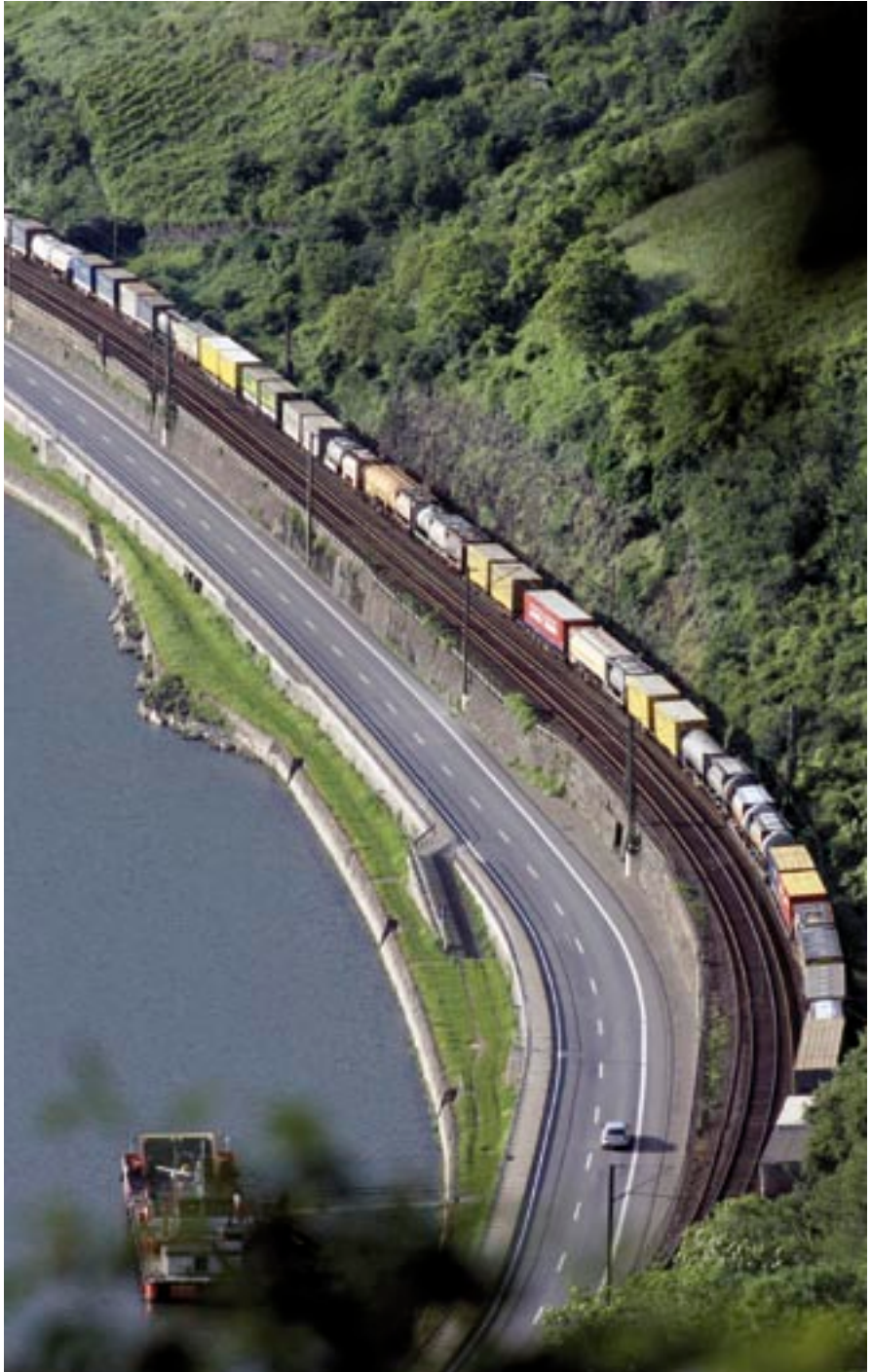


### **To what extent are transport modes incorporated in the Emissions Trading Scheme (ETS)?**

The transport sector is currently not covered by the Emissions Trading System (ETS), although aviation is expected to be included from 2012. However, the electricity generating sector falls within the scope of the ETS, and suppliers of electricity pass the costs of CO<sub>2</sub> allowances on to consumers. European railways perform about 80% of total traffic by electric traction. Therefore, they are affected by the ETS, while road, air and waterway transport are not affected, despite the fact that road transport is by far the biggest source (93%) of CO<sub>2</sub> emissions from transport.

### **Is it possible that the external costs from road are already covered by existing taxes paid by the users?**

No: There is a variety of taxes across the society and all branches of the economy, fulfilling the purpose of financing the general public needs (for example, fuel tax on diesel is paid by road and rail transporters). Internalisation means that changes in external costs are reflected by changes in the prices paid by the users. The IMPACT study's Handbook states that external costs need to be internalised as an additional levy on fuels, vehicles or distance driven. Furthermore, several other studies (see for example Piecyk and McKinnon, 2007) show that road users are currently underpaying for the usage of roads.





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The Community of European Railway and Infrastructure Companies (CER) brings together 70 railway undertakings and infrastructure companies from the European Union, the candidate countries (Croatia, Macedonia and Turkey) as well as from the Western Balkan countries, Norway, and Switzerland. It is based in Brussels and represents its members' interests vis-à-vis the European Parliament, Commission and Council of Ministers as well as other policy makers and transport actors.

CER's main focus is promoting the development of rail as essential to the creation of a sustainable transport system which is both efficient and environmentally sound. A key priority in this respect for CER is the achievement of a more balanced modal split in the transport system, minimising external costs arising to society and improving economic efficiency. In parallel to the railways' own initiatives for improving the quality of rail services, CER sees ensuring sufficient investment in infrastructure rail projects as a prerequisite for achieving the desired modal split. All policy areas of significance to railway transport are dealt with by CER, which offers advice and recommendations to European policy makers. CER monitors and contributes to railway policy making. Its interests span the whole spectrum of European transport policy: infrastructure planning, passenger and freight services, public service, the environment, research and development and social dialogue.

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