



Internalisation of external costs

1. EXTERNAL COSTS

An external cost is a cost that is not included in the market price, e.g. a cost that is not incurred by those who generate it. This means that when engaging in a transport activity, a person will incur private costs linked to the use of a mode of transport (tolls or fuel use), but will not be taking into account nuisances imposed on others such as congestion, accidents, noise, pollution and emissions of CO2.

1.1. In your opinion, do you think that road transport imposes nuisances on other transport users and society?

| | | | | | |
|-----|-------------------------------------|----|--------------------------|------------|--------------------------|
| Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|-----|-------------------------------------|----|--------------------------|------------|--------------------------|

Rank the five following nuisances generated by road transport in order of magnitude (1 smallest, 5 greatest)

- Congestion **2**
- Accident **3**
- Noise **1**
- Air pollution **5**
- Climate change **4**

Comments (if any) on road external costs

It cannot be disputed that road transport imposes by far the highest costs to the external environment as proven in a number of scientific studies (INFRAS/IWW, UNITE, etc.). The negative effects of the overdevelopment of road transport are evident through the high levels of congestion, the heavy price paid in road accidents and the damage caused to the environment by exhaust emissions. These costs to the society are hardly taken into consideration by the user of road transport when making a decision on which transport mode to use. It is therefore important that these costs are made visible so that users are aware of the consequences of their choices. This way the mechanism of prices can effectively work as a tool of correcting the current imbalance and lead to solutions that minimize the cost to society.

1.2. In your opinion, do you think that rail transport imposes nuisances on other transport users and society?

| | | | | | |
|-----|-------------------------------------|----|--------------------------|------------|--------------------------|
| Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|-----|-------------------------------------|----|--------------------------|------------|--------------------------|

Rank the five following nuisances generated by rail transport in order of magnitude (1 smallest, 5 greatest)

- Congestion **1**
- Accident **2**
- Noise **5**
- Air pollution **4**
- Climate change **3**

Comments (if any) on rail external costs

It is broadly recognized that rail transport has in general much lower external costs than the other transport modes. For example, the railway system is the transport mode with lowest specific CO2 emissions on average and, despite this advantage, seeks to improve its position as the lowest CO2 emitters through the setting of a sector-wide cut of 20% on specific emissions on 1990 levels by 2020. In addition, noise protection measures are currently applied by almost all European countries when building new lines or upgrading existing lines, and railways have used composite brake shoes on new rolling stock since 2002, significantly reducing the noise levels produced when braking.

1.3 In your opinion, do you think that air transport imposes nuisances on other transport users and society?

| | | | | | |
|-----|----------|----|--|------------|--|
| Yes | X | No | | No Opinion | |
|-----|----------|----|--|------------|--|

Rank the five following nuisances generated by air transport in order of magnitude (1 smallest, 5 greatest)

Congestion **2**
Accident **1**
Noise **3**
Air pollution **5**
Climate change **4**

Comments (if any) on air transport external costs

Air transport has a clear and well documented impact on the global environment through CO2 emissions. It is the fastest growing source of EU carbon dioxide emissions - EU aviation emissions have doubled since 1990. Furthermore, local pollution and regional pollution is a serious issue, with emissions from aircraft, support vehicles and related traffic all contributing to a build up around airports of potentially harmful gases such as oxides of nitrogen, carbon monoxide, volatile organic compounds, and ozone.

1.4 In your opinion, do you think that maritime transport imposes nuisances on other transport users and society?

| | | | | | |
|-----|----------|----|--|------------|--|
| Yes | X | No | | No Opinion | |
|-----|----------|----|--|------------|--|

Rank the five following nuisances generated by maritime transport in order of magnitude (1 smallest, 5 greatest)

Congestion **2**
Accident **1**
Noise **3**
Air pollution **5**
Climate change **4**

Comments (if any) on maritime external costs

Even though marine transport appears as an environmentally friendly mode due to relatively low specific emissions, shipping is fast becoming in absolute terms the biggest source of air pollution in the EU due to the increase in global trade. In 2000 EU-flagged ships emitted almost 200 million tones of carbon dioxide, significantly more than emissions from EU aviation.

Furthermore, the danger posed by accidents should not be forgotten: as demonstrated by the sinking of the oil tanker 'Prestige' off the coast of Spain in 2002, the impacts of an accident on the environment and the affected societies is great. It is important therefore that risk of accidents is taken into consideration.

1.5 In your opinion, do you think that inland waterways transport imposes nuisances on other transport users and society?

| | | | | | |
|-----|----------|----|--|------------|--|
| Yes | X | No | | No Opinion | |
|-----|----------|----|--|------------|--|

Rank the five following nuisances generated by inland waterways in order of magnitude (1 smallest, 5 greatest)

Congestion **2**
 Accident **1**
 Noise **3**
 Air pollution **5**
 Climate change **4**

Comments (if any) on inland waterways external costs

The external costs of inland waterway vessels are generally considered to be low. However, as well as the air pollution risks similar to shipping (see above) there is the threat to the aquatic environment caused by the operational discharges of mineral oil and lubricants.

2 INTERNALISATION OF COSTS

Internalisation is a way to attribute external costs (such as pollution, congestion, noise, ...) to users and to ensure that prices paid by transport users reflect social costs, i.e. private and external costs.

The costs of transport can be split into private/internal costs (those directly borne by the person engaged in transport activity) and external costs (i.e. those that are imposed on others but not supported by the user). The sum of private and external costs represents social costs.

2.1. Do you agree that it is important to internalise the external costs generated by transport?

| | | | | | | | | | |
|----------------|----------|-------|--|----------|--|-------------------|--|------------|--|
| Strongly Agree | X | Agree | | Disagree | | Disagree strongly | | No Opinion | |
|----------------|----------|-------|--|----------|--|-------------------|--|------------|--|

Advantages/disadvantages expectation

Assuming that full internalisation is possible in all modes of transport, some patterns of transport may become more expensive, the effects may not be the same on all modes of transport, thus making some forms of transport more or less attractive than others. What are the main advantages/disadvantages you would expect on the following:

2.2. What are the main advantages/disadvantages you expect on the economy? (maximum 4000 characters)

A full internalization of the external costs would have the main advantage of making the external costs imposed to the society by each mode visible to the users of transport services. This would change the distorted picture currently reflected in the existing pricing system, allowing for fair competition between modes. In such a way the competitive advantages of environmentally friendly means of transport (like rail) would help these modes gain their true share of the modal shift. This would lead to the development of an efficient rational and sustainable transportation system as a whole.

The introduction of such a system would have multiple benefits to the economy. Government budgets would face less strain as needs to cover the impacts of the externalities would be reduced (reduction in need for hospitalization, cleaning of pollution, etc) meaning, in practical a consistent reduction of tax burden for citizens. Furthermore, internalization would stimulate a renewal of the economy from the technology and innovation point of view (less polluting solutions, new vehicles, etc.) leading European manufacturers to a competitive advantage in the world markets. If revenues from external costs will be invested on infrastructures of more sustainable transport modes, internalization policy could lead to greater advantages for the economy and citizens in general.

A more efficient transport network would lead to increased productivity in the economy in general (reduction in loss of productivity through congestion and accidents, better allocation of resources). The greater use of more efficient modes would lead to a reduction in the need for "dirty" and highly expensive fossil fuels, reducing the energy dependency of Europe and helping the trade balance. At the same time there will be better utilization of the existing infrastructure leading to a reduction in costs.

Of course, the internalization of external costs would result in an increase in prices especially for those modes like road transport that will be less efficient. This increase, however, would lead to a modal shift, with the effect in overall price levels of goods (and to the economy) being limited, as transport represents only a small percentage of production costs. A shift of production to more local scale could also appear (depending on the market segment), which would bring benefits to local economies. Some inconveniences might appear in the short term due to the need for customers and companies to change working practices and adapt to the new pricing regime.

2.3. What are the main advantages/disadvantages you expect on the social situation? (maximum 4000 characters)

The results of the internalization of external costs would be positive on the social situation as well.

The reduction in congestion, accidents, noise and pollution would lead to and promote a healthier and safer style of living of all citizens throughout Europe, thus resulting in an overall increase of their quality of life and higher protection of the environment where they live.

In addition, the revenue that will be freed from the budget, as the need to rectify externalities decreases, could be used by States both to promote social measures and for large-scale development of public transport services.

It is possible that some production could shift to a more local level, thus stimulating local economies, as consumers would find price advantages in consuming more locally-produced goods. Similarly, it could be expected that people would re-organize their lives around shorter travelling distances and a shift towards public transport.

2.4. What are the main advantages/disadvantages you expect on the environment? (maximum 4000 characters)

The main beneficiary of the internalization of external costs is the environment. Today the situation in the transport sector is highly unbalanced. The EU "polluter pays principle" is not included in the EU transport policies and, for example "low cost flights" are in reality "high-cost" for the community, in terms of external costs.

The introduction of a more efficient transport system through a more visible pricing system will shift traffic volumes to less polluting modes. For example, according to a study made by ÖBB, for every ton-kilometer which is transferred from road to rail because of internalisation-measures CO2-emissions are reduced from about 140 grams to 8.4 grams (= minus 94 %).

The changes in the pricing systems would also create incentives for innovation and a switch to cleaner, less polluting fuels and technologies, thus further improving the environmental situation.

2.5. In your opinion, how could the negative effects of congestion, accidents and environmental nuisances be reduced? (maximum 4000 characters)

The effects of the externalities can be reduced by a combination of instruments, all of which are important in order to reach the desired result.

The most important is the right setting of prices to reflect external costs, thus shifting transport to more environmentally friendly modes, like rail. Further investments in these modes could help reduce the negative effects even further.

Congestion mostly affects road transport and should be addressed through pricing measures such as congestion charges that might vary according to region, time of day, etc.

Cost of accidents can be made more visible through the relevant accident insurance. Furthermore, in order to prevent accidents more efforts should be made in the field of regulation and enforcement as well as better training/education.

As far as the environment is concerned, the inclusion of the "polluter pays" principle into the transport prices via legislative measures and inclusion of pollution or energy tax depending on the polluting profile of the specific mode are of primary importance.

Financial incentives should also be provided, such as incentives for new technologies and innovative transport solutions.

3 POLICY OPTIONS

Policy options will envisage the use of different market based instruments for each external cost – tax, charge and trading scheme. A tax is a required payment of money to governments that are used to provide public goods and services for the benefit of the community as a whole. Examples are fuel tax, circulation tax, registration tax. A charge is a proportional payment required in exchange for a clearly defined service. For example, a toll charge will give access to the use of a specific infrastructure (bridge, motorway, etc...). A tradable permit scheme is a mechanism by which the authorities set a maximum level of pollution or use of an infrastructure and assign to individuals/operators a quantity of permits that corresponds to this level. The individuals/operators can then trade permits, improving the efficiency in the distribution of efforts or in the use of the infrastructure.

3.1. CONGESTION COSTS

3.1.1. In general, which instrument would you favour to tackle congestion costs?

| | | | | | | | |
|--------|---|-----|--|-----------------|--|-------|--|
| Charge | x | Tax | | Tradable Permit | | Other | |
|--------|---|-----|--|-----------------|--|-------|--|

3.1.2. In road transport which actions would you favour to tackle congestion cost?

| | |
|--|---------------|
| | No new action |
|--|---------------|

| | |
|----------|--|
| | Congestion charges for freight |
| | Congestion charges for passengers (including cars) |
| x | Congestion charges for freight + passengers (including cars) |
| | Tradable permit (for freight) |
| | No opinion |

3.1.3. In rail transport which actions would you favour to tackle congestion cost?

| | | | | | |
|---------------|----------|------------------|--|------------|--|
| No new action | x | Scarcity Charge* | | No Opinion | |
|---------------|----------|------------------|--|------------|--|

* In rail and air transport, congestion does not lead to queues, but limits the offered service and can lead to delays and to problems of arrival or departure time. Scarcity in rail/air transport corresponds to the inability of a train/plane to obtain a given path/slot in terms of departure time, stopping pattern or speed. While delay of a given train has a negative impact on other trains, scarcity of infrastructure prevents other trains from operating. The same happens with planes.

3.1.4. In air transport which actions would you favour to tackle congestion cost?

| | | | | | |
|---------------|----------|-----------------|--|------------|--|
| No new action | x | Scarcity Charge | | No Opinion | |
|---------------|----------|-----------------|--|------------|--|

3.1.5. In maritime transport which actions would you favour to tackle congestion cost?*

| | | | | | |
|---------------|----------|-------------------|--|------------|--|
| No new action | x | Congestion charge | | No Opinion | |
|---------------|----------|-------------------|--|------------|--|

* Congestion refers to congestion in locks.

3.1.6. In inland waterway transport which actions would you favour to tackle congestion cost?

| | | | | | |
|---------------|----------|-------------------|--|------------|--|
| No new action | x | Congestion charge | | No Opinion | |
|---------------|----------|-------------------|--|------------|--|

3.1.7. Do you think the EU should do something in the field of internalisation of congestion costs?

| | | | | | | | | | |
|----------------|----------|-------|--|----------|--|-------------------|--|------------|--|
| Strongly Agree | x | Agree | | Disagree | | Disagree strongly | | No Opinion | |
|----------------|----------|-------|--|----------|--|-------------------|--|------------|--|

Comments (if any) on congestion cost (maximum 4000 characters)

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|--|
| <p>Congestion mostly affects road transport and has a great impact especially in cities with losses in productivity, increased pollution and lower quality of life.</p> <p>The issue of congestion of roads cannot be solved merely by increasing capacity as this leads to an increase in the number of vehicles and road trips, thus creating a vicious cycle. Furthermore, in many cases (like city centres) increasing capacity is not possible without large-scale demolition of buildings.</p> <p>An adequate pricing mechanism is required to help road users identify the true cost of their trip and pay the price for it. The existence of an adequate alternative service (like rail) would help shift traffic volumes, thus reducing congestion.</p> <p>Road charges should not only be introduced on TEN-T or Motorway network level, but also in the secondary network so as to avoid traffic diversion. Furthermore urban areas should also be included in these schemes as the effects of congestion are particularly evident in and around cities.</p> <p>Scarcity within air and rail transport is largely internalized as the user fees are differentiated with respect to time. For such transport systems based on the use of slots/allocation of paths, a more efficient allocation of financial resources is necessary, with a good planning of investments elaborated in a timeframe which will lead to a reduction of scarcity.</p> <p>Modern transport logistics is about combining road and rail into a low-cost high-quality solution for the customer. The aim of road tolls must be to confront long</p> |
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distance drivers with the full costs of their trip – and hence for these drivers prices may increase. But, if implemented wisely, this can be offset through lower charges to the short-distance distributional trucking market in which rail can not and will not compete.

3.2. ACCIDENT COSTS

Accidents are mainly a road problem (in 2005, there were 105 killed in rail accidents) even through the number of road fatalities has considerably decreased since 1990.

In general, insurance companies do not cover total costs of accidents but only partial ones. The remaining part is not borne by transport users.

3.2.1. Do you agree that accidents costs should be internalised only for road transport?

| | | | | | | | | | |
|----------------|-------------------------------------|-------|--------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input checked="" type="checkbox"/> | Agree | <input type="checkbox"/> | Disagree | <input type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|-------------------------------------|-------|--------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|

3.2.2. Should accident costs also be internalised in rail transport?

| | | | | | | | | | |
|----------------|--------------------------|-------|--------------------------|----------|-------------------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input type="checkbox"/> | Agree | <input type="checkbox"/> | Disagree | <input checked="" type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|--------------------------|-------|--------------------------|----------|-------------------------------------|-------------------|--------------------------|------------|--------------------------|

3.2.3. Should accident costs also be internalised in aviation?

| | | | | | | | | | |
|----------------|--------------------------|-------|--------------------------|----------|-------------------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input type="checkbox"/> | Agree | <input type="checkbox"/> | Disagree | <input checked="" type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|--------------------------|-------|--------------------------|----------|-------------------------------------|-------------------|--------------------------|------------|--------------------------|

3.2.4. Should accident costs also be internalised in maritime transport?

| | | | | | | | | | |
|----------------|--------------------------|-------|--------------------------|----------|-------------------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input type="checkbox"/> | Agree | <input type="checkbox"/> | Disagree | <input checked="" type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|--------------------------|-------|--------------------------|----------|-------------------------------------|-------------------|--------------------------|------------|--------------------------|

3.2.5. Should accident costs also be internalised in inland waterway transport?

| | | | | | | | | | |
|----------------|--------------------------|-------|--------------------------|----------|-------------------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input type="checkbox"/> | Agree | <input type="checkbox"/> | Disagree | <input checked="" type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|--------------------------|-------|--------------------------|----------|-------------------------------------|-------------------|--------------------------|------------|--------------------------|

3.2.6. Which action would you favour for accidents in road transport?

| | | | | | | | |
|---------------|--------------------------|---------------|--------------------------|---------------------|-------------------------------------|------------|--------------------------|
| No new action | <input type="checkbox"/> | Safety charge | <input type="checkbox"/> | Liability insurance | <input checked="" type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|--------------------------|---------------|--------------------------|---------------------|-------------------------------------|------------|--------------------------|

3.2.7. Do you think the EU should do something in the field of internalisation of external accident costs in road transport?

| | | | | | | | | | |
|----------------|-------------------------------------|-------|--------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input checked="" type="checkbox"/> | Agree | <input type="checkbox"/> | Disagree | <input type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|-------------------------------------|-------|--------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|

Comments (if any) on accident cost (maximum 4000 characters)

Accidents are an externality that affects road transport most. The high loss of life, the amount of injuries (40,000 lives and more than 1.7 million injuries in the EU-15 annually according to the CARE database) and the disruption of economic activity make it imperative that this cost is internalized.

Liability insurances can perform this role better than a charge as insurance companies have more and better information of the factors influencing accident risk (this information could be eventually improved, for example, transferring information on traffic violation towards insurances). The liabilities should cover the total costs of road accidents and should be differentiated according to accident risk profile.

Law enforcement and fines (which acts as a kind of pricing as well) can also influence the behavior of a large number of individual users as towards optimum

traffic safety.

The external costs of accidents in other modes are practically negligible. However constant efforts to improve safety should be undertaken. For maritime and inland waterways traffic more attention should be given to the cost of pollution resulting from a possible accident.

3.3. NOISE COSTS

3.3.1. In general, which instrument would you favour to tackle noise costs?

| | | | | | | | |
|------------------------|-------------------------------------|-----|--------------------------|-------|--------------------------|------------|--------------------------|
| Differentiated charge* | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | Other | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|------------------------|-------------------------------------|-----|--------------------------|-------|--------------------------|------------|--------------------------|

* In this case, charges could be differentiated between location (urban, non urban), time (day, night) or vehicle characteristics.

3.3.2. Which action would you favour to tackle noise costs in road transport?

| | | | | | | | |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|
| No new action | <input type="checkbox"/> | Differentiated charge | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|

3.3.3. Which action would you favour to tackle noise costs in rail transport?

| | | | | | | | |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|
| No new action | <input type="checkbox"/> | Differentiated charge | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|

3.3.4. Which action would you favour to tackle noise costs in air transport?

| | | | | | | | |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|
| No new action | <input type="checkbox"/> | Differentiated charge | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|

3.3.5. Do you think the EU should do something in the field of internalisation of noise costs?

| | | | | | | | | | |
|----------------|--------------------------|-------|-------------------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input type="checkbox"/> | Agree | <input checked="" type="checkbox"/> | Disagree | <input type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|--------------------------|-------|-------------------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|

Comments (if any) on noise cost? (maximum 4000 characters)

The problem of noise is concentrated on a local area and at this level it should be addressed. The application of a charge for the most "noisy" modes could be applied, and should be differentiated with respect to time (day or night), area (depending on population) and noise levels of the vehicles.

As far as rail transport is concerned, the most effective measure would be the provision of adequate funding in order to combat noise at the source (such as the retrofitting of rail wagons with synthetic brake shoes, etc.). In addition, noise protection measures are currently applied by almost all European countries when building new lines or upgrading existing lines, and railways have used composite brake shoes on new rolling stock since 2002, significantly reducing the noise levels produced when braking.

As the cost efficiency of freight transport is a key issue for the rail sector competitiveness that has suffered for decades an unfair level playing field, any additional financial burden should be carefully considered because it would result in a potential modal shift from rail to road, contrary to the EU's transport and environmental policy objectives.

3.4. AIR POLLUTION COSTS

3.4.1. In general, which instrument would you favour to tackle air pollution costs?

| | | | | | | | |
|-----------------------|-------------------------------------|-----|--------------------------|-------|--------------------------|------------|--------------------------|
| Differentiated charge | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | Other | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|-----------------------|-------------------------------------|-----|--------------------------|-------|--------------------------|------------|--------------------------|

3.4.2. In road transport, which action would you favour to tackle air pollution costs?

| | | | | | | | |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|
| No new action | <input type="checkbox"/> | Differentiated charge | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|

3.4.3. In rail transport, which action would you favour to tackle air pollution costs?

| | | | | | | | |
|---------------|-------------------------------------|-----------------------|--------------------------|-----|--------------------------|------------|--------------------------|
| No new action | <input checked="" type="checkbox"/> | Differentiated charge | <input type="checkbox"/> | Tax | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|-------------------------------------|-----------------------|--------------------------|-----|--------------------------|------------|--------------------------|

3.4.4. In air transport, which action would you favour to tackle air pollution costs?

| | | | | | | | |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|
| No new action | <input type="checkbox"/> | Differentiated charge | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|

3.4.5. In maritime transport, which action would you favour to tackle air pollution costs?

| | | | | | | | |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|
| No new action | <input type="checkbox"/> | Differentiated charge | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|

3.4.6. In inland waterways transport, which action would you favour to tackle air pollution costs?

| | | | | | | | |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|
| No new action | <input type="checkbox"/> | Differentiated charge | <input checked="" type="checkbox"/> | Tax | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|---------------|--------------------------|-----------------------|-------------------------------------|-----|--------------------------|------------|--------------------------|

3.4.7. Do you think the EU should do something in the field of internalisation of air pollution costs?

| | | | | | | | | | |
|----------------|-------------------------------------|-------|--------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input checked="" type="checkbox"/> | Agree | <input type="checkbox"/> | Disagree | <input type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|-------------------------------------|-------|--------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|

Comments (if any) on air pollution cost (maximum 4000 characters)

The cost of air pollution is one of the most measurable elements of externalities in the transport sector. By following the “polluter pays” principle the most effective measure in internalizing this externality would be the application of a differentiated charge. These charges should be based not on the minimum but on optimum levels and reviewed periodically under the light of new scientific studies in order to account for technological developments. This approach would allow the correct setting of prices so as to reflect such cost and, through its influence on users’ transport choices, helping shift traffic volumes to less polluting transport modes. At the same time the more efficient transport modes would be “rewarded”, in turn stimulating efforts for technological improvement.

The differentiated tax should not only be applied on road and air transport (the two main sources) but also to maritime transport and inland waterways, as their impact has up to now largely been neglected. Moreover, for maritime transport the target should also be to reduce water pollution through fines, legal measures and international cooperation.

On the contrary, air pollution costs in rail transport are already dealt with in the Non-Road Mobile Machinery (NRMM) Directive 97/68/EC, the scope of which has been expanded to cover all new diesel engines for railway vehicles. It should be considered that rail transport registers very low levels of air pollution and the gradual electrification of the rail network and the change to electric from diesel traction is already a further measure in the right direction.

Action should be taken on an EU level due to the “transboundary” nature of air

pollution and also on a world level if possible with particular reference to air and maritime transport because of their "global" nature. Further incentives, through increased funding aiding the development of the less polluting modes as well as for technological innovation, should be provided so as to reduce the effect at the source.

3.5. CLIMATE CHANGE COSTS

3.5.1. In general, which instrument would you favour to tackle climate change costs?

| | | | | | | | |
|-------------------------|--|-----|----------|-------|--|------------|--|
| Emission trading scheme | | Tax | X | Other | | No Opinion | |
|-------------------------|--|-----|----------|-------|--|------------|--|

3.5.2. In road transport, which action would you favour to tackle climate change costs?

| | | | | | | | |
|---------------|--|-------------------------|--|-----|----------|------------|--|
| No new action | | Emission trading scheme | | Tax | X | No Opinion | |
|---------------|--|-------------------------|--|-----|----------|------------|--|

3.5.3. In rail transport, which action would you favour to tackle climate change costs?

| | | | | | | | |
|---------------|----------|-------------------------|--|-----|--|------------|--|
| No new action | X | Emission trading scheme | | Tax | | No Opinion | |
|---------------|----------|-------------------------|--|-----|--|------------|--|

3.5.4. In air transport, which action would you favour to tackle climate change costs?

| | | | | | | | |
|---------------|--|-------------------------|--|-----|----------|------------|--|
| No new action | | Emission trading scheme | | Tax | X | No Opinion | |
|---------------|--|-------------------------|--|-----|----------|------------|--|

3.5.5. In maritime transport, which action would you favour to tackle climate change costs?

| | | | | | | | |
|---------------|--|-------------------------|--|-----|----------|------------|--|
| No new action | | Emission trading scheme | | Tax | X | No Opinion | |
|---------------|--|-------------------------|--|-----|----------|------------|--|

3.5.6. In inland waterway transport, which action would you favour to tackle climate change costs?

| | | | | | | | |
|---------------|--|-------------------------|--|-----|----------|------------|--|
| No new action | | Emission trading scheme | | Tax | X | No Opinion | |
|---------------|--|-------------------------|--|-----|----------|------------|--|

3.5.7. Do you think the EU should do something in the field of internalisation of climate change costs?

| | | | | | | | | | |
|----------------|----------|-------|--|----------|--|-------------------|--|------------|--|
| Strongly Agree | X | Agree | | Disagree | | Disagree strongly | | No Opinion | |
|----------------|----------|-------|--|----------|--|-------------------|--|------------|--|

Comments (if any) on climate change costs (maximum 4000 characters)

The effects on climate change are related to air pollution. Therefore action is required on a European level due to the transboundary nature of its effects, and on a world level with particular reference to air and maritime transport because of their "global" nature.

The EU Emissions Trading Scheme (ETS) offers a potential mechanism for reducing greenhouse gas emissions (according to the European Council decision of March 2007 -20%/-30% in 2020, - 75% in 2050). However, it can lead to transport modes paying for abatement in other sectors rather than taking action to clean up their own act, and there is also political risk of the overall cap being weakened when it comes under pressure. Other targeted mechanisms, including regulatory measures and fuel taxes are more likely to bring about a reduction in overall transport emissions.

Partly due to its use of electricity for traction, rail already has a very low share of emissions, although it is having to pay extra for this due to the presence of electricity in the ETS. Any added financial burden in the form of fuel tax for the diesel traction would risk having negative impacts as it could encourage freight

back to road transport.

3.6. INTEGRATED CHARGING

3.6.1. Would you favour electronic charging in road transport?*

| | | | | | | | | | |
|----------------|-------------------------------------|-------|--------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|
| Strongly Agree | <input checked="" type="checkbox"/> | Agree | <input type="checkbox"/> | Disagree | <input type="checkbox"/> | Disagree strongly | <input type="checkbox"/> | No Opinion | <input type="checkbox"/> |
|----------------|-------------------------------------|-------|--------------------------|----------|--------------------------|-------------------|--------------------------|------------|--------------------------|

* Technology can help differentiate between different levels of external costs. Electronic tolls allow differentiating in function of time, distance, location and road type

3.6.2. Are there other policy options you would suggest? (maximum 4000 characters)

The application of electronic charging is an effective choice to cover all kinds of external cost which can be related to the type of vehicle used and distance travelled at a certain time at a certain section of road. This will allow the application of the "polluter pays" principle.

On a legislative level the application of an extended "Eurovignette" that would include external costs is a step to the right direction as it would allow for modal shift and the potential for more environmentally friendly modes to capture a greater market share. The added revenues can be used in a number of policies. Use of at least part of those in further aiding efficient modes like rail could produce further benefits for the society as a whole.

It should be pointed out that rail is the only mode to be regulated at EU level for charging of infrastructure according to Directive 2001/14. On the contrary, infrastructure charges for road transport are optional.

3.6.3. Are there other pricing instruments you would suggest for congestion, noise, accidents, air pollution or climate change? (maximum 4000 characters)

The introduction of a markup on fuel/energy tax on the most polluting transport modes would favour a shift of traffic to more efficient modes (like rail). This tax could be differentiated, based on the emissions profile of each vehicle, in an effort to promote the use of less polluting means and provide incentives for technological research. This system should be applied on a European level.

3.6.4. Are there other non-pricing instruments you would suggest for congestion, noise, accidents, air pollution, climate change? (maximum 4000 characters)

Further instruments to reduce congestion especially in city centers could include legislation limiting access to these areas for private vehicles, combined with increased offer of alternate services like metro, bus, rail.

In order to reduce accidents in the road sector it is important to pay attention to prevention, especially through better education of drivers and stricter enforcement of traffic rules. On the technical level additional funding should be provided in an effort to promote the use of safer and less polluting technology solutions, along with greater regulation through mandatory efficiency standards.

Most importantly, clear political support is required for measures that promote the use of the most environmentally friendly transport modes, as this would lead to evident benefits not only to the environment and the society but also greatly contribute to the development of a sustainable economy in Europe.

Sound political support should be given to actions leading to a modal shift from private car to public transport and soft modes in and around cities. The top priority for any urban planning or transport policy should be to reverse or at least to limit the sharp decline in the share of the local public transport in total urban transport volume, that is not confined to EU-15 but is also proceeding at a rapid pace in the new Member States. The internalization of external costs of transport

would broadly contribute to enhance the competitive position of local public transport as well. In addition municipalities should draw up transport plans for sustainable urban transport, in accordance with minimum European requirements that could also include quantitative goals for increasing the shares of local public transport and soft modes; if they fail to draw up such plans, they should be barred from receiving support from Community funds.

Comments (if any) on integrated charging (maximum 4000 characters)

Electronic charging is a feasible and relatively cost-effective option that allows for better differentiation and the application of the polluter-pays principle. Some kind of standardization could be introduced for electronic charging on a European level in order to facilitate journeys across Europe. The level of the charges, however, could vary according to geographical area, time of day, etc.

4. USE OF REVENUES

4.1. In your opinion, revenues from external costs should go to...

| | | | | | | | |
|--|--|----------------------|-------------------------------------|---------------------------|--|------------|--|
| The mode of transport that has been charged or taxed | | Transport in general | <input checked="" type="checkbox"/> | The general public budget | | No opinion | |
|--|--|----------------------|-------------------------------------|---------------------------|--|------------|--|

4.2. In your opinion, revenues from external costs should be use to compensate the victims of the negative effects

| | | | | | | | | | |
|----------------|--|-------|--|----------|-------------------------------------|-------------------|--|------------|--|
| Strongly Agree | | Agree | | Disagree | <input checked="" type="checkbox"/> | Disagree strongly | | No Opinion | |
|----------------|--|-------|--|----------|-------------------------------------|-------------------|--|------------|--|

4.3. In your opinion, revenues from external costs should be used to reduce external costs

| | | | | | | | | | |
|----------------|-------------------------------------|-------|--|----------|--|-------------------|--|------------|--|
| Strongly Agree | <input checked="" type="checkbox"/> | Agree | | Disagree | | Disagree strongly | | No Opinion | |
|----------------|-------------------------------------|-------|--|----------|--|-------------------|--|------------|--|

Comments (if any) on the use of revenues (maximum 4000 characters)

The decision on the allocation of revenues from the internalization of external costs depends on the objective. Should these be returned to the transport mode taxed, this would have the least impact on social welfare as it would in effect re-finance (and thus reward) the polluting modes. The allocation of the revenues to the general budget would have a positive impact on the general welfare if it is used to lower existing distortionary taxes, like labour tax. However, the greatest impact on minimizing external costs would be reached if these revenues stay within the transport sector and are used to support and finance the most environmentally friendly transport modes and intermodality. If these revenues are allocated to more environmentally-friendly modes, for example rail, not only does society benefit from the further reduction in road traffic, but it also allows rail to provide a better quality of service, thus further reducing external costs and increasing the total benefits to society.

The reduction of externalities to an optimal level is a feasible and economically acceptable target. By investing the revenues from externalities in prevention and support to the most environmentally friendly transport modes, an iterative process will begin and constantly aim at reaching the optimal level of externalities compatible with a sustainable transport system and economy.

Revenues could also compensate the victims not as individuals but as categories of population, geographical areas or sectors of activities.

5. INFRASTRUCTURE

5.1. The construction of infrastructure should be paid by...

| | | | | | |
|--|-------------------------------------|----------|--------------------------|------------|--------------------------|
| The general public budget (i.e. paid by the taxpayer) | <input checked="" type="checkbox"/> | The user | <input type="checkbox"/> | No opinion | <input type="checkbox"/> |
|--|-------------------------------------|----------|--------------------------|------------|--------------------------|

Comments (if any) on the infrastructure (maximum 4000 characters)

6. GENERAL COMMENTS

Are there other comments that you would like to make on the "Internalisation of external costs" topic not covered by the above questions? (maximum 8000 characters)

The ranking of external costs for different modes (questions 1.1-1.5) does not take into account the actual levels of external costs imposed by each mode. Therefore there is a clear risk of obtaining a biased view when modes are directly compared between each-other. It should be clearly stated that direct comparisons between modes based on these rankings cannot be undertaken.

The answers proposed in the questionnaire provided limited options which weaken the result of the study: it gives pre-determined guidance to the respondents yet doesn't allow for other options to be formally registered (the option "other" does not exist); for example in case of rail infrastructure, financing should be a mixture of public budget and users' contributions.