



AMICI DELLA TERRA



**Friends of  
the Earth  
Italy**

FRIENDS OF THE EARTH/ITALY

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## **Open letter to the European Commission on its strategy on the internalisation of the external costs of transport**

To the attention of Mr. Jacques Barrot, Commission Vice-president in charge of transport

CC to Mr. Matthias Reute – Director General DG TREN

Rome, 3<sup>rd</sup> April 2008

Dear Sirs,

Amici della Terra - Friends of the Earth Italy (FoE Italy) welcomes the Commission initiative for a new EC strategy on internalization of external costs started in 2007 with the public consultation and the issuing of the Handbook on estimation of external cost in the transport sector, with the final target of producing in June 2008 a Communication and a Proposal for a new Directive.

FoE Italy shares the EC announced aims of the strategy, namely to harmonise the juridical framework for Member States on transport infrastructure charging and to improve the internalization of external costs of transport by acting with an integrated approach, based on scientific knowledge on external costs of transport.

As you may know, FoE Italy has in the last decade played a role –mainly in Italy but also at the European level- in producing reports on external costs of transport of the road, rail, maritime and aviation modes and in spreading a scientific culture of external costs valuation in policy making and in administrative and operators choices. We believe that external costs evaluation may be useful not only for charging but also for other uses, such as incentives or environmental management systems, in the spirit of reducing external costs at the source, without necessarily impacting on the operators financial resources necessary to innovate technologies and products. Just to make few examples, the Italian ecobonus levels for Motorways of the Sea are based on the results of an external costs study comparing maritime transport with road transport in national corridors (a second phase is still ongoing, final results are planned for July 2008). Another study has been commissioned by ECG, the European association of vehicle logistic services providers, aimed to develop a set of reference European values of CO<sub>2</sub>/km and average external costs/km to be used by ECG members within their environmental reporting or environmental management systems (final results are due in May 2008).

In the spirit of a sustainable development, FoE Italy believes that the EC strategy on infrastructure charging should optimize the economic, social and environmental net effects of a charging reform. This objective may be reached by giving full implementation to the user pays and the polluter pays principles with a parallel gradual reform of the present transport taxation regimes and fully displaying the potential of economic instruments based on environmental costs evaluation (such as intermodality projects financing, based on income from road charging, on incentives for new technology diffusion, on certificate trading markets or on differentiated tax discounts), in order to make available to the transport operators real alternatives to change their choices and behaviors. The strategic relevance of this path must be stressed: the less sustainable choices/technologies must be selectively charged in those contexts where alternative options may be adopted, and the resulting income should be returned back to industry and users, giving priority to those actors that make the more sustainable choices.

Thinking at the most practical measures associated to the EC strategy, FoE Italy believes that the **success of the EC initiative will depend from the ability to introduce charging principles oriented at limiting the congestion generated by private road transport.** In fact, as compared to other external costs driving forces, road congestion is by far the major source of external costs in urban networks, major interurban roads and highway infrastructures, either in terms of economic damages to society either in terms of additional environmental damages of congestion. The last Report by FoE Italy on external costs of mobility in Italy, mainly based on ExternE and UNITE methodologies, has estimated a total burden of 40 billion Euros (more than 3% of Italy GDP), 47% of which are accounted as road congestion external costs (see table 1).<sup>1</sup>

**Table 1 – External costs of mobility in Italy, differentiated by categories, year 2003 (million euro 2003)**

	GHGs	Air pollution	Noise	Accidents	Congestion	TOTAL	(%)
<b>ROAD</b>	<b>2.408</b>	<b>7.277</b>	<b>5.224</b>	<b>3.941</b>	<b>19.435</b>	<b>38.285</b>	<b>94,4</b>
<b>Passenger Transp.</b>	<b>1.606</b>	<b>4.329</b>	<b>2.599</b>	<b>3.599</b>	<b>13.087</b>	<b>25.220</b>	<b>62,2</b>
Private use	1.536	3.997	2.414	3.563	12.679	24.189	59,6
<i>Cars</i>	<i>1.451</i>	<i>3.323</i>	<i>1.547</i>	<i>2.546</i>	<i>12.679</i>	<i>21.546</i>	<i>53,1</i>
<i>Motorcycles</i>	<i>48</i>	<i>179</i>	<i>516</i>	<i>551</i>	<i>-</i>	<i>1.295</i>	<i>3,2</i>
<i>Mopeds</i>	<i>37</i>	<i>495</i>	<i>350</i>	<i>466</i>	<i>-</i>	<i>1.348</i>	<i>3,3</i>
Collective use- Buses	70	331	185	36	408	1.031	2,5
<b>Goods Transport</b>	<b>801</b>	<b>2.949</b>	<b>2.625</b>	<b>341</b>	<b>6.348</b>	<b>13.065</b>	<b>32,2</b>
Light duty vehicles	280	948	1.108	40	2.647	5.023	12,4
Heavy Dutys (>3,5 tons)	521	2.000	1.517	301	3.701	8.042	19,8
<b>RAIL</b>	<b>58</b>	<b>123</b>	<b>235</b>	<b>35</b>	<b>97</b>	<b>547</b>	<b>1,3</b>
<b>Passenger Transp.</b>	<b>40</b>	<b>94</b>	<b>140</b>	<b>31</b>	<b>97</b>	<b>402</b>	<b>1,0</b>
<b>Goods Transport</b>	<b>18</b>	<b>29</b>	<b>95</b>	<b>3</b>	<b>-</b>	<b>145</b>	<b>0,4</b>
<b>AEREO</b>	<b>609</b>	<b>581</b>	<b>440</b>	<b>29</b>	<b>74</b>	<b>1.734</b>	<b>4,3</b>
<b>Passenger Transp.</b>	<b>567</b>	<b>540</b>	<b>408</b>	<b>29</b>	<b>74</b>	<b>1.620</b>	<b>4,0</b>
<b>Goods Transport</b>	<b>42</b>	<b>40</b>	<b>32</b>	<b>-</b>	<b>-</b>	<b>114</b>	<b>0,3</b>
<b>TOTAL</b>	<b>3.075</b>	<b>7.981</b>	<b>5.899</b>	<b>4.005</b>	<b>19.606</b>	<b>40.566</b>	<b>100,0</b>

Fonte: V Report on Environmental and Social Costs of Mobility in Italy, Amici della Terra - FoE Italy – Ferrovie dello Stato (2006)

FoE Italy welcomed the initiatives taken in recent years by some European cities such as London, Stockholm and Milano, that introduced congestion charging schemes aiming at limiting private demand. If backed by strong public transport improvement programmes, these schemes could encourage a shift towards a higher public transport use. However, at the light of the continuous and increasing trend towards bigger vehicles, these schemes – oriented to limit the number of vehicles independently of their size- risk to fail in reducing congestion.

<sup>1</sup> In the FoE Italy Report, and in the EC Handbook as well, the additional environmental costs due to congestion are conventionally calculated within the environmental costs categories, thus partly “obscuring” real drivers of external costs.

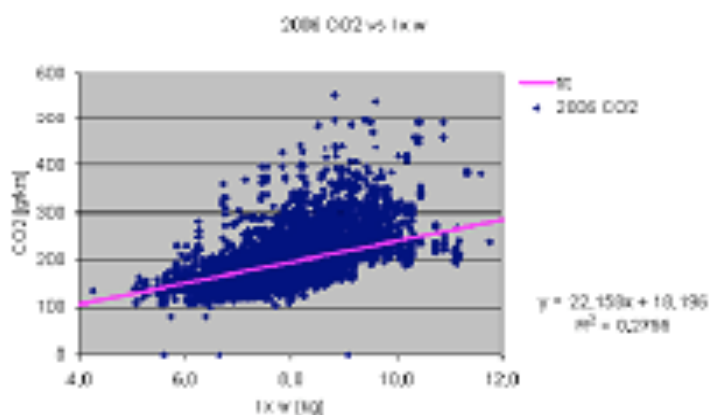
Too often the other fundamental congestion driving force is forgotten: the infrastructure surface occupied by vehicles (a concept that in the maximum congestion situation –ie queue- is well approximated by the vehicle pan area).

If we look at the available numbers, surface occupancy is a fundamental criteria for a successful congestion charging either in urban networks and in other congested non urban road. Every accurate road congestion model highlights the strong influence of the different vehicle categories road surface occupancy equivalency factors on congestion external costs. The EC Handbook on estimation of external costs in the transport sector (and the main congestion studies considered in its review) highlight differences in congestion responsibility equivalency factors of 1 to 3,5 between respectively passenger cars and heavy goods vehicles. If we consider that the latter may have very different lengths depending from the number of axles and other auxiliary extensions (Member States frequently allow a total length of over 18,75 m), the above-mentioned proportion may rise up from 1 to 5. If we consider only passenger cars, variations in vehicles surfaces (and correlated variations in congestion responsibility equivalency factors) are relevant as well, varying from a minimum of about 4 sq meters to a maximum of 12 meters (1 to 3). What do these proportions suggest?

1. Road vehicles types have very different responsibilities on congestion (generating very different congestion external costs), as a function of their road surface occupancy.
2. The traffic growth rate, usually applied in infrastructure planning, normally don't take into account the surface occupancy equivalent factors and systematically fail to plan congestion development patterns. For example, if a 1% or 2% yearly increase is assumed for traffic growth independently from vehicles' categories, this implies a 3,5% to 7,5% yearly increase in heavy duty vehicles equivalent growth of infrastructure capacity use, meaning that new capacity is saturated in a much shorter time than expected.
3. What is most worrying is that vehicles pan area (length \* width) is highly correlated with CO2/km emissions, as recently highlighted for passenger cars by the impact assessment of the EC *proposal for a regulation setting emissions standards for new passenger cars to reduce CO2 emissions* (see figure): in the prevailing range that goes from 5 to 11 sq meters, CO2/km emissions rise from an average of 120g/km to 270 g/km!

**Figure: Interpolation function between car pan area and CO2/km emissions of new passenger cars sold in the EU, year 2006**

Vehicle pan area [l x w]



Fonte: EC, SEC (2007) 1723

**The above mentioned evidences have great EC policy implications: one on infrastructure use charging policy and the other on CO2 emissions reduction policy in the transport sector. Criteria of the two policies should be deeply integrated for a successful Commission strategy.**

As to internalization of external costs, the EC strategy aims to develop the juridical framework for Member States to charge for infrastructure use by taking into account the main vehicles external costs drivers. If the charging criteria will be based *only* on the presence (number) of vehicles and on their environmental standards (euro 0 to euro 5) it would represent a seriously distorted message for technological innovation, allowing for the continuation of the present trend towards bigger car sizes, increasing congestion (and additional air pollution +noise) external costs and increasing CO2 emissions more than proportionally. If, as an alternative strategic option, a congestion charging criteria based *also* on the vehicle surface is introduced (as a proxy of road surface occupancy), technological innovation would be stimulated towards an optimization of width and length of vehicles, successfully contributing to CO2/km reduction targets.

Surface of vehicles has a lot to do also with CO2 emissions reduction policy in the transport sector, starting from the ongoing debate on the kind of targets and measures to reduce CO2 emissions from new cars. As known, the Commission proposal adopted the limit curve approach, that allows for differentiated targets for car manufacturers groups based on car weight criteria. FoE Italy believes that this criteria is deeply in contrast with either the cars CO2/km reduction policy (it reduces degrees of freedom in innovation, increasing costs of compliance), either the internalisation of external costs strategy (since flexibility on weight will increase all other external costs categories, reducing the expected net benefits for society of the proposal). On the basis of the above mentioned arguments on vehicles surface contribution to congestion external costs, it is evident that a possible compromise option based on pan area or footprint would produce impressive consequences on future congestion patterns. FoE Italy is positive in looking at a feasible option, allowing for the necessary flexibility asked by car producers. The pooling mechanism between different groups, already suggested by the Commission, may provide the needed flexibility to producers (differentiation of CO2/km company performances) **with a very simple and fair allowances allocation mechanism based on the average CO2/km target of 130gCO2/km per car sold.** As the preparatory studies (IEEP 2005 and TNO 2006) of the EC proposal show to independent readers, the market of CO2/km certificates among car manufacturers is the most cost effective measure, it would not disrupt fair competition rules in the industry and it would drive technological innovation towards a gradual control of correlated indicators such as cars weight and footprint.

We hope that FoE Italy proposals illustrated in this letter may positively contribute to develop a fully integrated approach by the future Commission proposals in the transport sector. We just add that while reading (and implementing) the EC Handbook recommended methodologies and values we took note of some remarks and possible improvements, and that we are available to provide details in a separate letters, on request.

Best regards

Andrea Molocchi

Resp. for Transport

Rosa Filippini

President