

# *Position Paper*

Brussels, 18<sup>th</sup> of January 2008

**RE: International Transport Forum - Stakeholder Information and Consultation**

**ENERGY & TRANSPORT: THE CHALLENGE OF CLIMATE CHANGE**

**Preamble**

CLECAT ([www.clecat.org](http://www.clecat.org)) and FIATA ([www.fiata.com](http://www.fiata.com)), respectively the European and Global Associations for Forwarding, Transport, Logistic and Customs Services, are closely involved in the debate that is emerging on the above issue and have a direct interest in proposals which will be made to address this historic problem. CLECAT and FIATA Members take a view on this issue both as transport service users and as transport related service providers.

We are therefore very glad that the International Transport Forum gave us the possibility to submit our views as stakeholders and prepared a set of explorative questions.

The first and most evident observation is that we are discussing a subject that reflects heavily and directly onto the relevant carriers' direct costs, which depend a great deal on the source of the propelling energy. In addition an element which adds considerable downsides to the overall transport performance is the additional energy waste caused by congestion, which is often structural and depends on insufficient infrastructure.

In other words transport efficiency is seriously hampered by the lack of appropriate infrastructure and/or by the insufficient maintenance of it. A considerable part of energy consumption is caused by congestion and congestion itself is a cost for society.

Congestion is not an "act of god" but the consequence of insufficient public planning and/or lack of resources. One can however not forget that our society has found itself, perhaps for the first time in the history of mankind, in the enviable position – after World War II – to detain the necessary knowledge instruments and resources to plan its future in order to address the problem of congestion before it emerged. All the processes and events that led to the present situation were known and expected for decades and the best advice was timely provided. Our sector has been rather active in this exercise and its advice was often ignored or underestimated by governments.

This kind of observation probably has a worldwide scope, but it is all the more sensitive in highly developed areas such as Europe and North America.

Coming to the questions which have been put on the table:

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## ● **Securing and improving access to energy for transport**

### ○ **Is access to affordable energy an equal concern across all modes of transport?**

- All transport modes rely on some form of energy, and this energy still comes mainly from fossil fuels (road, maritime and air transport). Only rail transport has a viable possibility to run on electricity. It is therefore not as dependent on cheap fuel, on the assumption that electricity production would progressively be less dependent on fossil fuels in future.
- Access to energy is of great concern for road transport, because in road transport small profit margins could be rapidly eroded by the soaring price of fossil fuels. It is difficult to predict whether road transport would benefit from any emancipation from fossil fuels in future and to which degree this may happen.
- Other transport modes rely on affordable energy, mainly in the form of fossil fuels: maritime and air transport depends on fossil fuels entirely today. The use of fuels engines combined with sails has been studied and the first commercial applications are about to start, but this scenario looks marginal at the moment.
- A rise in fuel prices results directly in higher transport costs, which consumers have to bear ultimately, as it is an integral part of the value-chain.
- Unfortunately "Peak Oil"<sup>1</sup> is a realistic scenario, which will take place eventually, although it is not known when exactly. Either it has happened already or it will probably happen in future. As soon as (cheap) oil is depleted, production will shift to tar sands and liquefying of coal, which today are still more expensive. But already today Canada is extracting tar sands, as it has become commercially viable.<sup>2</sup>
- Several alternatives to fossil fuels are now explored. The most prominent and most used today are 1<sup>st</sup> generation bio-fuels, which are already in use in some European countries and are often subsidised by the state. Subsidies are necessary at the moment, because production costs are still too high, so that bio-fuels cannot compete with fossil fuels, or at least they could not until recently. To achieve a sustainable shift from fossil to bio-fuels these subsidies may have to be granted for some time to come or bio-fuels production and, especially, distribution must become cheaper.
- It has to be kept in mind that the transformation of biomass into bio-fuels might not be the most efficient way to produce energy. Therefore subsidies for scientific research are necessary and would be well spent, if we wish to come to a commercially viable 2<sup>nd</sup> generation of bio-fuels. Only then the conflict between the need for alternative fuels on the one hand, and food production and increased land use on the other hand would be solved.
- On this latter point it is useful not to forget that agriculture has become more efficient and intensive cultivation does not need enormous extensions of land as in our past history, in addition a number of farmers (and other) receive subsidies to "set-aside" their farming land in order to sustain a more and more questionable CAP in the EU. These subsidies could be saved and land converted back to its original productive purpose.
- Another point which is often forgotten and must be brought into the calculations is the following: the entire life-cycle of a plant is a natural machine which absorbs CO<sub>2</sub> and releases oxygen in the atmosphere (photosynthesis<sup>3</sup>). In other words plants used for bio-fuel production would

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<sup>1</sup> Oil production outbalances new oil finds. For more information on Peak Oil, please see: <http://peakoil.blogspot.com/>

<sup>2</sup> [http://www.forbes.com/2005/02/17/cz\\_0217oxan\\_canadaoil.html](http://www.forbes.com/2005/02/17/cz_0217oxan_canadaoil.html)

<sup>3</sup> <http://en.wikipedia.org/wiki/Photosynthesis>

start cutting on the overall CO2 emission (hence producing a form of CO2 credits) long before being transformed into fuel.

- **What alternative energy sources are you investigating? Is a low-carbon future a realistic prospect?**
  - All realistic kinds of alternative fuels or energy technology should be investigated as it is a mistake to focus on one alternative alone. In order to explore all possibilities, achieve the best results and come up with the best alternative and combination of alternatives, all variants have to be researched equally. The most promising alternative fuels, which are explored today, are: 1<sup>st</sup> and 2<sup>nd</sup> generation bio-fuels, hydrogen fuel cells, hybrid technology, ethanol, methane, natural gas, rape seed, and liquefied petroleum gas. However, our sector – while highly interested in the final results – cannot trespass its role of “client”. We believe research and innovation should come first and foremost from the energy sector itself, in a forward looking business perspective.
  - A low-carbon energy sector could develop in the future, if technological innovation makes it commercially competitive. Especially the commercial use of hydrogen fuel cells could be the step to embark upon a low or even zero carbon future.
  - Electricity production can be achieved in a number of ways at zero emission levels today (photovoltaic, wind-power, hydrodynamic systems, etc). Electricity can be carried cheaply and stored (less cheaply). Electricity is also the main ingredient of hybrid technologies. The advantage of a more dispersed distribution and production of electricity are self evident.
  - In addition electricity production and electricity consumption need not be seen in future as a one way relationship any longer. The social and economic paradigm of converting built surfaces (roofs, parking lots, commercial centres, factories, etc) into mini-power production plants is entirely to be explored, but it is neither impossible, nor unaffordable in principle.
  - A more dispersed and interconnected scenario in power production/consumption could induce greater awareness, both in enterprises and consumers, of alternative mobility solutions that – at least within the short distances of the urban environment – could cut on traditional environment-intensive means of transport.
- **What goals and incentives should be set by public authorities?**
  - As far as goals are concerned, we believe our minimal objective should be removing the regulatory constraints, which create energy waste, such as:
    - Due to the lack of and insufficient maintenance of infrastructure a lot of energy is wasted by the transport industry during idle time (mainly created by congestion). Governments should resume investments in transport infrastructure immediately, to – at least – start curing the problem and to overcome bottlenecks.
    - Weights and dimension restrictions in force are often outdated and not in line with modern technology. There is sufficient evidence to expect almost 30% savings in energy and emission by using larger vehicles (e.g. super-lorries<sup>4</sup>, eco-combis, giga-liners or modular concept vehicles), but their use is now limited to the most advanced and forward looking areas in Europe (Scandinavia).
    - Driving bans, access time slot for commercial vehicles in towns and urban centres are also often resulting in energy and time waste;
    - Concentration of traffic at peak hours (with evident congestion and waste) is more than often induced by regulation.

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<sup>4</sup> For more information, please see:

[http://business.timesonline.co.uk/tol/business/industry\\_sectors/transport/article2943573.ece](http://business.timesonline.co.uk/tol/business/industry_sectors/transport/article2943573.ece)

- As far as incentives are concerned, we believe incentives alone will not be able to “fill the gap” and probably some restriction or charging measure will have unfortunately to be used:
  - National governments as well as the European Union should create and offer incentives to invest in better engines in road, maritime and air freight.
  - CO<sub>2</sub> based taxation for passenger cars<sup>5</sup>, progressive taxation on older cars, road pricing<sup>6</sup> could be used as standard measures to steer mobility demand.
  - If infrastructure charging is strictly earmarked it provides a very powerful and perceptive incentive (German HGV toll<sup>7</sup> or the Congestion tax in Stockholm<sup>8</sup>, Sweden).
  - Whereas strict regulation of HGV weights and dimension is counterproductive, the same cannot be said for passenger cars. Cars are seldom taxed in a “smart” way: a taxation formula could be studied to encourage the use of smaller and less polluting vehicles.
- Incentives on medium and long term investments in renewable energy production would certainly help. The more such investments are dispersed in the social texture, the more perceivable their result would be.

- **Energy efficient technology for transport**

- **Which are the most promising technologies your sector is investing in? What is their lead time to market and expected fuel efficiency impact in the short and long term?**
  - One of the most important and promising technologies would be investing in alternative fuels. The most important and already used regularly are 1<sup>st</sup> generation (short term) and 2<sup>nd</sup> generation (long term; more investments are necessary) bio-fuels.
  - Trucks are already often equipped with engines for 1<sup>st</sup> generation bio-fuels. 2<sup>nd</sup> generation bio-fuels (bio-energy by waste) are the most promising as they do not have all of the problems of 1<sup>st</sup> generation bio-fuels (main criticisms: increased land use; also high CO<sub>2</sub> emissions).
  - Important savings in emissions can be obtained with appropriate combinations or bio- and traditional fuels.
  - Recent demonstrations of commercial vehicle using hybrid technology engines look quite promising (Freight Forwarders’ Conference 2007 on [www.CLECAT.org](http://www.CLECAT.org)).
  - More extensive use of methane (which could save CO<sub>2</sub> emissions) as an alternative would depend on an adapted distribution network, which at the moment does not exist.
  - Galileo positioning service<sup>9</sup> will help resolve congestions and decrease empty runs, thus creating considerable savings. Other benefits could be better fleet management, optimum route finding and traffic optimisations, all of which will have an impact on fuel consumption.
  - Other useful and rather easy to achieve technologies or improvements are the following:
    - tyre pressure (low tyre pressure will reduce fuel efficiency up to 10%) and rolling resistance (in a passenger car this accounts for 4.2% of energy loss),

<sup>5</sup> <http://www.euractiv.com/en/transport/carmakers-push-co2-based-taxation/article-162408>

<sup>6</sup> [http://en.wikipedia.org/wiki/Road\\_pricing](http://en.wikipedia.org/wiki/Road_pricing)

<sup>7</sup> <http://www.bmvbs.de/en/Transport/Roads-.2075/HGV-toll.htm>

<sup>8</sup> [http://www.vv.se/templates/page3\\_17154.aspx](http://www.vv.se/templates/page3_17154.aspx)

<sup>9</sup> [http://ec.europa.eu/dgs/energy\\_transport/galileo/applications/transport\\_en.htm](http://ec.europa.eu/dgs/energy_transport/galileo/applications/transport_en.htm)

- retro-fitting (make vehicle parts lighter to reduce the overall weight of the vehicle),
  - eco-driving<sup>10</sup> (drivers improve their driving skills in terms of ecological driving),
  - improved traffic management<sup>11</sup> (optimize utilization of transport routes, delivery vehicles,
  - collection/delivery time slots (24/7),
  - more extensive use of IST and ICT in both freight and passenger transport.
- In a long term perspective a progressive conversion to electrical or hybrid vehicles, especially in urban areas, may look promising, if the production of electricity becomes cheaper and less centralised.
- **What are the current barriers to uptake of these technologies?**
    - One of the most important barriers at the moment is the fact that many technologies are not ready for commercial use yet, as they are still too expensive for industrial use.
    - Other problems are the availability and the technological infrastructure. There are for example not enough stations, where one can get methane, liquefied gas or bio-fuels in a way that a sensible journey can be organised.
    - In cross-border European transport the absence of appropriate distribution infrastructure does not allow for a structural change in vehicle fleets. As long as alternative fuels have not proven their commercial viability, the investment in the infrastructure will not be made. This is a process that runs in circles and a strong political strategic decision is needed to break this cycle. The EU has launched the idea of creating “green corridors”, this could be creating the necessary momentum for a kick-off.
    - Technology for saving fuel can also have some disadvantages, because
      - it may reduce drivers’ security
      - it would certainly reduce energy providers’ earnings
      - it would also inevitably reduce tax and excise governmental revenues.
    - Alternative energy and alternative fuels have not acquired a “business” image yet, despite their intrinsic “big business” nature.
  - **What public incentives and grant mechanisms are needed to promote applied research in energy efficient technologies?**
    - CLECAT and FIATA are only aware of incentives and grants provided by the EU, e.g. the 7<sup>th</sup> European Framework Programme Funding<sup>12</sup>, which is an important step in the right direction.

## ● **Integrated transport policy measures**

- **Where can public policy make a difference in reducing CO<sub>2</sub> emissions? What is the appropriate time frame for public policy measures?**

A huge, if not the biggest, problem authorities and public measures should tackle is structural congestion, which results from a long period of lack of infrastructure investments, especially in Europe. Congestion only aggravates a problem which exists already, but in so doing it makes it all the more dramatic and urgent.

Public policy has many ways to influence transport behaviours, thus reducing CO<sub>2</sub> emissions. Just a few examples of recent (or possibly future) actions:

<sup>10</sup> [http://observer.guardian.co.uk/uk\\_news/story/0,,1764631,00.html](http://observer.guardian.co.uk/uk_news/story/0,,1764631,00.html)

<sup>11</sup> See for example: <http://www.invent-online.de/downloads/VMTL-handout-E.pdf>

<sup>12</sup> <http://cordis.europa.eu/en/home.html>

- The adoption of the single market in the EU, which allowed for noticeable savings in time and energy at borders,
- Similar or alternative measure intended at mitigating the “border effect” on road transportation would produce noticeable savings,
- The use of infrastructure charging (“smart pricing”),
- Introduction of new vehicle technologies through
  - funding,
  - regulation,
- Development/enhancement of infrastructure investments (very urgent),
- An EU accessible information system to mitigate the downside of driving bans,
- “Motorway of the Seas” approach to SSS, directly in competition with self-drive road transport
- “Modular concept” to decrease the net number of vehicles on the roads and consequently cut on emissions and fuel consumption,
- Energy market ruling, which ought to privilege private investments and compensation for private investment in the energy market, which still run de facto as a monopoly, often dependent on fossil fuels,
- Several years tax relief for “cleaner” vehicles, such as methane, hybrid, etc.
- Lower tax and excise for bio-fuels (min. 30%) than for fossil fuels,
- Tax reliefs on all (private and public) “clean” or renewable energy investments in housing, schools, factories, commercial centres, etc.
- Public buildings, government and institutional buildings mandated to adopt energy efficient programmes in lay-out, building and management
- **To what kinds of public-private partnerships should be encouraged in the energy and transport sectors?**
  - Whereas the development of a strategic vision in infrastructure planning is the main task of governments and EU institutions and it is their duty to be vigilant that appropriate resources are invested in this fundamental societal role, PPP is possible in the area of infrastructure and can be quite helpful, especially in carefully identified areas. PPP enables the state and the private sector to concentrate on their respective strengths and competence. As a result the service for the user is increased and the overall efficiency of the output is optimized.
  - What is happening too often instead is that infrastructure that was originally built with public money is outsourced to concessionaries for exploitation. Often such infrastructure is slowly becoming obsolete and insufficient upgrading and maintenance is done, regardless of the charges levied, for the use of which transparency is almost never ensured or offered.
  - Initial participation in risk capital for innovation is a measure that could bring fruit in transport, as we have seen in the past;
  - PPP could also be a viable system to allow for the start-up of energy providers focussed mainly or predominantly on renewable energy sources.
- **How should policy try to influence user behaviour? Which pricing scenarios would be acceptable to your sector?**

The main principle which should be always kept in mind – and is invariably abandoned – is the following: pricing and charging can influence private users’ behaviours more or less dramatically, but are far less powerful when dealing with professional users. Professional cannot “avoid” using infrastructure and have no alternative, this means they would still come in numbers and the end result is only higher prices in services.

Another principle that has to be retained has to do with fair charging. It is difficult to consider fair a congestion charge, when the main cause of congestion is the lack of infrastructure caused by insufficient public planning.

In this light

- There are some pricing schemes that are acceptable for our sector. Road pricing, infrastructure charging for tunnels, bridges etc, for using roads at peak hours. For all these types and especially for congestion charges an important and necessary pre-condition would be to mandate the earmarking of the revenues, which is the only effective way to improve users' conditions.
- The second pre-condition is that all users pay: it is inefficient to charge only some of the users, if congestion and emissions are to be addressed
- The main target of any charging policy intended at mitigating congestion must include private users, who are best placed to avail themselves of alternatives and – save the case of serious health and safety problems – can contain or consolidate the individual demand for mobility.<sup>13</sup>

In conclusion, we are of the opinion the issue of transport and energy has now entered a completely new phase, where much opportunity for research, investment and better business is available. The old fashioned scenario of transport and energy depending on fossil fuels which characterised the best part of last century is about to give way to a progressively more innovative way of looking at the energy picture. Energy will have to come more and more from new technology in renewable sources: these are present almost everywhere on earth and can be exploited at reasonable prices (if compared with present-day costs of fossils) even in smaller and more dispersed production sites.

As regards transport we think it is equally important that transport progressively breaks free from a total dependence on fossil fuels and we hope that the very companies who are now exploiting petroleum and other fossils would be interested in seriously investing in the research of alternative and cleaner fuels, for which they would still have to provide distribution services. In this light everything is still to be done and we believe this could become a very promising business opportunity for those who will be sufficiently daring.

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<sup>13</sup> London, Stockholm and – more recently – Milan have adopted measures that hit equally on all users. Figures show that congestion and emission fall dramatically for the benefit of all users and the population, despite the fact that commercial traffic does not seem to decrease in the same proportion.