

“Transport Needs” Evolution and The Environment

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Editorial

Nowadays, leaving without car is almost unthinkable. But very little is known or taken into account by drivers when they simply turn on the ignition and drive up, about the harm they are doing to the environment. How is the cars market changing and what can us consumers do to contribute to environmental sustainability, if we really need the car, not just for fun?

The Transport and Environment Reporting Mechanism [1] report highlights that since 1990 GHG emissions from the transport sector have increased by almost 20%; that aviation and shipping combined, meaning the international transport emissions, have doubled their share of total GHG emissions (in the European Union it reached 6% of total emissions in 2013) also in the EU international aviation emissions doubled and the maritime emissions increased by 28%; road transport emissions have increased around 17%; and the only two modes of transport for which GHG emissions decreased were rail transport (49% lower emissions) and inland navigation (decreasing almost 35%).

However, the transport sector has been betting in new solutions for the transport sector like electric cars in order to fight this clear tendency and contribute to GHG emission decreases all around the world. Although, the 2050 target requires a reduction of around two-thirds as compared with current levels of GHG emissions, we still have a lot of barriers to transpose. Emissions are clearly linked to economic activity, society evolution and transport demand, but other factors are positively contributing to recent GHG emission levels as efficiency improvements with respect to legislation and clear changes in consumer behavior and preferences.

Not only emissions from vehicles are a problem. There are a lot more issues associated to vehicles and the transport sector which have to be taken into account. First of all, vehicles are still very high dependent over oil, and many countries are still very high oil dependent, despite the directives to decrease it and to substitute oil by renewable energy sources [1]. A report highlights that oil-derived fuels account for around 94% of final energy demand by transport. The road transport is the highest responsible for energy consumption, at least in the EU-28 in 2014 (three-quarters of total demand). The second problem respects to air pollution. Fuel quality standards introduction,

the Euro vehicle emission standards for cars and the gradual renewable of vehicle feet contributed to the limitation of Sulphur oxides. Progress is not all positive, but pollution has verified some reductions [2,3]. However, maritime transport, mainly shipping, remains by far the largest emitter of Sulphur oxides from transport, a problem which remains to be solved [4]. Despite slow advances, achieving levels of good air is still a challenge, especially in urban areas with high volumes of traffic.

The third problem respects to noise, where noise pollution is long recognized as being a negative influence over quality of life and well-being, recognized as an important public health issue, and road traffic contributes strongly, once more, especially in urban areas [3]. Fourth, establishing new policies in terms of cars demands infrastructure and facilities which have to be provided first and are not always correctly considered. For example, with respect to electric vehicles, there is the need to create previous infrastructure which need to be available whenever needed. Countries are starting to give the first steps towards but a lot more remains to be done. Another problem, respects to the still high prices of this kind of cars which drive families to consider other alternatives to this “emissions free” cars and to consider less expensive alternatives. Others only think about horse power and these need to change their consciousness regarding environmental issues when taking the car buying decision into account. For this, more information is still needed in order to inform consumers and helping families to change mentalities towards environmental sustainability. In fact, the main reasons identified to explain why consumers reject electric cars, is due to the fact that they still have concerns and reservations about electric car technology (the media has a clear important role here, as well as academics, producers and policy makers dedicated to energy efficiency) and they see electric cars as changing so fast that buying now would be investing in obsolescence (as persons have status issues and intend to mark a position in life). Furthermore, persons have issues with electric vehicles range limitations and with reliable charging (innovation and technology have a key role here), besides having reasonable alternatives to electric vehicles, but pollutant alternatives since they mainly rely over oil.

Finally, transport can cause important negative impacts on ecosystems and biodiversity. The design and use of road, rail

and waterborne transport infrastructure alters the quality and connectivity of habitats. It additionally creates physical barriers between habitat areas for animals and plants movements. This happens since species can be injured or killed by vehicles and sometimes become isolated by the inherent habitat fragmentation. With this respect, a number of policies have already been introduced but several gaps remain, especially with respect to practical application.

When we take a look at the recent academic literature which emerged within this context of transport and the environment [4-11]. We may observe that there are still many interesting subjects which haven't been addressed properly. For example, it still remains to be explained why governmental incentive programs are although interesting but have failed to produce any respectable results. What are the costs of change in technology adoption including infrastructure, vehicle imports, charging portal network, etc. It is also needed to identify who are the stakeholders responsible for all aspects of this change. With this identification it will be further possible to allocate responsibility and governance for each stakeholder.

Other important aspects to take into account respects to know how the environmental performance of transport has changed and correctly understand its evolution. Identifying the key underlying factors contributing to this changed pattern is important and still has a lot of remaining open questions regarding it. Also, very little is known with respect to the factors that have hampered additional improvements and which have driven the process drawbacks which are still observed [12]. We believe that understanding families reasoning's for resistance to vehicles change will help policy makers to improve policies implemented. Life standards and well-being are very important for families, but income levels still represent one of the factors able to justify the resistance. Moreover, more technological development and the consequent consumer information is needed, thus turning innovation a very important contributor to this change, as also highlights the role that the media should have.

Finally, in the urbanization point of view, if vehicles are important sources of air and noise pollution inside urban areas, it still remains needed to verify what could be done in order to improve mobility and reduce emissions in these areas. But, for that we researchers need to demonstrate the development of local talent pools as a result of this new technology adoption. There are also some aspects of supply and demand for this change towards more environmental friendly solutions within the transport sector that should be considered and taken into account.

As could be seen by this brief note, a lot has already been done towards the relation transport and environment, but a lot more is still to be done in order to lead to economic development as required. Clear steps have already been taken towards the greater integration of climate, energy and transport policies. The importance of monitoring and the definition of targets against which progress can be measured has increasingly been recognized [13] as well as the role of proper ex-post evaluation of policies, but much more remains to be explored and analyzed under this thematic which we

consider of extreme importance for global environmental health and safety.

With respect to consumers, plugin electric cars don't sell very well because nowadays they are not a great option for the average consumer, both in terms of prices, as well as efficiency, speed and reasonableness provided the current state of the market. It does not mean they are a bad option, per se, but they are just not great, or at least consumers still see them as this. More environmental friendly strategies that consumers should bet in and will help the urban problem [14] are kind of like using public transportation, commuting to work by bicycle, or even carpooling. These are alternatives that "rational" consumers should do, but choose not to. This solution is the hardest one because demand a mentality change and this is the worst part and the strongest enemy to environmental health and safety.

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