

Clean mobility from the perspective of the Czech Ministry of Transport

Why is clean mobility needed?

Transport sector is one of the biggest emitters of CO₂ and it is especially road transport which causes a lot of not only environmental but also health damages. Local air and noise pollutions affect millions of inhabitants in cities around the whole world. Urgent need to move towards substantial improvements in environmental efficiency of road transport is therefore paramount challenge of our current society. So called “clean mobility” concept based on support of the development of new fuels for transport (like natural gas, electricity, biofuels, hydrogen) is definitely one of the ways how to deal with such a challenge.

At the same time the transport and mobility have to tackle also with heavy dependence on the imported oil¹. One should bear in mind that the transport sector is very vulnerable to oil price increases and that further increase of that price will probably occur in the future². The situation when supply of oil in Europe is dependent to the large degree on politically unstable regions raises also security of supply concerns. According to EU estimates gradual replacement of oil with alternative fuels could bring savings on the oil import bill of €4.2 billion per year in 2020, increasing to €9.3 billion per year in 2030, and another €1 billion per year from dampening of price hikes.³

„Clean mobility“ concept needs to be seen also from the perspective of new opportunities for the industry. An increased vehicle’s efficiency through new engines, materials and design and cleaner energy use through new fuels and propulsion systems could give a new impetus to the competitiveness of the European automotive industry including the Czech entrepreneurs.

Technology neutral approach – key starting point

For some people the electrification of vehicles is seen to be a central option to deliver clean mobility objectives. E-mobility is perceived by them to be a key response on all above mentioned challenges. However even the most optimist will perhaps admit that the future of e-mobility is still framed by some uncertainties (especially as regards technology and cost of the batteries). No one will probably also challenge that future development of not only e-mobility but clean mobility as such will be dependent on the industry developing and bringing products to market and consumers deciding which products they wish to buy. This leads us to the clear conclusion that it is not the role of the government to identify and support specific technologies at this stage. Any national strategy of clean mobility therefore needs to be based on the principle of technology neutrality without giving preference to any particular fuel.

EU and worldwide context

Increased awareness of the need to reduce harmful emissions into the environment is seeing government’s worldwide act to regulate permissible vehicle pollution levels. Within Europe, the European Union (EU) has adopted far-reaching regulations to significantly reduce passenger vehicle CO₂ emission levels by 2020. Fuel consumption and CO₂ emission levels of all European manufactured passenger vehicles are to be reduced to 130g/km of CO₂ through drive train-related measures. An additional reduction of 10g/km of CO₂ has to be achieved through biofuels and "complementary measures" (including gear change timing

¹ In 2010, oil counted for 94% of energy consumed in transport, with 55% the largest consumer, 84% of it imported, with a bill of up to €1 billion a day in 2011, leading to a significant deficit in the EU trade balance of around 2.5% of GDP

² See for example IEA, 2011, World Energy Outlook 2010.

³ Source: Communication from the European Commission: Clean Power for Transport: A European alternative fuels strategy (COM(2013) 17 final)

gauges, efficient air conditioning systems, and tire inflation control systems) so that a set target of 120g/km of CO₂ is realized by 2012. By 2020, vehicles must comply with a value of 95g/km of CO₂.

All these requirements forced the industry to move towards the development of low and ultra-low emissions cars. However as indicated for example in the OECD report the full scale deployment and commercialisation of such technologies is hampered by at least three main problems: the high price of such vehicles, poor consumer acceptance and lack of recharging/refuelling stations.⁴ The availability of such infrastructure is not only a technical prerequisite for the functioning of alternative fuel vehicles, but also one of the most critical components for consumer acceptance.

New EU Directive on recharging /refuelling infrastructure

In order to tackle with above mentioned “missing infrastructure” problem the European Commission submitted in January 2013 a new *Directive proposal on the deployment of alternative fuels infrastructure*. This proposal set out requirements on establishing national policy frameworks for the market development of alternative fuels and on a minimum infrastructure build-up for alternative fuels, including the implementation of common technical specifications. After more than one year long and demanding negotiations between the Council and the European Parliament compromise version of this Proposal was established and this Directive will come in to force at the beginning of this summer.

This new Directive will require Member States to adopt a national policy framework (strategy) for the market development of alternative fuels in the transport sector that will assess the state and future development of the market of alternative fuels, set out national targets and objectives for the deployment of some kind of alternative fuels infrastructure till 2020-2025 (recharging point for electric motor vehicles/ships and refueling points for CNG/LNG motor vehicles/ships) and also contain measures necessary to ensure that these national targets and the objectives are reached.

Contrary to the original Commission proposal the Directive does not include concrete numbers of recharging point to be implemented till 2020 in each EU Member State but left decision on these numbers to Member States that could establish their national targets and objectives on the basis of an assessment of national, regional or Union-wide demand. There is only indicative assumption that number of recharging points should be equivalent to at least one recharging point per 10 electric cars estimated to be registered in 2020. Similarly to that case the Directive does not set out binding provisions on minimum distances between CNG/LNG refueling points for motor vehicle but only indicative one. Average distance between refueling points should be 150 km (for CNG) and 400 km (for LNG).

From the Czech Republic point of view this approach is very logical as it is fully in line with the market-based principle. Experiences from some countries clearly show that development of adequate level of infrastructure for alternative fuels is not the only precondition for large scale deployment and commercialisation of vehicles on alternative fuels and that building up a hundreds or even thousands of refueling points should not as such ensure more electric cars on our streets. One should therefore not be extreme optimist without taking into account reality on the market and current stage of technological development.

How can clean mobility be supported – best practices from some countries

On the other hand no one should argue that there is some space for national/regional authorities to take regulatory, administrative or even fiscal measures that can make alternative fuels more attractive for consumers. There are some European countries like Germany,

⁴ Source: OECD, 2012, Market Development for Green Cars.

France, Great Britain, Spain or Italy that had already made quite substantial progress in this respect.

Probably the most proactive European country in particular supporting the electromobility is Germany. Since 2009 there has been a governmental project called „*Nationale Plattform Elektromobilität*“ involving policy makers and representatives from industry, scientific institutions and trade unions. According to the German government strategy, till 2020 there should be 1 million electric cars on the streets. The stress of this strategy is put on support of technological development and research. Between 2009 – 2011 more than 500 million € were invested in this area. Besides this there are also tax incentives for owners of new electric cars. For people buying electric car till 2015 there is a 10 years valid exemption for payment of the road tax.

Similarly ambitious is France. The goal of the French government is to have on streets between 1 to 3 millions electric cars till 2020. Contrary to German strategy France decided to directly support purchase of electric cars applying so called “bonus – malus” system. It function in such way that a person buying a car obtain cheque of amount 5 000 € that can be used in case of purchase vehicle with CO₂ emissions between 20 to 50g/km.⁵

The bonus - malus system is temporarily (till the end of this year) applicable also in Austria when purchasers can obtain 300 € if buying a car with CO₂ emissions less than 120g/km. Some sort of the direct incentives for buying car on alternative fuels is used also by several regional governments in Spain.

In Great Britain the strategy „*Low carbon transport: A greener future*“ was adopted in 2009 with the aim to ensure 1.7 million electric cars till 2020. Inter-governmental working platform „Office for Low Emission Vehicles“(OLEV) was established with the purpose to administer the budget of 460 millions € for the development and production of low emission cars. Purchasers of electric cars are motivated by tax incentives - exemption from the payment of road tax based on CO₂ emissions.

Situation in the Czech Republic

Although the Czech Republic does not belong in area of clean mobility to the “leading countries” certain actions have been undergone and some progress has been already achieved. In 2005 the Czech government adopted a programme for utilization of alternative fuels in transport area with the aim to replace till 2020 20-23% of oil based fuels by alternative fuels and with indicative target for share of CNG on energy consumption. According to this programme till 2020 CNG should represent 10% of total energy consumption. This programme also includes the task for Ministry of Finance to keep till 2020 the rate of the consumer taxes for LPG and CNG on minimum level permissible by EU Directives.

Recent numbers of registered cars fuelled by CNG shows that such programme brings some positive effects. While in 2011 there were only 290 newly registered cars fuelled by CNG, two years later this number was almost three times higher (822 new CNG fuelled registered cars).

Clean mobility in the Czech Transport Strategic documents

As it has been already mentioned above, the concept of clean mobility is an essential way how to make road transport more environmentally friendly and also less dependent on oil products. This fact is also reflected in *Transport Policy of the Czech Republic for 2014-2020* adopted by the Czech government in summer of last year as a top - level strategic document of the Czech government for the transport sector. This document for example emphasizes the need to

⁵ In case of purchase car with CO₂ emissions between 50 to 60g/km the bonus is 4 500 € and in case of hybrid vehicle emitting emissions not more than 110 g/km the bonus is 4 000 €

“reduce NOx, and other pollutants emissions from road transport by fleet replacement in the Czech Republic and by increasing the share of alternative propulsion” as well as the need *“to create conditions for equipping transport infrastructure with recharging and refuelling points for alternative energies”*. According to that document *“focus support should be mainly on the building of publicly accessible refuelling points for public transport in larger cities”*. The Czech Transport Policy also find as an important issue *“to examine in the future the possibilities for safe LNG transport from inshore terminals on inland waterways”*.

Clean mobility is also important from the perspective of the development of transport and especially road infrastructure in the Czech Republic. According to *Transport Sector Strategies*, a follow-up strategic document for implementation of the Transport Policy Objectives in area of transport infrastructure, there is an urgent need to *“complete construction of motorways and expressways as well as to adapt Class I roads to the needs of transport and protection of the environment”*. Priority should be given to *removal of bottleneck on the network and elimination of negative influences on the environment.*” Despite this explicit statement there was some criticism about such infrastructure strategy orientation. According to these voices there is a risk that development of new motorways and expressways could cause more cars on our roads. The fact is that SEA evaluation of this document clearly state that *“number of measures can have significant positive effects on the environment and human health”* (including measures on the road network aiming to divert traffic from built-up and densely populated areas). On the other hand this evaluation also emphasizes that *“it is necessary to prioritise proactive measures to reduce emissions from transport”*. From that perspective there is no surprise that also *Transport Sector Strategies* find important to *“support a private sector in the equipping of the infrastructure for alternative fuels and thus to support their faster putting into practice”*. Anyway more environmentally friendly road transport with more and more cars and lorries on alternative fuels on our road is the right respond on any concern concerning the development of road infrastructure.

Next steps in the Czech Republic

All above mentioned objectives and measures should be elaborated in more detail in the *National Action Plan for Clear Mobility* – other the follow-up strategic document for implementation of the Transport Policy. As this document is also expected to be an implementing document for the Czech State Energy Concept the preparation of this document is proceeding under the main responsibility of the Czech Ministry of the Industry and Trade while the Ministry of Transport as well as the Ministry of the Environment is also involved in this process.

In order to support development of recharging/refuelling infrastructure on alternative fuels Ministry of Transport of the Czech Republic is currently negotiating the way how to enable EU funds to achieve some progress in this area with the European Commission. Results of these negotiations as well as the final version of the *National Action Plan for Clear Mobility* should be known till the end of this year.

By 2015 the Czech Republic should hopefully go with a distinct vision of the clean mobility that would be comparable with similar visions and strategies of the developed western European countries and that might significantly contribute to the sustainability of our transport system.