DECARBONISING TRANSPORT BY 2050

Joint paper for an ambitious decarbonisation & electrification strategy for mobility

Maintaining global temperature increases to well below 2°C and pursuing efforts to limit it to 1.5°C require a decarbonization of the economy that represents one of Europe's biggest challenges. The EU has already shown its willingness to be a leader in this area, by being at the forefront of the Paris Agreement in 2015.

To meet that commitment, and to reduce health and environmental impacts, decarbonising transport while improving its energy efficiency will be key. Today, according to the European Environment Agency, transport is the largest emitting sector with more than a quarter of Europe's emissions[1]. It also heavily contributes to air and noise pollution in cities with strong financial impacts mainly due to related health costs and threatening human life[1a]. Meanwhile, the sector's emissions have continued to rise, by 27% between 1990 and 2016, despite constant technological efforts, and will continue increasing if no counter measure is taken.

As the European Commission is currently drafting its 'Strategy for long-term EU greenhouse gas emissions reductions' with a 2050 perspective, **the decarbonisation of the transport sector should be the subject of a detailed assessment in the European Commission's 2050 strategy**. All segments should be taken into consideration, since road transport will require a different strategy than railways, shipping and aviation due to differing technologies and demand patterns. The transport sector should be comprehensively examined, including its non-greenhouse gases pollutants emissions, as well as land use impacts and both final and primary energy consumption of different pathways. The scenarios should also consider the rapidly evolving costs of different technologies, as EV battery costs are falling continuously and expected to reach $100 per kWh on a pack level in the near future[2].

Most importantly, **electric mobility will be the key driver for the decarbonization of transport.** In the car sector, electric vehicle sales reached 4 million worldwide in 2018 and are expected to reach 5 million in early 2019[2]. In the meantime, many European cities are gearing up towards a fully electric public transport fleet and public charging stations[3]. 4 trains out of 5 are running on electricity and more than half of the rail lines are electrified[4], proving that transport growth and emission reductions can go hand in hand. Some challenges remain, such as the massive commercialization of electric vehicles, the deployment of charging infrastructure or the integration of electric vehicles into the electric system. However, Member States charging infrastructure development plans[5] are keeping pace with electric vehicles deployment and the development of innovative solutions such as smart charging will alleviate the pressure on the electricity system, better integrate renewable energy generation and focus on electric local demand management helping the EU to reach its Energy Union objectives.

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[1] When including international aviation and shipping. Source: European Environment Agency

[1a] ECA special report 23 /2018 "Air pollution: Our health still insufficiently protected" showed that every year, air pollution causes about 400,000 premature deaths in the EU

[2] Bloomberg New Energy Finance

[3] "Clean vehicles directive and the transition to zero emission buses", a Platform for Electromobility report

[4] EU Transport in Figures 2018 (2.5.3) and PRIME 2016 Benchmarking Report (slide 34)

[5] As defined in the National Policy Frameworks submitted by Member States in the framework of the Alternative Fuels Infrastructure Directive – see the Platform analysis "How EU Member States roll-out electric-mobility"

The Platform for Electro-mobility supports the European Commission decarbonisation strategy and calls on the Commission to:

- **Develop a sector-specific and comprehensive scenarios for the decarbonization of transport by 2050**, by focusing on each transport segment to take into account specific strategic stakes, and assessing (i) impact on air quality (including non-greenhouse gases pollutants), (ii) both the final and primary energy use of transport modes, (iii) the life-cycle impact of transport modes (impact on land use, water use or resource scarcity);
- Consider **the most recent technology costs and market data**;
- **Withdraw from the technology neutrality principle** when maturity and energy efficiency of a technology are demonstrated by the market (not just based on scenarios);
- Develop **a "zero emission mobility package"** putting forward an ambitious strategy for the decarbonisation of transport in line with the Paris Agreement and helping the implementation of the European Strategy for low-emission mobility[6]. **It should aim at a complete or virtually complete decarbonisation of the transport sector and include clear targets for electrification**, linked with the energy policy, creating an EU industrial market for electromobility.
- Adapt accordingly the next Multiannual Financial Framework and the related investment programmes, ensure an ambitious implementation of the Directives on Alternative Fuels Infrastructure and Energy Performance of Buildings and support the definition of an appropriate enabling framework through the Clean Vehicle Directive and the Electricity Market Design.

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[6] Communication on A European Strategy for Low-Emission Mobility (COM/2016/0501 final)