HyLAW

Horizontal Position Paper
Vehicles – Cars, Busses, Trucks
Supportive policies

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Table of contents

1. Introduction and Summary

Since 2014, greenhouse gas emissions from the EU-28 transport sector have been increasing. In 2016, transport (including aviation and shipping) contributed 27 % of total greenhouse gas emissions in the EU-28. Within this sector, road transport was responsible for almost 72 % of total greenhouse gas emissions. Of these emissions, 44 % were contributed by passenger cars, while 19 % came from heavy-duty vehicles[1].

Although the economy-wide greenhouse gas emissions reduction target for 2020 of 20% compared to 1990 levels looks likely to be met, further policy actions are needed to meet the 2030 target of 40% compared to 1990 levels. Moreover, emissions from transport need to fall by 67% by 2050 compared with 1990 levels, in order to meet the long-term 60 % greenhouse gas emission reduction target in this sector as set out in the 2011 Transport White Paper[2]. An interim target aims to reduce transport GHG emissions by 20% below their 2008 levels by 2030, which would still leave them 8% higher than in 1990.

At present, the EU policies that have the largest impact on decarbonisation of transport are CO2 standards for passenger cars and policies aimed at increasing the share of renewable energy sources in transport.

For purposes of achieving their climate policy goals in transport for 2020, the majority of EU Member States have adopted policies, national legislative acts and support schemes for stimulating the market of electric or zero-and low-emission vehicles. FCEVs are legally defined as electric driven vehicles or as zero (low) emission vehicles and could benefit to a certain extent from the financial and non-financial incentives provided for these types of vehicles.

Vehicles tax and registration fee reductions or exemptions are the most commonly implemented support measures, whereas the direct purchase grants, green public procurement and toll reductions or exemptions are not widely used support tools. Non-financial incentives like access to the bus lines and free or reduced fee parking in public parking spaces are provided at local level in several countries.

In order to accelerate the transition to net zero emission transport, the current policies have to be revamped and improved, targeting the efficiency of vehicles, the decarbonisation of fuels and the development of charging and refuelling infrastructure for zero-emission vehicles.

Hydrogen powered fuel cell electric vehicles (FCEVs) can contribute to meeting the EU medium- and long-term targets for reduction of greenhouse gas emissions and integration of renewable energies in transport sector. FCEVs emit no pollutants; the only by-product is water. At the same time, a fuel cell car can cover far greater distances per tank – typically 500 km, and could even reach up to 800 km – with a refuelling time equivalent to that of conventional petrol or diesel cars. A fuel cell electric bus running on green hydrogen can reduce the global warming potential by up to 85 % compared to an existing diesel bus.

In this context, it is important that the EU and Member States policies affecting the market deployment of zero- and low-emission vehicles ensure and promote a level playing field for all types of these vehicles incl. FCEVs and the corresponding infrastructure.

2. Overview of the legal framework

For achieving the goals for 20% cut in greenhouse gas emissions (from 1990 levels) and 20% renewables in total energy consumption in the EU by 2020, the European Union has adopted a number of legal acts in the energy and transport sectors. The most important of them aimed at creating framework conditions and support mechanisms for clean vehicles are the Alternative Fuel Infrastructure Directive 2014/94/EU (AFID)[3], the Clean Vehicle Directive 2009/33/EC[4] and Directive 2015/1513/EU (ILUC)[5].

AFID aims at developing a market for alternative vehicle powertrains, fuel technologies and infrastructure and mandates the Member States to grant direct or tax incentives for the purchase of private and public alternative fuel vehicles (AFVs) and for the building-up of the relevant infrastructure. Each Member State shall submit to the Commission a report on the

[1] https://www.eea.europa.eu/data-and-maps/indicators/transport-emissions-of-greenhouse-gases/transport-emissions-of-greenhouse-gases-11

[2] http://www.europarl.europa.eu/RegData/etudes/STUD/2017/601989/IPOL_STU(2017)601989_EN.pdf

[3] Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure

[4] Directive 2009/33/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles

[5] Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources

implementation of its national policy framework by 18 November 2019, and every three years thereafter. Those reports shall include inter alia information about the undertaken policy measures, such as:

- direct incentives for the purchase of AFVs or for building the infrastructure,
- availability of tax incentives to promote AFVs and the relevant infrastructure,
- use of public procurement in support of alternative fuels, including joint procurement,
- demand-side non-financial incentives, for example preferential access to restricted areas, parking policy and dedicated lanes.

AFID does not oblige Member States to build refuelling infrastructure for hydrogen vehicles, it is up to national policy makers to include hydrogen refuelling points in their national policy frameworks and promote hydrogen powered vehicles. At present, only 14 Member States[6] decided to develop refuelling infrastructure for hydrogen powered vehicles.

The Clean Vehicles Directive requires contracting authorities to invest in environmentally friendly vehicles and thus to promote and stimulate the market for clean and energy efficient vehicles. An evaluation carried out in 2015 showed that the results have been limited. Public bodies are on average not using public procurement well enough to boost the market uptake of clean vehicles. Furthermore, its scope is insufficient and a definition of clean vehicles is lacking. Provisions for vehicles purchase are either vague (technical specifications) or overly complex (monetisation of external effects).

In November 2017, the European Commission launched a package of proposals with the aim to reinforce EU's leadership in clean vehicles and to achieve the EU's commitments under the Paris Agreement for a binding domestic CO2 reduction of at least 40% till 2030.

As a part of its Clean Mobility Package, the EU Commission proposed a revision of the Clean Vehicle Directive[7]. It aims to promote clean mobility solutions in public procurement tenders (purchase, lease, rent or hire-purchase of road transport vehicles, and public service contracts on public passenger transport by road and rail) and thereby raise the demand for and the further deployment of clean vehicles. The proposal provides a definition for clean light-duty vehicles, based on a combined CO2 and air-pollutant emissions threshold and a definition for heavy-duty vehicles, based on alternative fuels.

The proposed revision should ensure that all relevant procurement practices are covered, clear, long-term market signals are provided, and provisions are simplified and effective. It sets out minimum targets for clean vehicle procurement by 2025 and by 2030 for each category of vehicles and each Member State.

One key element of the Clean Mobility Package is the proposal for new CO2 emission standards for passenger cars and light commercial vehicles (vans) in the European Union for the period after 2020[8]. The proposed targets are set for the EU-wide average emissions of new cars and vans in a given calendar year from 2025 on, with stricter targets applying from 2030. Average emissions of the EU fleet of new cars/vans in 2030 will have to be 35%/30% lower than in 2021. The proposed framework builds on the current Regulation[9] setting CO2 emission targets of 95g CO2/km for passenger cars and 147g CO2/km for light commercial vehicles for 2020/2021.

On 17 May 2018, as a part of its third Mobility Package, the European Commission presented a legislative proposal setting the first ever CO2 emission standards for heavy-duty vehicles in the EU[10]. The proposed targets aim to reduce average CO2 emissions from new heavy-duty vehicles belonging to the regulated categories by 15% in 2025 and 30% in 2030, both relative to a 2019 baseline. Buses, coaches and lorries will not be subject to the CO2 reduction requirements but should be taken into account for the purpose of the incentives given to zero- and low-emission vehicles in the regulated categories.

The both proposals, for light- and heavy-duty vehicles include support mechanisms targeted at manufacturers and aimed at incentivising the development and deployment on the Union market of zero- and low-emission light- and heavy-duty

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[6] Austria, Belgium, Bulgaria, the Czech Republic, Germany, Estonia, Spain, Finland, France, Hungary, Italy, the Netherlands, Sweden and the UK.

[7] Proposal for a Directive of the European Parliament and of the Council amending Directive 2009/33/EU on the promotion of clean and energy-efficient road transport vehicles COM (2017) 653

[8] Proposal for a Regulation of the European Parliament and of the Council setting emission performance standards for new passenger cars and for new light commercial vehicles as part of the Union's integrated approach to reduce CO2 emissions from light-duty vehicles and amending Regulation (EC) No 715/2007 (recast) COM (2017) 676

[9] Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information

[10] Proposal for a Regulation of the European Parliament and of the Council setting CO2 emission performance standards for new heavy-duty vehicles COM/2018/284 final

vehicles that would complement demand-side instruments, such as the Clean Vehicle Directive, in a technology-neutral way.

Another legislative act with importance for the deployment of FCEVs is the ILUC Directive which amended the legislation for biofuels (Renewable Energy Directive and Fuel Quality Directive) and recognised the renewable produced hydrogen as a renewable transport fuel of non-biological origin.

As Part of its Clean Energy Package, the EU Commission proposed in 2016 an update of the Renewable Energy Directive for the period 2021-20130 (RED II[11]). The final compromise document was agreed among EU Institutions on 14 June 2018. In addition to the new binding renewable energy target of at lest 32% of EU final consumption in 2030, one key change is the 14% target for renewable energy in transport by 2030.

RED II considers that renewable fuels of non-biological origin incl. hydrogen are important to increase the share of renewable energies in sectors that are expected to rely on liquid fuels on long term and reduce the greenhouse gas emissions, providing that the electricity used for the fuel production should be of renewable origin.

3. Conclusions

At present, there are no sufficient support mechanisms at national level to foster the market of FCEVs. The lack of complex and effective support measures is a significant barrier for widespread deployment of FCEVs.

In view of the EU bunding target for at least 40% reduction in greenhouse gas emissions by 2030 and the legislative proposals for 14% renewables in transport by 2030 and CO2 emission reductions of EU fleets of light- and heavy- duty vehicles by 2025 and 2030, new national, investment-friendly policies for clean mobility are needed.

Hydrogen powered vehicles have the potential to decrease drastically the CO2 emissions, reduce the dependency on imported fossil fuels and boost the use of renewable energies in transport sector. Therefore, it is important that the policies affecting the market deployment of FCEVs and related refuelling infrastructure as well as the use of hydrogen as a fuel ensure and promote a level playing field for all types of clean vehicles and fuels.

Regulatory stability and reliable support framework are key conditions for public authorities and industry to invest. Sustainable and targeted support mechanisms could accelerate the transition to clean vehicles and fuels, stimulate employment, foster innovations and competitiveness and thus reinforce the EU`s leadership in clean mobility.

The Member States have the flexibility to develop new or redesign the existing support measures to incentivize the uptake of zero- and low-emission vehicles in their national context. Such measures could be direct or indirect funding, tax and registration fee exemptions and reductions, zero VAT, energy taxation based on CO2 emissions, toll exemptions, special fees for parking and privileged access to environmental zones.

Currently, public procurement and captive fleets are considered to be the main drivers for strong market penetration of zero-and low- emission vehicles.

Public authorities, through their procurement policy, can establish and support markets for innovative technologies. Setting minimum targets for clean vehicle procurement by 2025 and by 2030 at Member State level should contribute to policy certainty for market players.

The implementation of FCEVs vehicles in large public fleets (e.g., bus fleets) could create the initial demand for hydrogen refuelling stations which is crucial for making FCEVs more popular among individual car users and private fleet managers. Private fleet operators could drive the uptake of FCEVs in captive vehicle fleets (utilities, taxis, postal operators or delivery companies) since technical or logistical problems of supplying vehicles with hydrogen fuel are easier to solve. Having a captive fleet can provide the critical mass to obtain better prices.

In addition, non-financial incentives, such as privileged access right in urban access restriction zones, are important to strengthen the public acceptance and positively influence the purchase decision of the potential users.

[11] Proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources COM (2016) 767

4. Recommendations

Consistent and long-term implementation at national level of the Alternative Fuels Infrastructure Directive for all types of alternative fuels including hydrogen and establishment of financial and non-financial incentives for the market uptake and deployment of alternative fuel vehicles and builing of related

Development of new supportive technology-neutral policies and regulations for zero - and low-emission vehicles ensuring a level playing field between FCEVs and BEVs

Determination of higher minimum procurement targets for zero- and low-emission light- and heavy-duty vehicles for public bodies

Initiation of legislative changes abolishing the toll-charges for zero-and low- emission heavy- duty vehicles and increasing the toll charges for high-emission heavy-duty vehicles

Favouring the circulation of zero-emission vehicles in city centres (by general prohibition of entry for high-emission vehicles or introduction of a city toll)