HyLAW

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

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1. Introduction and Summary

Since 2013, greenhouse gas emissions from the EU transport sector have been increasing. In 2015, transport contributed 25.8% of total greenhouse gas emissions in the EU. Within this sector, road transport was responsible for almost 73% of total greenhouse gas emissions from transport. Of these emissions, 44.5% were contributed by passenger cars, while 18.8% came from heavy-duty vehicles.

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 as set out in the 2011 Transport White Paper. 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. To decarbonise the transport sector further, the existing policies have to be strengthened, 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 towards achieving the EU medium- and long-term targets for reduction of greenhouse gas emissions in transport sector and can integrate renewable energies in transport. 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 at currently 500 km and could even reach up to 800 km in the near future 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. In the long-term, climate targets can only be met if light-duty vehicles become nearly zero emission.

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

The support measures mainly consist of tax and registration fee reductions and exemptions, purchase grants and green or white certificates are less commonly used support tools. The Toll charges exemptions are in place only in a few countries. The public procurement rules for acquisition of low emission vehicles are also not a widespread used support instrument. In several countries, the local authorities may provide privileges for FCEVs such as access to bus lines and free/reduced parking in public parking spaces.

The existing support mechanisms are fragmented and mainly aimed at battery electric cars.

The lack of complex, appropriate and technology neutral support measures is a significant barrier for widespread market deployment of the FCEVs.

Therefore, revamped and modernised policies are needed, establishing long term and reliable support mechanisms for all environmental-friendly vehicles (including FCEVs), avoiding and reducing the CO2 emissions in the transport sector.

New specific procurement rules, demanding more stringent decarbonisation targets for public transport and for fleets of authorities and communal companies and open to all types of clean technologies, will give a strong push for hydrogen mobility deployment.

2. Overview of the legal framework

For achieving the goals for 2020 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


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And the RED 2 is very close to adoption. I think both are worth to be mentioned in this paragraph and referenced, since they will be the reference documents going forward.

Commented [AF2]: NEXO has 806km range and is now available on the market.

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Commented [AF5]: This is not a clear statement (you are not clear on how it will benefit from the financial and non-financial incentives)
Clean vehicles are the Alternative Fuel Infrastructure Directive 2014/94/EU (AFID)\(^1\) and the Clean Vehicle Directive 2009/33/EC\(^2\).

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 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 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\(^3\). 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\(^6\). 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 in 2030 will have to be 35%/30% lower than in 2021. The proposed framework builds on the current Regulation\(^4\) setting CO2 emission targets of 95g CO2/km for passenger cars and 147g CO2/km for light commercial vehicles for 2020-2021.

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6. 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
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. The proposed targets aim to reduce average CO2 emissions from new heavy-duty vehicles belonging to the regulated categories by 15% in 2023 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 vehicles that would complement demand-side instruments, such as the Clean Vehicle Directive, in a technology-neutral way.

### 3. Conclusions

Considering the EU binding target for achieving at least 40% reduction in greenhouse gas emissions (from 1990 levels) by 2030; the legislative proposal of the EU Commission, setting new CO2 emission standards for passenger cars and light commercial vehicles (vans) in the European Union for the period after 2020 and a new EU fleet target for 35%-30% emissions reduction in 2030 compared to the 2021 targets; the legislative proposal setting CO2 emissions standards for heavy-duty vehicles and an EU-wide fleet target for 30% emissions reduction in 2030 compared to 2019, and the proposed minimum targets for clean vehicles procurements by 2030, new national long-term policies for clean mobility are required for the period after 2020.

These policies shall incentivise the uptake of zero- and low-emission vehicles in a technology-neutral way and provide a clear signal and predictability for industry to invest, stimulate employment, foster innovations and competitiveness. In addition, they shall accelerate the deployment of zero- and low-emission vehicles and the development of fuel-efficient technologies and thus reinforce the EU’s leadership in clean energy and clean mobility.

Hydrogen powered vehicles, especially cars and busses can contribute for achieving the EU climate goals for limiting the global warming to well below 2°C and decarbonization of the transport sector. In this context, it is important that the current policies affecting the market deployment of FCEVs vehicles and the corresponding refuelling infrastructure will be either optimised, redesigned or extended to ensure that these zero-emission technologies operate under a policy regime that promotes a level playing field (versus the incumbents) for all modes of clean transportation.

The Member States who have not yet laid down plans for the building of hydrogen refuelling stations and promotion of hydrogen powered vehicles shall include objectives for their deployment in the national policy frameworks according to the Alternative Fuel Directive.

**The Member States** shall implement wide variety of support measures to incentivise the uptake of zero- and low-emission vehicles, including direct purchase grants, tax and registration fee exemptions and reductions, zero VAT, special fees for parking, speed limits, environmental zones, energy taxation based on CO2 emissions and road charging.

In addition, green public procurement policies favouring zero- and low-emission vehicles may be a significant and positive driver for vehicles sales. The implementation of zero-emission vehicles by public bodies creates the initial demand for refuelling stations which are pre-conditions for making FCEVs more popular among individual car users and private fleet managers.

The use of alternative fuel vehicles in captive vehicle fleets (utilities, taxis, postal operators or delivery companies) is another option to increase the share of FCEVs in the total vehicle fleet since technical or logistical problems of supplying vehicles with hydrogen fuel are easier to solve.

For heavy goods traffic the toll charge is a decisive cost factor. The use of low-emission trucks could be made more attractive by a significant toll charge reduction or total exemption, while the toll charges for trucks with high emission levels could be increased.

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Formulated as a recommendation rather than as wishful thinking.
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.

- 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-duty and heavy-duty vehicles for public bodies.

- Initiation of legislative changes for toll-charges reduction or exemption for zero- and low-emission heavy-duty vehicles.

- Restriction on the circulation of high polluting vehicles in the urban centres (through general prohibition or introducing a city centre toll).

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