
October 2022

Zürich 5 Coalition position on the proposed Revision of Regulation 2019/1242 setting CO₂ emission performance standards for new heavy-duty vehicles (HDV CO₂ standards)

The Zürich 5 Coalition (hereinafter ‘the Coalition’) is expressly committed to achieving the objectives of the Paris Agreement and supports the EU’s ambition to become the first climate neutral continent by 2050 through the Fit for 55 Package. The Coalition calls on EU policymakers to **acknowledge the benefits of biomethane in de-fossilizing road EU mobility.**

Around 70 % of EU freight is transported by road. Consisting of over 600,000 mostly small and medium-sized enterprises (SMEs) and employing almost 3 million people, the freight sector is one of the most important parts of the road transport sector. However, it is also one of the most polluting sectors: heavy-duty vehicles (HDVs)¹ are responsible for 27% of road transport CO₂ emissions and almost 5% of total EU greenhouse gas emissions.² It is estimated that these emissions will increase by 10 % in 2030 compared to 2010.³ Therefore, it is **key to de-fossilize this part of the road transport sector.**

The coming decade’s green transition will require an enormous effort for the approximately 7 million HDVs.⁴ Heavy-duty long-haul transport is technically hard to electrify, as it requires high-power engines able to cover long distances while carrying a heavy payload. Zero-emission technology is therefore developing at a much slower pace for HDVs compared to light vehicles such as cars. **Biomethane, when used as a transport fuel, can provide both a short and long-term solution and help the EU achieve its emission reduction goals.**

1 <https://www.iru.org/news-resources/newsroom/way-ahead-greener-europe>, IRU, 2022

2 [https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/628268/EPRS_BRI\(2018\)628268_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/628268/EPRS_BRI(2018)628268_EN.pdf), European Parliament, 2018

3 [Carbon dioxide emissions from Europe’s heavy-duty vehicles](#), European Environment Agency, 2020

4 <https://www.iru.org/news-resources/newsroom/way-ahead-greener-europe>, IRU, 2022

What is biomethane?

You can visit our [website](#) for more information

Biomethane is an energy source derived from (non-food competing agricultural, house(hold) or industrial) waste processed via anaerobic digestion. It has an inherent link to the circular economy (since it is the best way to recycle organic waste, to produce valuable renewable gas and biofertilizers and to turn waste into resources) and has a positive impact on overall GHG emissions reduction. Biomethane is a complementary way to produce sustainable energy equal to wind, solar and hydroelectric power and is used as a transport fuel as replacement for traditional fuels such as natural gas, gasoline, or diesel.

Biomethane is converted into bio-CNG by first upgrading the raw biogas by removing CO₂ and other pollutants. This way, the methane content is increased from ± 60% to 90% (or more, depending on the EU Member State) and has the exact characteristics as natural gas. During the second step, the biomethane is compressed to ± 250 bar (bio-CNG).

Given the characteristics of the HDV sector, the EU should focus on **increasing the use of renewable fuels such as biomethane in heavy-duty road transport**. It is in the EU's best interest to provide a technology-neutral legislative framework for achieving de-fossilization in this sector. If an approach similar to the one in the revision of the Regulation setting CO₂ emission performance standards for new cars and vans is taken - namely focusing on fleet renewal and electrification or premature technologies like hydrogen - more ambitious targets in 2035 and 2040 will prove to be rather unrealistic.

Promoting fleet renewal towards 100% zero-pipetail emission HDVs, and thereby its complete charging/refueling infrastructure, demands a significant material intensity. This conflicts with EU targets set out in The Circular Economy Action Plan.⁵ In the coming years, material scarcity of rare earth metals will likely drive up prices for electric batteries and infrastructure even further.

Besides that, the actual GHG reduction of EV and hydrogen for HDVs is not even proven. Figure 1 compares the well-to-wheel (WtW) emissions of all energy carriers for a 40-ton long-haul truck. According to the scientists⁶, an electric truck, with EU average electricity mix, emits 60% less GHG than a diesel truck on a WtW basis. In the case of hydrogen produced by electrolysis with the EU electric mix, because of the low conversion efficiencies, GHG emissions are so large that they offset the benefits of replacing fossil diesel. Bio-CNG is the energy carrier with the lowest GHG emissions for all investigated applications, with 97% reduction compared to diesel. Above all, biomethane is an affordable solution with existing infrastructure that keeps the transition feasible for all.

Therefore, the proposed revision of the Regulation 2019/1242 setting CO₂ emission performance standards for new heavy-duty vehicles ('CO₂ Standards') **should recognize the positive impact of alternative fuels, such as bio-CNG and -LNG, on the de-fossilization and GHG emission performance of HDVs**.

The Coalition therefore strongly urges the EU institutions to increase their efforts to stimulate the **uptake of biomethane**, as it is a **complementary and scalable⁷ solution that can effectively facilitate a sustainable transition**: it can utilize the current rolling fleet⁸ and existing fueling infrastructure. Combined with the practice of recycling of waste, it can make meaningful gains in reducing CO₂ emissions. While (partial) electrification and the further uptake of hydrogen are long-term viable options, they do not provide a concrete solution for the short to medium term: **biomethane can bridge the EU's ambitions with the reality of the EU road transport sector** in all market segments, including heavy-duty transport.

For the revision of the HDV CO₂ Standards Regulation, the Coalition proposes to:

1. Take a technology neutral approach in EU policy on transport emission reductions

A mere focus on electrification and hydrogen uptake does not provide a well-balanced solution to the challenges of the road transport sector.

Sustainable mobility should not be measured by the type of drive - battery, electric or biofuels - but by the actual greenhouse gas savings over the entire life cycle. **Only a technology neutral approach**, considering all technologies' costs and benefits, will realize a swift and fair de-fossilization of the road transport sector. The Coalition therefore strongly urges the European Commission to **abandon the current tailpipe**

⁵ Council approves conclusions on making the recovery circular and green (2020) [Council of the EU](#)

⁶ A. Well-to-wheel greenhouse gas emissions of heavy-duty transports: Influence of electricity carbon intensity. (2021). Gustafsson, M., Svensson, N., Eklund, M., Dahl Öberg, J., & Vehabovic, A. Transportation Research Part D: Transport and Environment, 93, 102757.

⁷ The biomethane sector alone will be able to reach 34 bcm of sustainable biomethane by 2030. The biogas and biomethane sectors combined can produce between an estimated 34-42 bcm (equivalent to 370 - 467 TWh) by 2030. Their joint potential for 2050 is estimated at 95 bcm (equivalent to 1,008 - 1,020 TWh). [EBA Annual Report 2020](#), See European Biogas Association.

⁸ Consisting of over 1 billion passenger cars and trucks on the European continent.

approach. Existing emission standards legislation takes such a ‘tank-to-wheel’ approach, only counting transport fuels’ emissions from the moment of refueling. However, in taking a ‘well-to-wheel’ (WtW) **approach**, counting the transport fuels’ emissions from the moment of producing the fuel/energy carrier, biomethane represents one of the absolute lowest GHG intensive routes. This is concluded in a Science for Policy report⁹ by the Joint Research Centre (JRC), the European Commission’s own science and knowledge service. With 100% biomethane, the WTW climate change impact is reduced by around 65% compared to fossil CNG or 70-75% compared to diesel, or 95% compared to either of them with system expansion.¹⁰

Should the new legislation take such a WtW approach, the Coalition also supports the extension of the scope of the regulation (as well as the incentive scheme) to include more types of heavy-duty vehicles, such as smaller trucks, buses, coaches and trailers.

2. Maintain ambitious targets in the emission reduction

The **current targets for 2025** (15% emission reduction) and 2030 (30% emission reduction) should be maintained given the slow-developing zero-emission technology for HDVs. The proposed introduction of **targets for 2035 and 2040** however, should be done rather ambitiously, but with an approach that takes into account the full life cycle of heavy-duty vehicles.

3. Provide incentives for vehicles fueled by biomethane

In the case where the proposed legislation does not take a WtW approach, **introducing a fuel crediting mechanism to consider the potential contribution of renewable and low carbon fuels** when determining manufacturers’ compliance with their targets will be **crucial to support** the positive impact alternative fuels can make in de-fossilizing the road transport sector.¹¹ However, such a system should revolve around a technology neutral approach, avoid an additional administrative burden on the road transport sector and related sectors, and always take into account secondary characteristics of the sector such as investment cycles and the time it takes to achieve a significant percentage of fleet renewal. The introduction of a carbon correction factor runs the risk of double counting the targets set out in RED II(I) and should therefore not be explored any further.

Additionally, amending the existing ZLEV incentive scheme should be considered. The category of zero- and low-emission vehicles (LEV), the first being lorries with no tailpipe CO₂ emissions and the second being lorries with a technically permissible maximum mass of more than 16t, with CO₂ emissions of less than half of the average CO₂ emissions of all vehicles in its group registered in the 2019 reporting period, should be defined on the basis of a well-to-wheel approach instead of a tailpipe approach to reflect the overall life cycle impact of the vehicles.

Closing remarks

Allowing HDV manufactures to continue the production of biomethane-fuelled vehicles will increase the demand for biomethane, further realizing its potential in de-fossilizing the road transport sector¹², allowing for an affordable transition and circular economy. It makes the maintenance of existing and new infrastructure economically viable. The Coalition is looking forward to further engaging with the European institutions on this subject, leading up to the publication of the legislative proposal on 30 November 2022, and to provide additional research and information to clarify its position.

⁹ JEC Well-To-Wheels report v5, Joint Research Centre (2020)

¹⁰ [Well-to-wheel climate performance of gas and electric vehicles in Europe](#), Gustafsson et al., 2021 Gustafsson M., Svensson N., Eklund M., Müller B.F, Transp. Res. D, 97 (2021), Article 102911, 10.1016/j.trd.2021.102911

¹¹ The EU truck market is dominated by six manufacturers that together hold an 88 % market share (Daimler Trucks, MAN Truck and Bus, Volvo Trucks, Scania, DAF (Paccar Group) and Iveco).

¹² [In the Fast Lane with Biomethane in Transport](#), European Biogas Association and NGVA Europe (2020).