

**Report**  
**on alternative fuels infrastructure in Latvia**  
*(pursuant to Article 10 of Directive No.2014/94/EU*  
*of 22 October 2014 on the deployment of alternative fuels infrastructure)*

Riga, 2019

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## **I**

### **Overview of the requirements established by Directive 2014/94/EU**

To minimize dependence of transport on oil and to reduce the environmental impact of transport, Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure (hereinafter "Directive 2014/94/EU") provides for a single measure system for development of alternative fuel infrastructure as well as common technical specifications, incl. for electric vehicle recharging stations, natural gas (LNG, CNG) filling stations and hydrogen filling stations.

In accordance with the requirements of Directive 2014/94/EU, Member States: shall

1. by 31 December 2020, establish an adequate number of publicly accessible recharging points to ensure that electric vehicles (hereinafter "EV") can circulate at least in urban/suburban agglomerations and other densely populated areas;

2. By 31 December 2025, establish additional EV recharging points at least on the TEN-T core network, urban/suburban agglomerations and other densely populated areas;

3. assess shore power supplies for inland waterway vessels and seagoing vessels in sea and inland ports;

4. By 31 December 2020, establish an adequate number of publicly accessible fuelling points to ensure that CNG vehicles can circulate in urban/suburban agglomerations and other densely populated areas and, where appropriate, on networks designated by Member States;

5. By 31 December 2025, establish an adequate number of publicly accessible CNG fuelling points at least in the existing TEN-T core network in order to ensure that CNG vehicles can circulate throughout the European Union (hereinafter "EU");

6. By 31 December 2025, establish an adequate number of LNG fuelling points in seaports to ensure the circulation of LNG inland waterway vessels or seagoing vessels throughout the TEN-T core network;

7. By 31 December 2025, establish an adequate number of publicly accessible LNG fuelling points in the existing TEN-T core network at least to ensure that LNG-powered heavy-duty vehicles can circulate throughout the EU on demand unless costs are disproportionate in relation to the benefits, including environmental benefits.

## **II**

### **Current situation in the area of alternative fuels in Latvia**

"Alternative Fuels Development Plan 2017-2020" (hereinafter "Alternative Fuels Development Plan") has been developed by the Cabinet Resolution No. 202 to reduce the negative environmental impact of transport and to transpose the requirements of Directive 2014/94/EU on the deployment of alternative fuels infrastructure. The Plan is in line with objectives and tasks towards reduction of negative environmental impacts and promoting sustainable development set out by the Latvian National Development Plan 2014-2020, the Sustainable Development Strategy of Latvia till 2030, the Environmental Policy Guidelines

2014-2020, the Energy Development Guidelines 2016-2020 as well as the Transport Development Guidelines 2014-2020, and in line with the objectives set out in the Roadmap to a Single European Transport Area - towards a competitive and resource efficient transport system.

Based on Activity 1.1 of the Plan - to carry out an extensive study on alternative fuels implementation scenarios for reduction of greenhouse gas emissions in road transport and its impact on Latvian economy, the Ministry of Transport conducted "Study on Scenarios for Implementation of Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on alternative fuels for the road transport sector" (Ministry of Transport, 2018). The research is based on the application of infrastructure implementation scenarios for alternative fuels such as electricity, compressed natural gas, liquefied natural gas, hydrogen, biofuels. The study identified the most effective alternative fuel infrastructure implementation scenario for the Latvian economy.<sup>1</sup>

Air pollution has been identified as a significant factor in human life expectancy. Greenhouse gases (GHG) trap heat from the earth's surface and prevent it from escaping into space, which in turn causes global warming. According to the research task, modelling and calculation of GHG emissions, a set of scenarios was developed, which resulted in the determination of the Optimal scenario for the implementation of alternative fuels.

#### Main conclusions:

- Developing CNG, LNG and biofuels as transitional technologies for reducing GHG emissions from road transport are the most efficient alternatives in terms of cost till 2035.
- Electric vehicle and biofuel scenarios are beneficial after 2035 and in the long term, both in terms of cost and GHG reduction.

Pursuant to Paragraph 3 of the Cabinet Order No. 202 of 25 April 2017 "On the Development Plan for Alternative Fuels for 2017-2020" (hereinafter "Draft Order"), which scheduled the preparation and submission by 1 July 2019 of an interim assessment of the impact of the plan, the Ministry of Transport prepared and submitted to the State Chancellery the interim assessment of the impact. The Ministry of Transport received and compiled information from the Ministry of Economy, Ministry of Finance and SJSC "Road Traffic Safety Directorate" on the implementation of the measures and the direct results included in the table of Chapter 2 "Objective of the plan and required activities". The evaluation of the implementation of the measures contained in the plan indicated that amendments to the plan were necessary.

On July 4, 2019, a draft order was announced at the meeting of State Secretaries. The purpose of the draft Cabinet Order is to make the necessary changes to include new measures that need to be implemented within a specific timeframe in order to achieve the goals set by the EU. When the plan was evaluated, the most cost-consuming measures were removed

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<sup>1</sup> <http://www.sam.gov.lv/sm/content/?cat=519>

from the plan and a compromise was sought between the different conclusions received in the opinions, as it was necessary to achieve an optimum scenario with minimal impact on the state budget. Following an inter-institutional meeting held on 10 October 2019 in the Ministry of Transport, the draft order was adjusted and sent for a 5-day electronic reconciliation. In the period from 11-15 November, the authorities involved had the opportunity to re-approve the draft order or to make new proposals and objections. The project is currently being revised so that it can be submitted to the Cabinet in early 2020.

**Electro-mobility** – to date, several measures to promote electro-mobility have been implemented in Latvia, focusing on encouraging the interest of electro-mobility, providing responses in the form of taxes, direct purchase subsidies and other measures. At the same time, the existing measures are not yet sufficient to ensure rapid increase in EVs in Latvia.

By the Cabinet Order No. 129 “On Electro-Mobility Development Plan 2014-2016” of 26 March 2014, the Electro-Mobility Development Plan 2014-2016 was approved which sets out specific support policies for its key elements, namely: Expanding EVs, building a network of recharging stations, supporting the development of innovative products, and educating the public and providing information on electro-mobility. An interim evaluation of this plan was carried out in July 2015, outlining the following results achieved by the measures to stimulate electro-mobility:

- EVs are assigned with special state registration plates as from January 1, 2016;
- EVs equipped with special-purpose national number plates are permitted to use public transport lanes as from 1 January 2016.

EVs owners enjoy the following tax relieves in Latvia:

- EVs are exempted from the tax on exploiting the transport vehicles;
- The tax on company cars is charged at a reduced tax rate of EUR 10.00 per month;
  - the EV first registration, the first registration of special purpose national registration plates, and the first set of these license plates are free of charge;
  - Free parking spaces have been created to support EV users, as well as the relieves of entry into paid areas have been established;
  - Free usage of EVs in the paid area of Jurmala municipality;
  - Free parking is available to EVs in parking lots managed by Riga Municipality company “Rigas satiksme”.

In accordance with the agreement of 11 April 2016 on the project No. 4.4.1.0/16/I/001 “Establishment of Electric Vehicle Recharging Infrastructure”, co-financed by the European Regional Development Fund (hereinafter "ERDF"), SJSC “Road Traffic Safety Directorate” (hereinafter "CSDD") is developing a network of recharging stations at the national level. As a result, since July 2018, CSDD has established a network of electric vehicle recharging stations consisting of 72 recharging stations located on major state roads (TEN-T roads) or in the immediate vicinity of them and in major settlements. The second phase of the project has

been launched in 2018, during which the procurement “Designing and Author Supervision of Electric Vehicle Recharging Station Installation Areas” has already been completed, and the preparation of construction plans on next 40 electric recharging station installation sites and the respective electrical connections shall begin in the near future. This is the situation at the moment, in accordance with the 29 August 2018 amendments of the agreement No. 4.4.1.0/16/I/001 "Establishment of Electric Vehicle Recharging Infrastructure" between CSDD and the Central Finance and Contracting Agency, the deadline for establishing a network of recharging stations has been extended to 31 December 2021. In the course of the ERDF co-financed project, up to 139 electric car recharging stations will be built by the end of 2021 in total, installing them on regional roads connecting TEN-T roads and in settlements with a population above 5000 inhabitants.

As of 1 October 2019, 756 electric vehicles in total were registered in Latvia. 98 electric vehicles have been registered during last three months, including 71 cars, 22 mopeds, 3 buses, 1 motorcycle and 1 quadricycle.

TYPE	01.10.2018	01.01.2019	01.04.2019	01.07.2019	01.10.2019
BUS	3	5	5	5	8
TRUCK	14	13	15	14	14
QUADRICYCLE	28	28	28	27	28
MOPED	64	64	73	86	108
MOTORCYCLE	6	6	7	8	9
CAR	405	442	470	518	589
<b>TOTAL</b>	<b>520</b>	<b>558</b>	<b>598</b>	<b>658</b>	<b>756</b>

<sup>2</sup>

Simplification of administrative procedures for the installation of those EV recharging points that are not publicly available is still under consideration. The deadline for this exercise is postponed until 31 December 2020, as the completion of this exercise directly depends on the adoption of the draft Transport Energy Law (hereinafter "TEL"). Currently, publicly available recharging stations are being developed by private capital too.

TEL, one of the most important regulatory enactments affecting the transport sector, has been submitted to the Parliament on 29 May 2018 (VSS-1216, TA-904) <http://tap.mk.gov.lv/lv/mk/tap/?pid=40441568> and referred to the responsible committee. Its adoption is subject to the procedures arising from national laws and regulations. This aspect has a direct impact on compliance with the conditions and deadlines set by Directive 2014/94/EU. In order to update the regulatory enactments on requirements for EV recharging stations and the station operators in accordance with the requirements of Directive 2014/94/EU, the Cabinet Regulations No. 78 “Requirements for Electric Vehicle Recharging, Natural Gas Filling, Hydrogen Filling, and Shore-Based Power Supplies” have been issued on 6 February 2018. These Regulations prescribe requirements for electric vehicle recharging, natural gas filling, hydrogen filling equipment and their installation, as well as technical specifications for shore-based power supply equipment. In order to have clear

<sup>2</sup> Source: National register of vehicles and drivers  
<http://e-transportis.org/index.php/statistika/33-elektro-transportlidzekli/215-par-2019-gada-1-ceturksni-registretajiem-elektrotransportlidzekliem>

information on the motor vehicles that can be recharged at the recharging points regularly, the SJSC "Road Traffic Safety Directorate" maintains a network of recharging stations. E-mobi is a national network of electric car recharging stations, which ensures the circulation of electric vehicles throughout Latvia. Web site <http://www.e-transport.org/index.php/features-mainmenu-47/team> provides for a map of recharging stations as well as various statistics.

**Natural gas** – Latvia's natural gas supply system is not directly connected to the systems of other EU Member States except for Lithuania and Estonia. However, since the Klaipeda LNG terminal has been opened, it is possible to receive natural gas not only from Russia but also from other countries as well. It should be admitted that until now the use of natural gas in the transport sector in Latvia has been rather underdeveloped, as until now there has been neither a national strategy nor support for the use of natural gas as a fuel in transport. As of 1 October 2019, there are 70 vehicles registered in Latvia that can use natural gas as a fuel, 157 vehicles that can use both petrol and natural gas, and 27 vehicles that can use natural gas and petroleum gas as a fuel. Currently there are two publicly available CNG filling stations in Latvia. One is located in Jekabpils, on the national highway A6 and it was opened on 16 May 2019. The second filling station is located at 102a Lubanas Street in Riga, which opened in December 2019. To further develop the CNG infrastructure, it is planned to open another CNG filling station by the end of January 2020.

There is one private CNG filling station in Latvia owned by AS "Gasol". Annex 1 to Directive 2014/94/EU requires Member States to take measures to support the construction of fuel infrastructure, which is not only a legal measure to facilitate the development of the sector, but also policy measures such as the availability of tax incentives to support vehicles using alternative fuels and the relevant infrastructure. Draft Order "Amendments to the Alternative Fuels Development Plan 2017-2020 provides for new measures that are in preparation, however, it is planned to set requirements to encourage the use of alternative fuel vehicles for taxi and commercial cars. This would be an advantage for passenger transport (taxis) of electric vehicles and natural gas vehicles. There are also plans to impose requirements in the public service sector, with restrictions on vehicles that use fossil fuels, such as city buses, city cars or suburban cars. It is also planned to carry out an assessment of possible solutions to ensure that excise tax relief is applied to natural gas used as a fuel in transport if biogas blends are added.

Tax policy guidelines for the period 2021-2025 will be launched soon, including excise and transport taxes. The tax policy guidelines are expected to be approved by mid-2020.<sup>3</sup> Concerning excise tax on transport and petroleum products and natural gas, one of the factors to consider in the assessment is the impact on carbon dioxide (CO<sub>2</sub>) emissions.

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<sup>3</sup> Pursuant to Article 5.1 of the Declaration of the Government Action Plan for the implementation of the activities of the Cabinet headed by Arturs Krišjānis Kariņš, approved by the Cabinet Order No.210, 7 May 2019, the Ministry of Finance in cooperation with government social and cooperation partners shall develop medium-term guidelines for the government tax policy by 31 May 2020.

According to statistics, the fuel used by EU bus fleets accounts for 97.2% of diesel and 2.8% of other fuels, with 2.8% of CNG and only 0.15% of electricity. As mentioned above, CNG is also developing in Latvia. For example, SIA “Jēkabpils autobusu parks” has received EU co-financing for the purchase of 7 CNG buses. The infrastructure of the CNG filling stations in Latvia is developing and the demand for CNG is just growing, but so far there has been insufficient state support for the successful development of this natural gas segment.

### III

#### **Current trends in the context of alternative fuels in Latvia**

Over 75% of total greenhouse gas emissions in Latvia are generated by the non-ETS sector, which includes transport, agriculture, light energy and waste management. In average, the transport sector generates ~ 30% of GHG emissions in non-ETS activities in Latvia. The main source of transport GHG emissions is the road transport ~ 93% and rail transport ~ 6%.

**Road transport** – Latvia has the fourth oldest road transport fleet in the EU, with an average age of registered vehicles of around 14 years, while the average age of vehicles in technical condition (those passed the technical test) is 13 years. 92% of the road transport fleet in Latvia consists of fossil fuel powered vehicles, which are the main source of GHG emissions.<sup>4</sup> Renewal of the road transport fleet, including the acquisition of environmentally friendly public transport vehicles is a positive trend observed every year. But this is not enough and this issue is one of the weak points in Latvia. In addition, there is a high risk in the near future that the vast majority of non-green cars will come from a number of countries where the road transport fleet replacement will be subsidized. This could significantly worsen Latvia's position and make the achievement of the set goals more difficult.

The first-time purchase of green vehicles tends to be more expensive than acquisition of traditional vehicles, and the limiting or replacing petrol or diesel vehicles is a time-consuming process. It should be noted that amendments were made to the Law on Vehicle Tax and Company Car Tax already in 2016, which provides for a gradual shift in the calculation of vehicle tax rate depending on the amount of carbon dioxide (CO<sub>2</sub>) emitted by a car. The use of this component in the tax calculation is essential to reduce carbon dioxide (CO<sub>2</sub>) emissions, as Latvia has one of the highest CO<sub>2</sub> emissions of newly registered cars. The aim is to create conditions that make the use of vehicles with high CO<sub>2</sub> emissions disadvantageous, while the use of vehicles with low CO<sub>2</sub> emissions is more financially beneficial. Such a change in the calculation of vehicle tax increases the efficiency of the vehicle and prompts the choice of more environmentally friendly vehicles with lower CO<sub>2</sub> emissions.

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<sup>4</sup> SJSC “Road Traffic Safety Directorate” statistics

**Air transport** – The Ministry of Transport in cooperation with VAS “Starptautiskā lidosta “Rīga (Riga International Airport) (hereinafter “Riga Airport”) has carried out an assessment of the necessity of introducing the power supply and the fuelling equipment for renewable jet fuel at Riga Airport in order to supply power to stationary aircraft. If frequently used aircraft stands are not equipped with fixed power supply points, mobile diesel generators are used to power the aircraft systems. However, the use of generators causes increased noise levels, air pollution and CO<sub>2</sub> emissions as well as increases the safety risks of transport traffic on the ramp. Because of this, most of the aircraft parking lots at Riga Airport that serve commercial passenger flights already have Fixed Power Units (FPUs), which provide power to aircraft systems during ground-handling services. These ports on platforms 1, 2 and 3 were installed within the framework of the project “Infrastructure Development of Riga International Airport” financed by EU funds in 2013-2015. In the future, Riga Airport will also provide the construction of fixed power supply connection points.

At the moment, the government has not yet set up a specific target level for the introduction of alternative fuels infrastructure for air transport in Latvia. At the same time, all obligations arising from the EU and international agreements and treaties are taken into account in the development of air transport in Latvia. There are still discussions going on concerning the air transport policies in the world and the introduction of an efficient system for the development of alternative fuels and the underlying infrastructure, taking into account the environmental objectives of ETS and CORSIA and their compatibility with aviation development trends. At present there are no specific data on the construction of an alternative fuel infrastructure.

**Maritime transport** – There is now a noticeable development in shipbuilding with engines using only LNG as a fuel, and there are also engines on the market, such as dual ship engines (diesel and gas) and engines using both diesel and gas simultaneously. Vessels with this type of engine may also have a demand for fuelling a vessel with LNG as a fuel. Measure 1.9 of the Alternative Fuels Development Plan requires an assessment of the necessity and economic feasibility of setting up LNG fuelling points in ports (in TEN-T core network). As the measure is due to be completed by December 31, 2020, the evaluation is under construction, so we will be in position to announce the number of LNG fuelling points after the evaluation. Similar situation is with the number of power supply points to be created, - this measure is also planned and is being under assessment, thus we will be able to provide more specific information on this number only after 31 December 2020.

There are no inland waterways in Latvia within the meaning of Directive 2014/94/EU. Reference to the technical standard for recharging point technical specifications – shore-based power supply for marine vessels (shore-based power supply for marine vessels, including design, installation and testing of systems, ensures the compliance with IEC /ISO/IEEE 80005-1 technical specifications) – is incorporated in Regulations No 6 of 6 February 2018 “Requirements for Electric Vehicle Recharging, Natural Gas Filling, Hydrogen Filling, and Shore-Based Power Supplies”.

**Railways** – the second largest source of transport GHG emissions in Latvia. In order to ensure a competitive and environmentally friendly TEN-T rail network, and increasing its safety, quality and capacity, it is necessary to support the development of the infrastructure needed for sustainable rail transport, namely new railway infrastructure: planned electrification of the existing sections of the existing rail network (1520mm), and the construction of the European standard gauge rail line Rail Baltica. It should thus be concluded that the promotion of alternative fuels is just one (very important) of several sets of measures aimed at reducing GHG emissions in the transport sector.

The Transport Development Guidelines 2014-2020 (hereinafter "TDG") highlighted the railway electrification (an important factor of transport sustainability) as a priority till 2020 which resulted in the electrification project of the Latvian railway network that has been launched with the aim of increasing the length of electrified railway lines by up to 30% and achieving the reduction of CO<sub>2</sub> emissions by rail freight transport by 20% compared to 2012. It is planned to complete the electrification of railway lines Daugavpils - Krustpils, Rēzekne - Krustpils and Krustpils - Riga by 2023. Procurement procedure started in 2018, the project implementation – design and construction works are planned in 2020-2023. This would not only result in a higher energy efficiency but also significantly reduce harmful emissions (some of the freight currently transported by road would be transported by rail, which is more energy efficient mode of transport), as well as the development of the Rail Baltic line. The electrification of the existing railway lines (wide gauge standard) by switching to 25kV AC will provide a reduction in GHG emissions from railways, reducing the negative environmental and climate impact of freight transport in particular.

One of the main socio-economic benefits of electrification of the Daugavpils - Krustpils, Rēzekne - Krustpils and Krustpils - Riga railway lines is the reduction of carbon dioxide (CO<sub>2</sub>) emissions, particularly from 225 126 tonnes of CO<sub>2</sub> in 2012 to 180 000 CO<sub>2</sub> t per year once the project is completed (the effect of the implementation of the project will be equivalent to an annual reduction of 45 126 tonnes of CO<sub>2</sub>).

#### IV

#### **Study of alternative fuel introduction scenarios**

In order to encourage companies and individuals to purchase alternative fuelled vehicles or to invest in infrastructure, periodic support measures need to be introduced, particularly focusing on CNG, LNG and biofuels until 2025, and on EVs and biofuel vehicles after 2025.

The EU's overarching goal is to reduce CO<sub>2</sub> emissions by promoting the use of 'green' energy in order to significantly increase the number of cars with the lowest emissions possible.

#### Main conclusions of the study:

1. Until 2035, it is more cost-efficient to develop natural gas (CNG, LNG) and biofuels as transitional technologies for reducing GHG emissions from road transport.

2. After 2035 and in the long term, scenarios involving the use of electric vehicles (EV) and biofuels are beneficial, both in terms of cost reduction and GHG emissions reduction. Infrastructure development needs to start before 2030.

3. The baseline scenario (without support mechanisms) entails a low share of alternative fuels, which does not meet the requirements of Directive 2014/94/EU and provides low GHG emission reductions.

4. The integrated optimum scenario (included in the study) complies with the Alternative Fuels Directive, is the most cost-efficient for the Latvian economy in terms of overall system costs and provides the largest reduction in GHG emissions.

## **VIII**

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