Clean Transport - Support to the Member States for the implementation of the Directive on the Deployment of Alternative Fuels Infrastructure

Fact Sheets on Alternative Fuels in Member States

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1 INTRODUCTION

In order to assess the current state of development of the market as regarding alternative fuels and the implementation of the Directive in each Member State, a questionnaire was prepared and delivered to all Member States to collect information and statistical data.

The questionnaires were composed of three sections:

- Infrastructure: this section is dedicated to the collection of information on the status of implementation of the Directive: Member States answered about the status of implementation of specific measures defined to foster the development of the alternative fuels in their country and about future plans for the development on the implementation of the directive.
- Vehicles: this section is dedicated to the collection of information on measures and policies already implemented or planned to foster the increase of the number of alternative vehicles in the Member States.
- Statistics: this section is dedicated to the data collection on alternative fuel infrastructures and vehicles currently available in the Member States.

Part of the results of this activity is reported in the following figures showing the interest of the different Member States in the development of alternative fuel infrastructures. The following figures, therefore, show in which Member State specific measures are already implement or are planned to be implemented.

Statistical Data **reported in the following tables have been provided by Member States through the questionnaires or have been collected on internet. When data were not provided by Member States the source is reported in the footnote.**

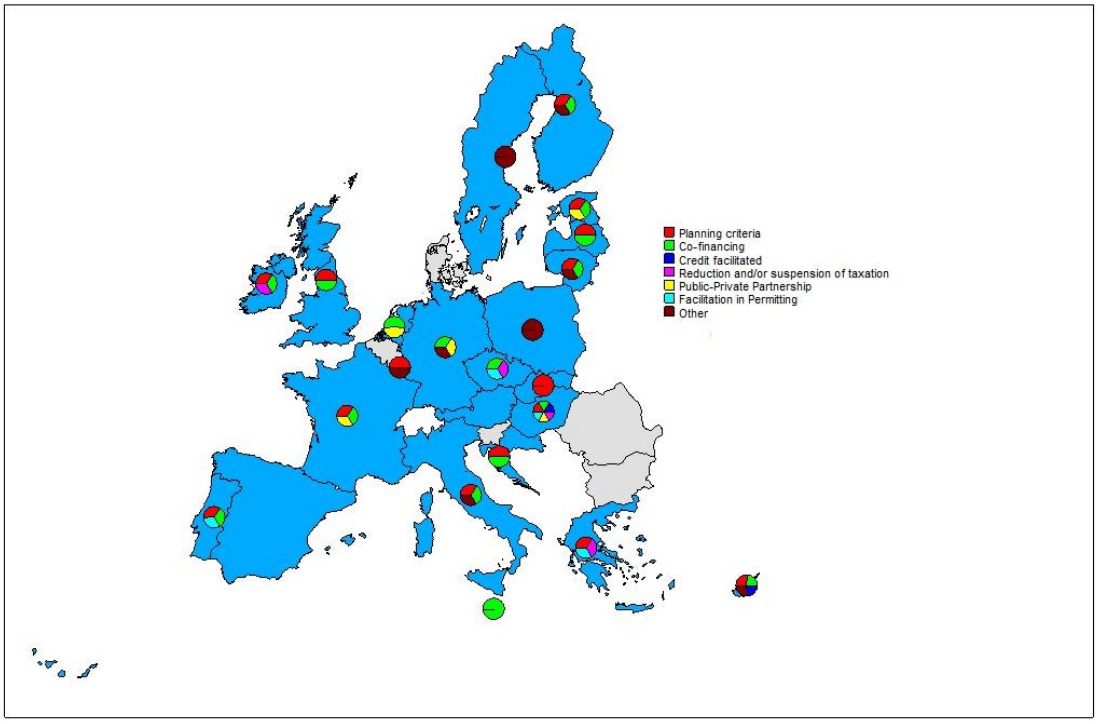

Figure 1.1: Member States Supporting the Development of Electricity as Alternative Fuel

The figure shows in blue the Member States in which measures for the development of infrastructure for electric vehicles are (planned to be) implemented. As shown in the figure, most of Member States have already implemented or have planned to implement strategies and measures to foster the deployment of the recharging infrastructure and electric vehicles in their countries. Most of measures are regarding planning (i.e. how many recharging points and where) and co-funded instruments to support the growth of the demand and supply.

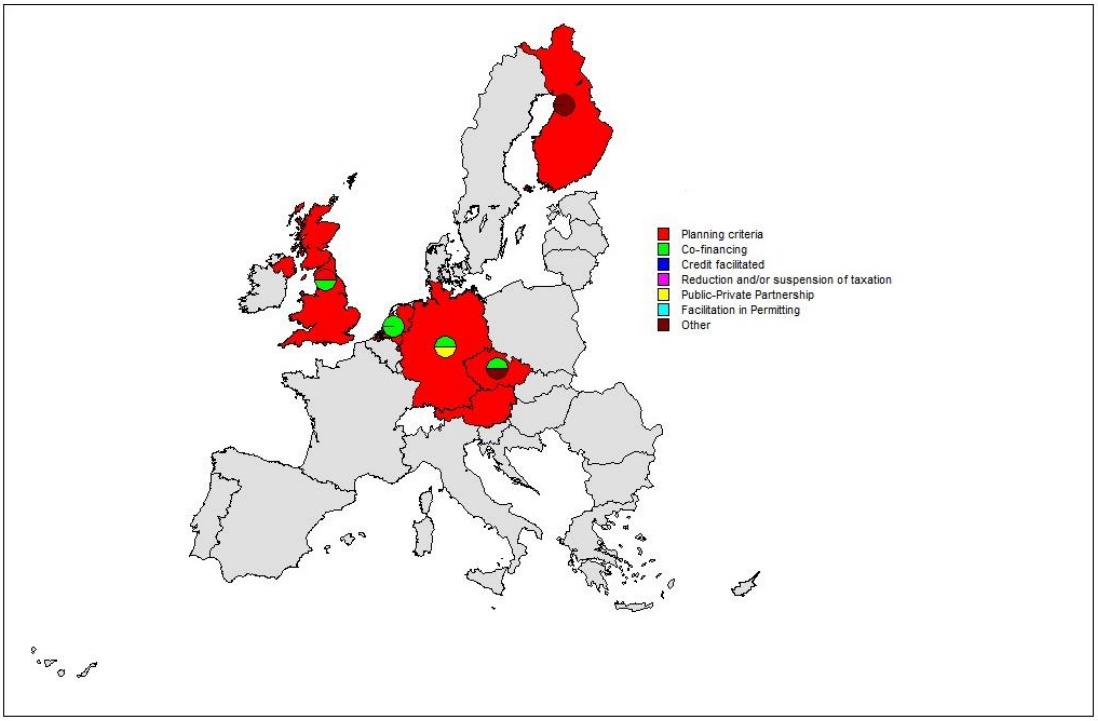

Figure 1.2: Member States Supporting the Development of Hydrogen as Alternative Fuel

The figure shows in red the Member States in which measures for the development of infrastructure for hydrogen vehicles are (planned to be) implemented. Hydrogen as alternative fuel for transport is not largely used in Europe and most of the examples of application are in the north of Europe.

Although some EU projects are currently in development in various Member States, not all the involved countries have already set up measures for the deployment of hydrogen in the transport sector.

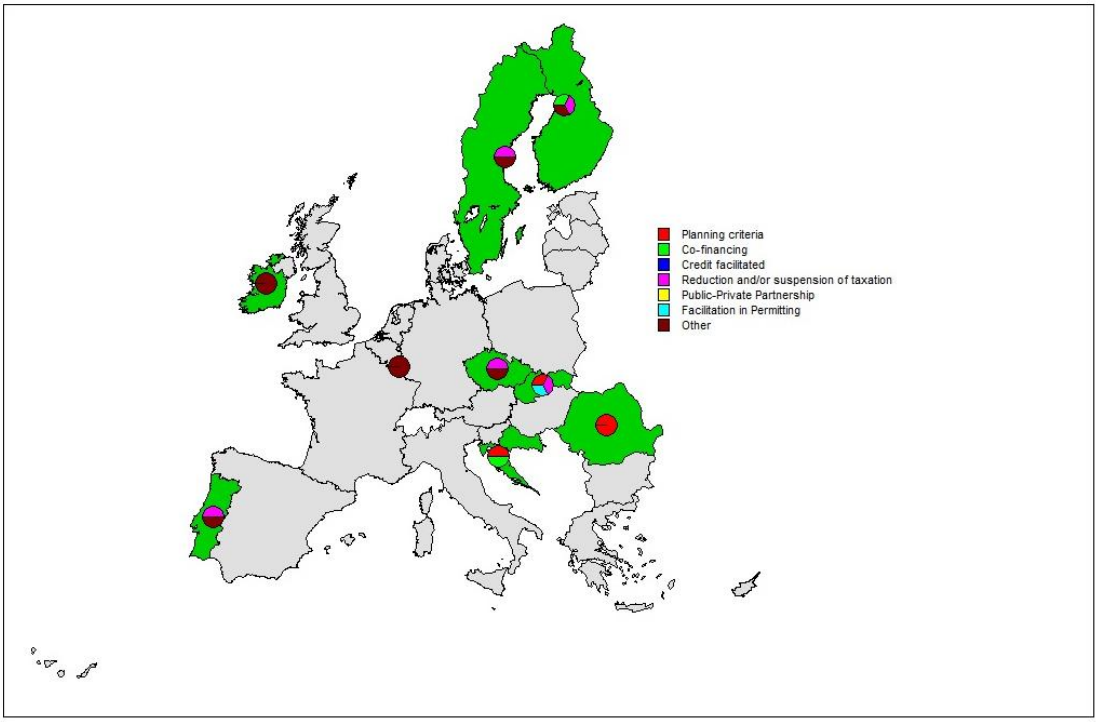

Figure 1.3: Member States supporting the Development of Biofuel as Alternative Fuel

The figure shows in green the Member States in which measures for the development of infrastructure for Biofuel vehicles are/are planned to be implemented.

Until 2012 blending mandates, supply obligations and financial incentives for alternative transport fuels facilitated rapid growth of the use of liquid biofuels in the EU following the introduction of indicative targets for biofuels and other renewable energy sources in the so-called "Biofuel Directive" (2003/30/EC) and the introduction of a legally binding 2020 target of 10% share of renewable energy sources in the transport sector in the Renewable Energy Directive (2009/28/EC) (European Commission, July 2015). However, in the last years, investment in biofuels, especially advanced biofuels, has dried up and the previous figure shows, indeed, that only few Member States have planned or have introduced supporting measures on the development of bio-fuels.

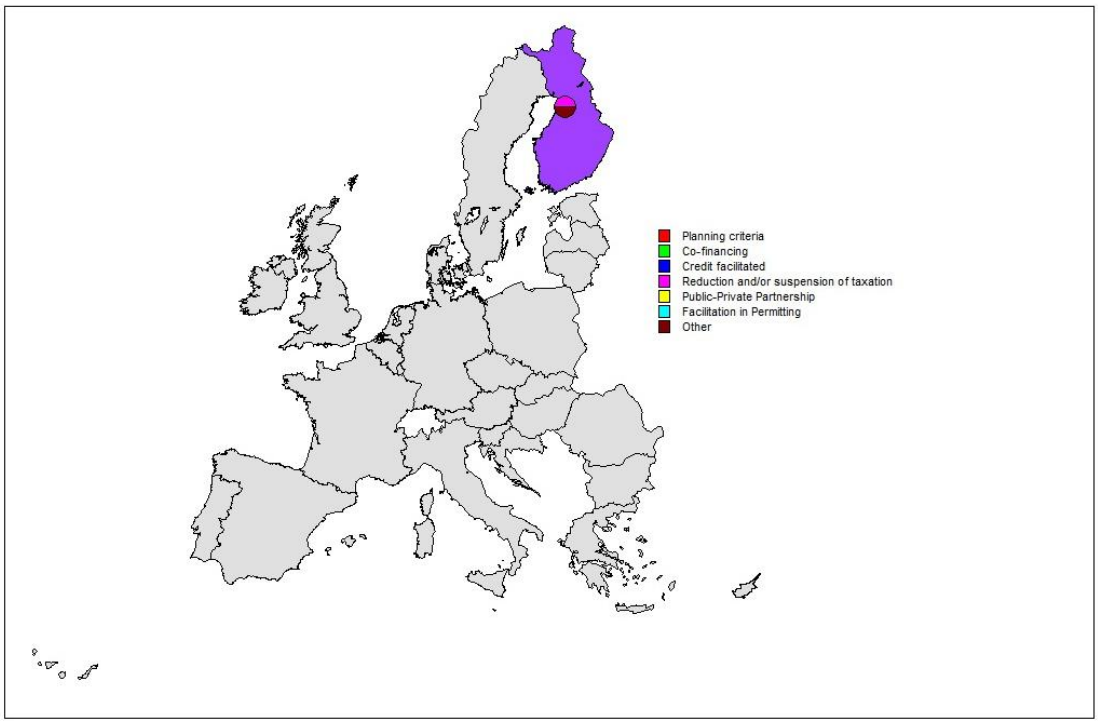

Figure 1.4: Member States Supporting the Development of Synthetic Fuels as Alternative Fuel

The figure shows in violet the Member States in which measures for the development of infrastructure for Synthetic fuels vehicles are (planned to be) implemented. As shown in the figure, only Finland is supporting the deployment of synthetic fuels.

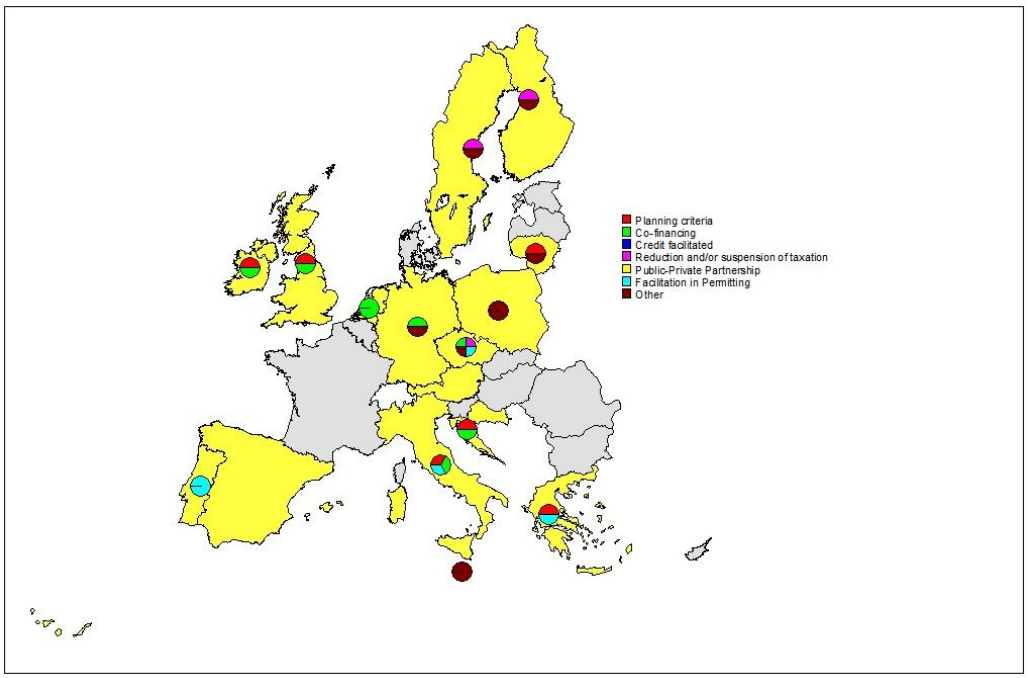

Figure 1.5: Member States Supporting the Development of CNG and LNG as Alternative Fuels

The figure shows in yellow the Member States in which measures for the development of infrastructure for CNG-LNG vehicles are (planned to be) implemented. As reported in previous paragraphs, the use of CNG and LNG in the transport sector is already implemented and many Member States have already planned to adopt measures to foster the deployment of the infrastructure. In some Member States specific measures and plans have been already set up.

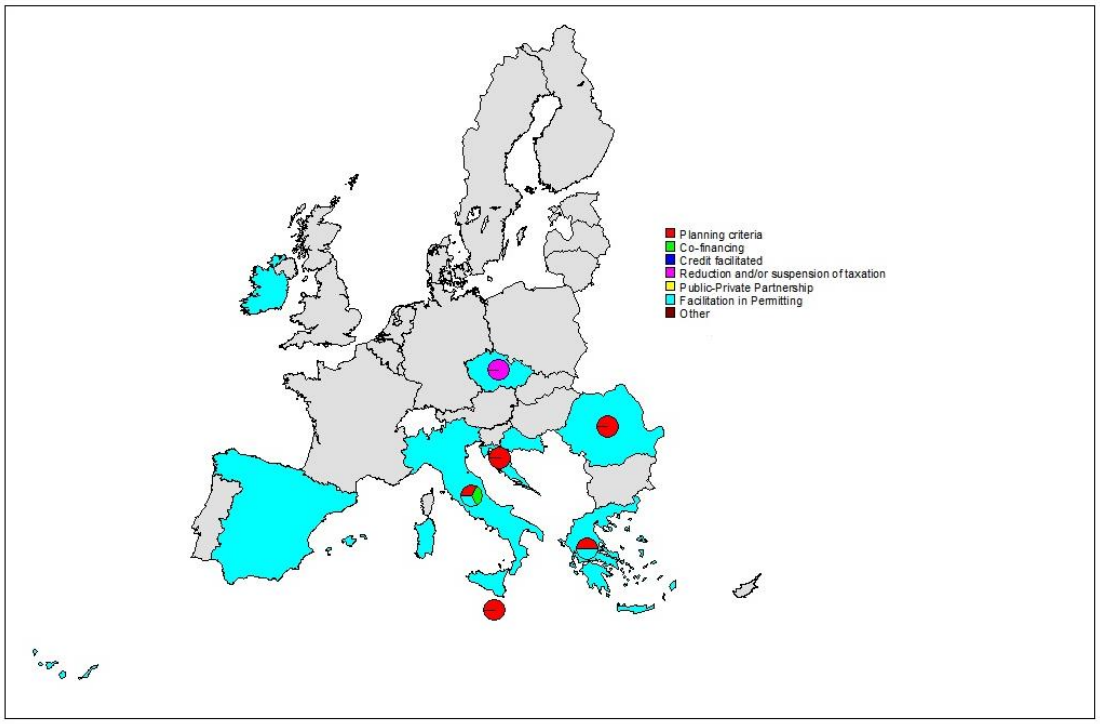

Figure 1.6: Member States Supporting the Development of LPG as Alternative Fuels

The figure shows in light blue the Member States in which measures for the development of infrastructure for LPG vehicles are/are planned to be implemented. As shown in the figure, most of the Member States supporting the use of LPG in the transport sector with the implementation of ad hoc measures are located on the Mediterranean.

2 AUSTRIA

2.1 STATISTICAL DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	In Austria there is no official register for charging infrastructure. There are different organizations, trying to give an overview on the charging situation in Austria. The data show huge uncertainty in terms of data quality. The service "e-tankstellenfinder.com" counts 1.782 accessible recharging points on normal power. 1.218 are normal socket-plugs and 90 Type 2 plugs[1]. The Austrian Mobility Provider "Smatrics" offers charging infrastructure to its customers. At the end of April 2015 87 recharging stations with mostly 2 charging points were established[2]. Another company is "Ella", a crowd-financed initiative. In their system there are 13 recharging stations with 30 recharging points available[3] . In international databases like "lemnet", there are 884 charging stations listed[4], "charge-now" counts 60 charging stations [5]. The "e-charging-roadmap" list by "Mehler Elektrotechnik" counts 102 charging stations[6]
Number of accessible recharging points (high power)	Most databases do not differentiate between normal charging and high power charging. "e-tankstellenfinder.com" lists **108** fast charging stations[7], **13** in the Smatrics system. The service "chargemap.com" estimates 65% of charging points for normal charging, 28% for high power charging and 7% for combined charging[8]
Number of refuelling points for LNG vehicles	no LNG refuelling points available
Number of refuelling point for LNG ships	no LNG refuelling points available
Number of refuelling point for CNG vehicles	176[9]
Number of refuelling points for LPG vehicles	Different services show different numbers. The service "clean vehicles" counts **15** LPG reuelling points[10], another service counts **31** LPG refueling stations[11]
Number of refuelling point for hydrogen vehicles	2 (Vienna & Innsbruck)
Number of ports with shore-side electricity	-
Number of airports with apron electrification service	-
Average number of public electric recharging points in urban areas	-
Average distance between public recharging points in urban areas	-
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	No data available

[1] https://e-tankstellen-finder.com/at/de/catalog/index/at/0, 27.05.2015
[2] http://smatrics.com/wo-wir-sind/, 27.05.2015
[3] http://www.ella.at/page.asp/-/73.htm, 27.05.2015
[4] http://lemnet.org/map/?hl=de, 27.05.2015
[5] https://www.chargenow.com/de_AT/home/find.html, 28.05.2015
[6] http://www.e-charging-roadmap.com/, 27.05.2015
[7] https://e-tankstellen-finder.com/at/de/catalog/index/at/0, 27.05.2015
[8] http://de.chargemap.com/, January 2015
[9] http://www.erdgasautos.at/tanken/tanken-in-oesterreich/, 27.05.2015
[10] http://www.cleanvehicle.eu/fileadmin/downloads/Austria/LPG%20Tankstellen.pdf, 27.05.215
[11] http://www.autogasvergleich.de/autogas-tankstellen/oesterreich.html, 27.05.2015

INFRASTRUCTURE DATA	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

VEHICLES DATA	
Number of road vehicles registered	**6.503.883 (excluding trailers - 30.04.2015)**[12]
Total number of light road vehicles (cars) registered	**4.715.806 (M1 - 30.04.2015)**[13]
Total number of heavy road vehicles registered (trucks)	**368.488 (N1)** **12.085 (N2)** **40.759 (N3)** **16.511 (truck tractors - Sattelzugfahrzeuge) (30.04.2015)**[14] Note: The vehicles mentioned are solely dedicated to the transport of the goods. There are more heavy road vehicles registered, but those have specific other functions (e.g. garbage trucks, fire trucks, etc.), which the statistics cannot further specify.
Total number of heavy road vehicles registered (bus)	**9.619 (M2 + M3 - 30.04.2015)**[15]
Statistics on public transport fleets	no data available
Total number of electric road vehicles registered	**3.873 (M1 - BEV)**[16] **4476 (M1)**[17]
Total number of hybrid road vehicles registered	**13.983 (M1), petrol/electricity - 13.245, diesel/electricity - 738**[18]
Total number of LPG road vehicles registered	**1 (M1) + 300 bivalent petrol/LPG vehicles**[19]
Total number of LNG road vehicles registered	-
Total number of CNG road vehicles registered	**2.440 (M1) + 2.053 bivalent petrol/CNG vehicles**[20]

[12] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015)
[13] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015
[14] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015
[15] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015
[16] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015
[17] EAFO, October 2015
[18] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015
[19] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015
[20] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015

Total number of hydrogen road vehicles registered	**4 (M1)**[21]
Total number of LNG vessel	-

2.2 ELECTRICITY

The Austrian Government has introduced some incentives for the purchase of electric vehicles such as the exemption from the fuel tax consumption and from the monthly vehicle tax.[22]

At the moment, the government has not set any EV target for the time horizon 2020.

2.3 HYDROGEN

Currently, in Austria there are 2 hydrogen refuelling stations in operation, namely:

- LBST Station Vienna: for passenger cars;
- HycentA Hydrogen Center: for passenger cars.

One more hydrogen refuelling station is planned to be constructed ("OMV Linz" for passenger cars) and another station is out of operation ("Solar Hydrogen Station" for passenger cars). This station was part of the HyLOG project and it is considered to be relocated to Fronius Thalheim since there plans for a new indoor station.

2.4 CNG

As for e-vehicles, even CNG cars benefit of some incentives. In particular, the Government has introduced a reduced tax on new cars called "Normverbrauchsabgabe" – NOVA, which is on consumption of fuel of the cars referring to EU norms.

In addition, a bonus of € 500 is offered when purchasing environmental friendly vehicles (deducted from net price before VAT). Other subsidies may differ from region to region and more details can be found at http://www.erdgasautos.at/ (website in German)

2.5 LNG FOR ROAD TRANSPORT

n.a.

2.6 LNG FOR WATERBORNE TRANSPORT

n.a.

2.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

2.8 BIOFUELS

In Austria there are several supporting schemes for renewable energy sources in transport. The most important one is a quota system, according to which

[21] http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=062059, 27.05.2015

[22] The incentives granted by local authorities are published by the Austrian automobile club ÖAMTC on its website (www.oeamtc.at/elektrofahrzeuge).

companies importing or producing petrol or diesel are obliged to ensure that biofuels make up a defined percentage of their annual fuel sales.

Furthermore, biofuels are supported through a fiscal regulation mechanism[23]:

- *Biofuels quota*: To ensure that biofuels make up a defined percentage of the annual fuel sales, there is a substitution obligation in force since 2005. From 2009, the substitution target amounts to 5.75 %, measured by the total fossil petrol or diesel introduced or used in the federal territory;
- *Tax regulation mechanism:* In Austria, petrol and diesel from a minimum content of 4.6 % resp. 6.6 % of biogenic material are subject to a lower mineral oil tax. Mineral oil solely from biogenic material and E85 are exempt from this tax.

Besides these supporting measures, there are some local initiatives. For example from 2005 all buses of the city of Graz are running with 100% BioDiesel FAME EN14214 produced from used frying oil. Furthermore, the city of Graz has developed a collection scheme for waste cooking oil from restaurants and households. This waste cooking oil is converted to Biodiesel[24].

[23] Legal sources on renewable energy: http://www.res-legal.eu/
[24] http://www.biofuel-cities.eu/index.php?id=6485

3 BELGIUM

3.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	1049 Publicly available and 1550 Private
Number of accessible recharging points (high power)	651 Publicly available and 387 Private
Number of refuelling points for LNG vehicles	3
Number of refuelling point for LNG ships	1
Number of refuelling point for CNG vehicles	26
Number of refuelling points for LPG vehicles	654
Number of refuelling point for hydrogen vehicles	3
Number of ports with shore-side electricity	Not available yet
Number of airports with apron electrification service	Not available yet
Average number of public electric recharging points in urban areas	Not available yet
Average distance between public recharging points in urban areas	Not available yet
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	Not available yet
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	Not available yet
Maximum distance between two recharging points for electric vehicles (suburban)	Not available yet
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	Not available yet
Maximum distance between two refuelling points for LNG vehicles (suburban)	Not available yet
Maximum distance between two refuelling points for LPG vehicles (suburban)	Not available yet
Maximum distance between two refuelling points for CNG vehicles (suburban)	Not available yet

VEHICLES DATA	
Number of road vehicles registered	6 396 720 (M1-3, N1-3 vehicles)
Total number of light road vehicles (cars) registered	5 572 573
Total number of heavy road vehicles registered (trucks)	149 979
Total number of heavy road vehicles registered (bus)	16 770
Statistics on public transport fleets	4693 (busses, contractors excluded)
Total number of electric road vehicles registered	2737 (M1-3, N1-3 vehicles)
Total number of hybrid road vehicles registered	33 097 (M1-3, N1-3 vehicles)
Total number of LPG road vehicles registered	31 076 (M1-3, N1-3 vehicles)
Total number of LNG road vehicles registered	1736 (M1-3, N1-3 vehicles)
Total number of CNG road vehicles registered	
Total number of hydrogen road vehicles registered	7 (M1-3, N1-3 vehicles)
Total number of LNG vessel	19

3.2 ELECTRICITY

The Government has established several targets to achieve by 2020, according to which the number of publicly available charging points will be between 35,000 and 130,000, with 1,000-4,000 high power charging points[25].

As far as regulatory instruments are concerned, in Belgium companies and regions try to promote harmonisation and interoperability by means of the following supporting measures[26]:

- Internal agreement of companies in Living Labs on the use of the so-called "MOBI" card, allowing for charging EV's , car- and bike-sharing as well as use of public transport;
- Participation of a limited number of companies in the Treaty of Vaals;
- Decision on Living Labs to use MODE3 IEC62196-2 Type2 2m plug for public charging in Flanders.

Charging infrastructure is currently supported by several policy measures. In particular, as regards the federal level, there is a 40% tax reduction of purchase value, up to a maximum amount of € 250 for charging post on accessible place. At regional level, the most incentives are provided in Flanders since there is financial support for charging infrastructure in the framework of the Flemish Living Labs –Electric Vehicles[27][28].

Several programmes have been launched by Belgian authorities in order to develop the infrastructures for alternative fuels' public charging. The Belgian Platform on Electric Vehicles (BPEV) was initiated in order to promote and

[25] Impact Assessment of the Legislative proposal on Alternative Fuels Infrastructure, Table 12.
[26] Presentation "Policies for Electromobility in the UK, Germany, France, Belgium, the Netherlands. Prepared by the European Electro-mobility Observatory, 2015. www.ev-observatory.eu
[27] Presentation "Policies for Electromobility in the UK, Germany, France, Belgium, the Netherlands. Prepared by the European Electro-mobility Observatory, 2015. www.ev-observatory.eu
[28] www.livinglab-ev.be

diffuse information on the electric vehicles[29]. It has already produced a certain number of reports which describe the aims of the BPEV in terms of public charging.

Other incentives which are put into place in Belgium are:

- Electric vehicles are exempt from registration tax in Flanders. They pay the lowest rate of tax under the annual circulation tax in all three regions;
- "Ecology premiums" are available in Flanders for companies investing in the purchase of pure electric, plug-in hybrid and extended range electric vehicles;
- The deductibility from corporate income of expenses related to the use of company cars is 120% for zero emissions vehicles and 100% for vehicles emitting between 1 and 60 g/km of CO 2. Above 60 g/km, the deductibility rate decreases gradually from 90% to 50%.

As for relevant projects, Belgium took part in in the TEN-T project "Greening European Transportation Infrastructure for Electric Vehicles"[30] which constituted the first step towards the mass deployment and availability of charging infrastructure for Electric Vehicles (EV) across the EU.

3.3 HYDROGEN

n.a.

3.4 CNG

n.a.

3.5 LNG FOR ROAD TRANSPORT

n.a.

3.6 LNG FOR WATERBORNE TRANSPORT

n.a.

3.7 LPG (LIQUEFIED PETROLEUM GAS)

For LPG there is an exemption from excise duties.

3.8 BIOFUELS

Blending obligation is the main supporting scheme for renewable energy sources used in transport. It obliges companies to satisfy a defined volume of sustainable biofuels within one calendar year.

More in detail, companies that sell petrol E5 or E10 or diesel oil need to satisfy a defined volume of sustainable biofuels within one calendar year. The following volumes apply:

- E5: 4% v/v;
- E10: 9% v/v

[29] http://www.ieahev.org/by-country/belgium/

[30] http://inea.ec.europa.eu/en/ten-t/ten-t_projects/ten-t_projects_by_country/multi_country/2010-eu-91117-p.htm

- Diesel: 6% v/v.

Subject to the obligation are first and second generation biofuels. The blending of biofuels has to meet the requirements of the Belgian standards NBN EN 590 for diesel products and NBN EN 228 for petrol products.

Furthermore, biofuels are supported through tax regulations[31], according to the following mechanisms

- *Tax exemption for biofuels*: The Budget Act of the 10 June 2006 introduces a reduction of the excise rate for the rate of biofuels contained in petrol and diesel products and produced by production units authorised by the Belgian Government.
- *Excise exemption for rapeseed oil*: Biofuel from rapeseed oil produced by a natural or legal person who directly sells its production to the end consumer without intermediary can be exempted from excise duty.

[31] Legal sources on renewable energy: http://www.res-legal.eu/

4 BULGARIA

4.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	28
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	-
Number of refuelling point for LNG ships	-
Number of refuelling point for CNG vehicles	-
Number of refuelling points for LPG vehicles	331[32]
Number of refuelling point for hydrogen vehicles	0
Number of ports with shore-side electricity	-
Number of airports with apron electrification service	-
Average number of public electric recharging points in urban areas	-
Average distance between public recharging points in urban areas	-
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	5
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	-
Maximum distance between two recharging points for electric vehicles (suburban)	-
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	-
Maximum distance between two refuelling points for LNG vehicles (suburban)	-
Maximum distance between two refuelling points for LPG vehicles (suburban)	-
Maximum distance between two refuelling points for CNG vehicles (suburban)	-

[32] http://www.mylpg.eu/stations/bulgaria/list (confirmed stations at 20 December 2015)

VEHICLES DATA	
Number of road vehicles registered	3 661 849
Total number of light road vehicles (cars) registered	2 807 000[33]
Total number of heavy road vehicles registered (trucks)	331 763[34]
Total number of heavy road vehicles registered (bus)	23 289[35]
Statistics on public transport fleets	Only 1 bus with electric propulsion and two buses with hybrid propulsion
Total number of electric road vehicles registered	497
Total number of hybrid road vehicles registered	1031
Total number of LPG road vehicles registered	470 000
Total number of LNG road vehicles registered	-
Total number of CNG road vehicles registered	-
Total number of hydrogen road vehicles registered	0
Total number of LNG vessel	-

4.2 ELECTRICITY

The recent growth of electric vehicles in Bulgaria has been supported by government incentives such as tax exemption of 100%, free charging at public stations and free parking for the owners[36].

The Bulgarian government adopted a "National Action Plan for the promotion and uptake of green vehicles for 2012-2014"[37], which has introduced a preference for electric car owners – free parking in all cities, as well as the opportunity for those vehicles to use the bus lanes.

Additional stimulus for electric vehicle owners in Bulgaria has been proposed by ministers, like exemptions from value-added-tax, local tax and registration fees and also from the obligation of buying a vignette[38]. Other proposed measures include a state grant equal to 30% of the vehicle's value, exemption from traffic taxes, and parking fees[39].

According to a forecast of the Bulgarian Electric Vehicles Industrial Cluster (EVIC) presented by the Bulgarian Industrial Association, at least 200,000 electric vehicles will be on Bulgarian roads by 2025.

For this reason, the priorities for the Government are mainly related to expanding the charging infrastructure.

4.3 HYDROGEN

n.a.

[33] http://ec.europa.eu/eurostat/web/transport/data/database (year 2014)
[34] http://ec.europa.eu/eurostat/web/transport/data/database (year 2014)
[35] http://ec.europa.eu/eurostat/web/transport/data/database (year 2014)
[36] European Electro-mobility Observatory (EEO): http://ev-observatory.eu
[37] http://www.mi.government.bg/files/useruploads/files/vop/national_plan_el.mobiles.pdf
[38] Impact Assessment Study Concerning the Charging of Electric Vehicles, prepared for DG Enterprise & Industry by RPA
[39] http://www.novinite.com/articles/142504/Bulgaria+to+Have+200,000+Electric+Vehicles+by+2025#sthash.7r5jm40g.dpuf

4.4 CNG

n.a.

4.5 LNG FOR ROAD TRANSPORT

n.a.

4.6 LNG FOR WATERBORNE TRANSPORT

n.a.

4.7 LPG (LIQUEFIED PETROLEUM GAS)

LPG vehicles benefit from an exemption of excise duty.

4.8 BIOFUELS

Similar to other EU countries, in Bulgaria there are already some working measures for the promotion of bio-fuels, such as[40]:

- tax reductions for biofuels and other clean fuels – zero excise duty for biofuels and natural gas and reduced tax rates for the liquefied petroleum gas;
- a National Long term programme for biofuel utilization in the transport sector 2008-2020 was adopted on 15 November 2007[41]. It defines the national indicative targets for biofuels consumption as follows: 2008 – 2%, 2009 – 3.5%, 2010 – 5.75%, 2015 – 8%, 2020 – 10%;
- biofuel blends have enjoyed a reduction of the rate of excise duty from 24 November 2009. These reduced rates were valid for 2 years. Pure biodiesel is fully exempt from the excise duty on motor fuels (Ministry of Economy, Energy and Tourism)[42].

However, for Bulgaria 2008 was the first year with a specific target for biofuels consumption in the transport sector and the usage of biofuels is still insignificant.

40 http://www.un.org/esa/dsd/dsd_aofw_ni/ni_pdfs/NationalReports/bulgaria/TRANSPORT.pdf

41 National long-term Programme to encourage the use of biomass for the period 2008-2020 (http://www.strategy.bg/FileHandler.ashx?fileId=1422)

42 Ministry of Economy, Energy and Tourism of the Republic of Bulgaria. Report of the achievement of the national indicative targets for the use of biofuels and other renewable fuels in the transport sector in 2009, Sofia (2010)

5 CROATIA

5.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	20
Number of accessible recharging points (high power)	1
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	3
Number of refuelling points for LPG vehicles	340
Number of refuelling point for hydrogen vehicles	0
Number of ports with shore-side electricity	5
Number of airports with apron electrification service	7
Average number of public electric recharging points in urban areas	N/A
Average distance between public recharging points in urban areas	N/A
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	N/A
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	N/A
Maximum distance between two recharging points for electric vehicles (suburban)	N/A
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	N/A
Maximum distance between two refuelling points for LNG vehicles (suburban)	N/A
Maximum distance between two refuelling points for LPG vehicles (suburban)	N/A
Maximum distance between two refuelling points for CNG vehicles (suburban)	N/A

VEHICLES DATA	
Number of road vehicles registered	2 209 806
Total number of light road vehicles (cars) registered	1 783 761
Total number of heavy road vehicles registered (trucks)	176 831
Total number of heavy road vehicles registered (bus)	6 017
Statistics on public transport fleets	N/A
Total number of electric road vehicles registered	436 (full electric and plug-in vehicles)
Total number of hybrid road vehicles registered	1382
Total number of LPG road vehicles registered	63 169
Total number of LNG road vehicles registered	0
Total number of CNG road vehicles registered	573 (full CNG and CNG hybrid vehicles)
Total number of hydrogen road vehicles registered	6
Total number of LNG vessel	0

5.2 ELECTRICITY

The following incentives are provided by the Government[43]:

- subsidy scheme for citizens and companies to purchase electric cars will continue into 2015. Some 15.5 million Croatian kuna (€ 2 million) has been invested in the scheme, which subsidised the cost of buying more than 440 vehicles so far in 2014;
- changes to vehicle registration dues: people registering clean vehicles will pay less than those buying new conventionally-fuelled cars.

5.3 HYDROGEN

n.a.

5.4 CNG

n.a.

5.5 LNG FOR ROAD TRANSPORT

n.a.

5.6 LNG FOR WATERBORNE TRANSPORT

The first LNG terminal of Croatia is expected to be built in the northern Adriatic and it is likely to be in operation 2016[44]. Croatia's two state-owned energy companies, power board HEP and gas transport operator Plinacro, formed the LNG Hrvatska consortium for the construction of the terminal.

5.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

5.8 BIOFUELS

The main promotion scheme in the field of RES-T is a biofuel quota obligation. Additionally, the state provides a subsidy for producers of biofuels as well as a tax regulation mechanism to encourage the usage of biofuels[45]:

- subsidies are awarded to producers of biofuels only. These are financed through a share of the excise duty revenue that all fuel traders are obliged to pay on fuel and diesel;
- The tax regulation mechanism sets the excise duty for biofuels to 0;
- The quota obligations sets the % share of biofuels on the fuel market for each year up to the year 2020 as defined in the national goals.

[43] http://www.eltis.org/content/croatia-extends-electric-car-subsidy
[44] http://www.reuters.com/article/2012/07/03/croatia-lng-project-idUSL6E8I36O620120703
[45] Legal sources on renewable energy: http://www.res-legal.eu/

6 CYPRUS

6.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	30
Number of accessible recharging points (high power)	0
Number of refuelling points for LNG vehicles	-
Number of refuelling point for LNG ships	-
Number of refuelling point for CNG vehicles	-
Number of refuelling points for LPG vehicles	-
Number of refuelling point for hydrogen vehicles	-
Number of ports with shore-side electricity	-
Number of airports with apron electrification service	-
Average number of public electric recharging points in urban areas	30
Average distance between public recharging points in urban areas	3 km
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	-
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	2 km
Maximum distance between two recharging points for electric vehicles (suburban)	-
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	-
Maximum distance between two refuelling points for LNG vehicles (suburban)	-
Maximum distance between two refuelling points for LPG vehicles (suburban)	-
Maximum distance between two refuelling points for CNG vehicles (suburban)	-

VEHICLES DATA	
Number of road vehicles registered	793 971
Total number of light road vehicles (cars) registered	663 841
Total number of heavy road vehicles registered (trucks)	19 942
Total number of heavy road vehicles registered (bus)	3929
Statistics on public transport fleets	900
Total number of electric road vehicles registered	97
Total number of hybrid road vehicles registered	2330
Total number of LPG road vehicles registered	-
Total number of LNG road vehicles registered	-
Total number of CNG road vehicles registered	-
Total number of hydrogen road vehicles registered	-
Total number of LNG vessel	-

6.2 ELECTRICITY

The Electric Authority of Cyprus installed 15 selected points, in public places covering the whole territory of Cyprus, with the objective of serving to the electric vehicle owners planning to drive their electric cars. To use the service, motorists shall obtain the so-called RFID card which is an access card available at any EAC customer service centre with a €25 fixed charge that will be added to the consumer's next electricity bill[46].

As target, the Republic of Cyprus aims to install 20,000 electric vehicle recharging points by 2020[47].

6.3 HYDROGEN

n.a.

6.4 CNG

n.a.

6.5 LNG FOR ROAD TRANSPORT

n.a.

6.6 LNG FOR WATERBORNE TRANSPORT

n.a.

6.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

6.8 BIOFUELS

In 2013, Cyprus started to set up an effective system for certifying its biofuel consumption. It is also preparing a law on biofuel and liquid biomass sustainability[48].

[46] https://www.eac.com.cy/EN/CustomerService/eCharge/Pages/default.aspx
[47] http://www.energy-cities.eu/Cyprus-to-install-20-000-e-vehicle-3884

The consumption of biofuel in Cyprus in 2013 was 15,907 tons, entirely ascribable to biodiesel[49].

[48] EurObserv'ER, Biofuels barometer 2014
[49] EurObserv'ER 2014

7 CZECH REPUBLIC

7.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	70
Number of accessible recharging points (high power)	12
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	91
Number of refuelling points for LPG vehicles	958
Number of refuelling point for hydrogen vehicles	1 This refuelling point is functioning primarly for research purpose (PILOT project of H2 Bus)
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	1 From all public airports only Prague Airport falls into this category
Average number of public electric recharging points in urban areas	0.12 recharging points per city This figure comes from following calculation: 75 (number of public recharging points for electric vehicles in urban areas)/ 602 (number of cities in CZ)
Average distance between public recharging points in urban areas	8km This number applies only for big cities (Prague, Brno and Ostrava) with more than 3 recharging points). In other cities/towns there are (if any) only one recharging point therefore measuring of the distances is not relevant
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	67 This figure does not take into account household recharging points
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	64 km
Maximum distance between two recharging points for electric vehicles (suburban)	190 km
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	NA
Maximum distance between two refuelling points for LNG vehicles (suburban)	NA
Maximum distance between two refuelling points for LPG vehicles (suburban)	cca 90 km
Maximum distance between two refuelling points for CNG vehicles (suburban)	105 km- When setting out national goal as regards an appropriate number of CNG refuelling points accessible to the public we worked with the density of all roads in CZ and divided this number by 75 km. Such presumption should ensure that from any geographic location in CZ requirement of 150 km would be fulfilled. For comparison we also used figures as regards existing numbers of CNG refuelling point in Germany (around 1 000). As the Czech Republic is in about 3 time smaller then Germany then we think that our national target with 200 refueling points till 2020 is pretty justifiable.

VEHICLES DATA	
Number of road vehicles registered	6 499 376[50]
Total number of light road vehicles (cars) registered	4 833 386[51]
Total number of heavy road vehicles registered (trucks)	608 711[52]
Total number of heavy road vehicles registered (bus)	19 808[53]
Statistics on public transport fleets	703 Trolley-buses, 1828 Trams, 646 Minibuses/buses/coaches on alternative fuels[54]
Total number of electric road vehicles registered	553[55]
Total number of hybrid road vehicles registered	1453[56]
Total number of LPG road vehicles registered	200 000[57]
Total number of LNG road vehicles registered	Information is not available
Total number of CNG road vehicles registered	9217[58]
Total number of hydrogen road vehicles registered	1 There is only one bus coming from the PILOT project of H2 Bus in Neratovice (for more information see http://trihybus.cz/homepage)
Total number of LNG vessel	0

7.2 ELECTRICITY

The policy measures supporting the deployment of electric vehicles can be divided in financial and non-financial measures/incentives.

The financial incentives are the following:

- an *una tantum* co-funding for purchase by authorities is provided,
- annual tax exemption for EV
- reduced electric costs for the owners of EV.

The non-financial incentives by contrast, include the following:

- free charging at public stations
- promotion of EV use by awareness campaigns.

7.3 HYDROGEN

n.a.

50 Official CZ statistic data (1.1.2015) provided by the MS

51 Official CZ statistic data (1.1.2015) provided by the MS

52 Official CZ statistic data (1.1.2015) provided by the MS

53 Official CZ statistic data (1.1.2015) provided by the MS

54 Official CZ statistic data (1.1.2015) provided by the MS. More concrete information concerning individual alternative fuels is not available

55 Unofficial statistic data (Czech Association of Car Importers) provided by the MS, based on number of new registered vehicles between 2010 - 2015

56 Unofficial statistic data (Czech Association of Car Importers) provided by the MS, based on number of new registered vehicles between 2010 - 2015

57 Unofficial estimate provided by the MS. The problem with more precise statistic is that from our vehicle register it is not possible to find out the information about LPG vehicles converted from the conventional vehicles.

58 Unofficial statistic data (Czech Gas Association - 2.Q/2015) included cars and vans (8625) and buses (592).

7.4 CNG

There is programme in place for the support of natural gas as alternative fuel in transport, which was approved by Resolution No. 563 of the Czech government on 11th May 2005. According to this, an obligatory agreement is made with gas construction companies to build 100 public filling stations by 2020. The gas construction companies shall also ensure the construction of filling stations for CNG along the main road transit directions through the country in 2 stages[59]. Among the direct incentives for CNG pump stations construction is the option to get subsidies from the EU Regional Operational Programmes (i.e. Hradec Kralove Region, Pardubice and Liberec region, Moravia-Silesian and Central Bohemian Region).

Standards for the construction of CNG filling stations were set through a legislative framework.

7.5 LNG FOR ROAD TRANSPORT

n.a.

7.6 LNG FOR WATERBORNE TRANSPORT

n.a.

7.7 LPG (LIQUEFIED PETROLEUM GAS)

Electric, hybrid and other alternative fuel vehicles (including LPG) are exempt from the road tax, but this measure applies to cars used for business purposes only.

7.8 BIOFUELS

The Czech government adopted the Multiannual Program of Additional Support of Sustainable Biofuels in Transportation in 2015–2020, which extends tax reliefs for biofuels produced in the Czech market[60].

There are different support schemes for the promotion of biofuels[61]:

- Tax regulation mechanism. In the Czech Republic, biofuels as well as the biofuel content of mixed fuels are exempt from consumption tax.
- Biofuels quota. In the Czech Republic, there is an obligatory biofuel share for petrol and diesel fuel introduced on the Czech market. A person introducing petrol or diesel fuel on to the Czech market for the purposes of transport is required to ensure that these fuels include the following minimum quantity of biofuel:
  - 4.1 % by volume for petrol (§ 19 par. 1 a Act No. 201/2012),
  - 6.0 % by volume for diesel (§ 19 par. 1 b Act No. 201/2012)

[59] http://www.cngplus.cz/o-cng/legislativa.html
[60] http://eagri.cz/public/web/mze/zivotni-prostredi/obnovitelne-zdroje-energie/biopaliva/vicelety-program-podpory-dalsiho-1.html
[61] Legal sources on renewable energy: http://www.res-legal.eu/

8 DENMARK

8.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	Total number of Stations: 906[62]
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	0[63]
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	7[64]
Number of refuelling points for LPG vehicles	5
Number of refuelling point for hydrogen vehicles	6[65]
Number of ports with shore-side electricity	-
Number of airports with apron electrification service	-
Average number of public electric recharging points in urban areas	-
Average distance between public recharging points in urban areas	-
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	-
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	-
Maximum distance between two recharging points for electric vehicles (suburban)	-
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	-
Maximum distance between two refuelling points for LNG vehicles (suburban)	-
Maximum distance between two refuelling points for LPG vehicles (suburban)	-
Maximum distance between two refuelling points for CNG vehicles (suburban)	-

62 EAFO – October 2015
63 http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at July 2014
64 http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at July 2014
65 Data for 2014 from Danish Electric Vehicle Alliance

VEHICLES DATA	
Number of road vehicles registered	
Total number of light road vehicles (cars) registered	2 329 578[66]
Total number of heavy road vehicles registered (trucks)	398 066 [67] (number of vans) 28 628[68] (number of lorries)
Total number of heavy road vehicles registered (bus)	13 408[69]
Statistics on public transport fleets	
Total number of electric road vehicles registered	5132[70]
Total number of hybrid road vehicles registered	PHEV: 265[71]
Total number of LPG road vehicles registered	80
Total number of LNG road vehicles registered	
Total number of CNG road vehicles registered	Total NGV: 104[72]
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

8.2 ELECTRICITY

The objective of the Danish government is to reach by 2020 a total number of 20,000 publicly accessible charging points[73].

In addition, in order to foster the purchase of e-vehicles, the following incentives are put into place[74]:

- Electric vehicles weighing less than 2,000 kg are exempt from the registration tax. This exemption does not apply to hybrid vehicles.

8.3 HYDROGEN

Denmark has adopted a new climate plan including a target of 85% of the municipality vehicle fleet by 2015 to be powered by electric propulsion systems (battery and/or hydrogen). In order to achieve this, there is a new publicly accessible Central-Copenhagen refuelling station network, able to accommodate a minimum of 200 kg/day (across the network) 700 bar hydrogen refuelling according to SAE specifications. The city network is to be linked with other major cities in Denmark, contributing to the efforts of securing a countrywide station network beyond 2015[75].

The target by 2015 is to create a Hydrogen Refuelling Stations (HRS) network that includes:

- 15 stations
- 30 satellite stations
- A large fleet of vehicles: 100 buses, 500 cars and 500 speciality vehicles.

[66] http://www.statistikbanken.dk
[67] http://www.statistikbanken.dk
[68] http://www.statistikbanken.dk
[69] http://www.statistikbanken.dk
[70] EAFO – number of EV (M1 – passengers cars) at October 2015
[71] EAFO – number of EV (M1 – passengers cars) at October 2015
[72] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at July 2014
[73] Impact Assessment of the Legislative proposal on Alternative Fuels Infrastructure, Table 14.
[74] ACEA, Electric vehicle overview. April 2014
[75] http://hy-tec.eu/2012/h2-refueling/hytec-innovation/

8.4 CNG

n.a.

8.5 LNG FOR ROAD TRANSPORT

n.a.

8.6 LNG FOR WATERBORNE TRANSPORT

n.a.

8.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

8.8 BIOFUELS

Support schemes for the promotion of biofuels in Denmark[76] are:

- *Biofuels quota*: The main support scheme for renewable energy sources used in transport is a quota obligation. Companies importing or producing petrol, gas or diesel fuels are obliged to ensure that biofuels make up a defined percentage of the company's total annual fuel sales.
- *Tax regulation mechanism*: The amount of tax due is lower if the taxed energy product (gas, diesel or petrol) is blended with biofuels. The tax bands for the year 2014 were as follows:

Gas or diesel oil	Petrol
-pure: 44.3 øre/liter -blended with 6.8% biofuels: 41.3 øre/litre	-pure: 40 øre/litre -blended with 4.8% biofuels: 38.1 øre/litre

[76] Legal sources on renewable energy: http://www.res-legal.eu/

9 ESTONIA

9.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	Total number of Stations: 330[77]
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	1[78]
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	5[79]
Number of refuelling points for LPG vehicles	
Number of refuelling point for hydrogen vehicles	
Number of ports with shore-side electricity	
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

[77] EAFO – October 2015
[78] http://www.ngvjournal.com/first-baltic-lng-fueling-site-opens/ January 2015
[79] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014

VEHICLES DATA	
Number of road vehicles registered	881 900 (Passenger cars, Buses, Lorries and special vehicles, Motorcycles, Mopeds and Trailers)[80]
Total number of light road vehicles (cars) registered	653 000[81]
Total number of heavy road vehicles registered (trucks)	96 600 (lorries and special vehicles)[82]
Total number of heavy road vehicles registered (bus)	4600[83]
Statistics on public transport fleets	
Total number of electric road vehicles registered	1076[84]
Total number of hybrid road vehicles registered	PHEV: 44[85]
Total number of LPG road vehicles registered	
Total number of LNG road vehicles registered	Total NGV: 340[86]
Total number of CNG road vehicles registered	
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

9.2 ELECTRICITY

Estonia has a national programme (Estonian Electro-mobility Programme, ELMO[87]) dedicated to encouraging the use of electric vehicles and the realisation of a national network of charging infrastructure and fast charging infrastructure. The programme is financed through the sale of CO2 emission rights and cooperation between the central government and Mitsubishi.

ABB (AC) was contracted by the central government to set up charging infrastructure and fast charging infrastructure. The AC charging infrastructure concerns charging stations at semi-public locations, in particular in the government programme that provides charging stations for electric vehicles owned by the government. The majority of these charging stations are available for public use. As far as is known there is no other charging infrastructure. This network was conceived to ensure that the distance between quick charging points is set at 40-60 km and all settlements with more than 5 thousand inhabitants are covered.

From 2011 to 2014, KredEx was given grants in the total amount of € 10.5 million; the average grant per car was € 16,500. It was possible to apply for the grant to purchase electric cars from 18 July 2011 until to the 7 August 2014. Plans are being made for supporting the introduction of electric cars

[80] http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=TC32&ti=VEHICLES%2C+31+DECEMBER&path=../I_Databas/Economy/34Transport/07Registered_motor_vehicles/&lang=1
[81] http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=TC32&ti=VEHICLES%2C+31+DECEMBER&path=../I_Databas/Economy/34Transport/07Registered_motor_vehicles/&lang=1
[82] http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=TC32&ti=VEHICLES%2C+31+DECEMBER&path=../I_Databas/Economy/34Transport/07Registered_motor_vehicles/&lang=1
[83] http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=TC32&ti=VEHICLES%2C+31+DECEMBER&path=../I_Databas/Economy/34Transport/07Registered_motor_vehicles/&lang=1
[84] EAFO – number of EV (M1 – passengers cars) at October 2015
[85] EAFO – number of EV (M1 – passengers cars) at October 2015
[86] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014
[87] http://elmo.ee/

with non-monetary measures in the future. For example, amendments to the Traffic Act are being planned, for allowing electric cars to drive on public transport lanes.

9.3 HYDROGEN

n.a.

9.4 CNG

n.a.

9.5 LNG FOR ROAD TRANSPORT

n.a.

9.6 LNG FOR WATERBORNE TRANSPORT

In Estonia there are plans to build 3 LNG terminals providing LNG supply for ships in the next few years[88]:

- Paldiski (Balti Gaas) (Start-up: 2015);
- Muuga, Tallinn (Vopak) (Start-up: 2015/2018/2025);
- Estonia, Sillamäe (Silgas).

9.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

9.8 BIOFUELS

In Estonia there is currently no generally applicable support scheme to promote the use of renewable energy sources in the transport sector.

However, in October 2013 the Ministry of Economic Affairs and Communications proposed amendments to the Liquid Fuel Act, which foresees the introduction of a quota system. According to the proposed amendments the share of biofuels must be at least 5% by 2016 and gradually rise to at least 10% by 2020. In addition, a support scheme has been put in place to promote the purchasing of electric cars that use power produced from renewable energy sources. According to the Ministry of Economic Affairs and Communications the main investments are aimed at renewing the public transportation network. Some progress has been made to develop a support scheme for the production of biogas[89].

[88] http://www.gie.eu/index.php/maps-data/lng-map
[89] Legal sources on renewable energy: http://www.res-legal.eu/

10 FINLAND

10.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	140-150
Number of accessible recharging points (high power)	35
Number of refuelling points for LNG vehicles	
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	2
Number of refuelling points for LPG vehicles	24
Number of refuelling point for hydrogen vehicles	2[90]
Number of ports with shore-side electricity	2
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

[90] Hydrogen Filling Stations Worldwide: http://h2stations.org

VEHICLES DATA	
Number of road vehicles registered	12 094 699[91]
Total number of light road vehicles (cars) registered	3 766 018[92]
Total number of heavy road vehicles registered (trucks)	590 504 (vans and lorries)[93]
Total number of heavy road vehicles registered (bus)	16 251 (buses and coaches)[94]
Statistics on public transport fleets	
Total number of electric road vehicles registered	450[95]
Total number of hybrid road vehicles registered	
Total number of LPG road vehicles registered	
Total number of LNG road vehicles registered	
Total number of CNG road vehicles registered	1600[96]
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

10.2 ELECTRICITY

Finland launched the Electric Vehicle Systems Programme (EVE) in 2011. The programme aims to facilitate electric vehicles and mobile machinery business development for Finnish companies from the current approximately € 200 million to around € 2 billion by 2020. It also seeks to create a community of electric vehicle companies and researchers in Finland[97].

As regards incentives, electric vehicles pay the minimum rate (5%) of the CO2 based registration tax[98].

10.3 HYDROGEN

Finland is involved in the Scandinavian Hydrogen Highway Partnership (SHHP)[99], a partnership between local, regional and national authorities and private industries and research institutions. The objective of the SHHP is to make the Scandinavian region one of the first regions in Europe where hydrogen is commercially available and used in a network of refuelling stations. The target by 2015 is to create a Hydrogen Refuelling Stations (HRS) network that includes:

- 15 stations
- 30 satellite stations
- A large fleet of vehicles: 100 buses, 500 cars and 500 speciality vehicles.

[91] http://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__lii__mkan/010_mkan_tau_101.px/table/tableViewLayout1/?rxid=4db7685f-2136-4cc7-9168-c7d90572c464
[92] http://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__lii__mkan/010_mkan_tau_101.px/table/tableViewLayout1/?rxid=4db7685f-2136-4cc7-9168-c7d90572c464
[93] http://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__lii__mkan/010_mkan_tau_101.px/table/tableViewLayout1/?rxid=4db7685f-2136-4cc7-9168-c7d90572c464
[94] http://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__lii__mkan/010_mkan_tau_101.px/table/tableViewLayout1/?rxid=4db7685f-2136-4cc7-9168-c7d90572c464
[95] E-Mobility Works project: http://emobilityworks.com/downloads/category/1-national-factsheet.html
[96] NGVA, market data 2014: http://www.ngvaeurope.eu/european-ngv-statistics
[97] http://www.tekes.fi/en/programmes-and-services/tekes-programmes/eve/
[98] ACEA, Electric vehicle overview. April 2014
[99] http://www.scandinavianhydrogen.org/news?page=1

10.4 CNG

n.a.

10.5 LNG FOR ROAD TRANSPORT

n.a.

10.6 LNG FOR WATERBORNE TRANSPORT

Finland has plans to install some LNG terminals[100]:

- Tahkoluoto, Pori (Gasum, 2016)
- Pansio, Turku (Gasum, 2018)
- Inkoo, Finngulf LNG, (Gasum, 2017/2019)

10.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

10.8 BIOFUELS

In Finland, there are several support schemes for the promotion of biofuels in[101]:

- *Biofuel quota:* The main scheme used to support renewable energies in the transport sector is a quota obligation. This mechanism obliges companies selling petrol or diesel fuels to ensure that biofuels compose a defined percentage of the company's total annual sale of fuel.
- *Tax regulation mechanism*: Fuels are taxed according to their use. Each component of a liquid fuel is taxed separately, based on its energy content and carbon dioxide emission, meaning reduced taxation for biofuels. For information concerning the exact rates: Finnish Custom's document.

[100] GLE - Gas LNG Europe. LNG Map 2014
[101] Legal sources on renewable energy: http://www.res-legal.eu/

11 FRANCE

11.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	Total number of stations: 5758[102]
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	0[103]
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	310[104]
Number of refuelling points for LPG vehicles	1750
Number of refuelling point for hydrogen vehicles	5[105]
Number of ports with shore-side electricity	
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

[102] EAFO – October 2015
[103] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014
[104] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014
[105] Hydrogen Filling Stations Worldwide: http://h2stations.org

VEHICLES DATA	
Number of road vehicles registered	
Total number of light road vehicles (cars) registered	32 243 826[106]
Total number of heavy road vehicles registered (trucks)	6 351 771[107]
Total number of heavy road vehicles registered (bus)	95 193([108]
Statistics on public transport fleets	
Total number of electric road vehicles registered	41 681[109]
Total number of hybrid road vehicles registered	PHEV: 7831[110]
Total number of LPG road vehicles registered	262 000[111]
Total number of LNG road vehicles registered	Total NGV vehicles:13 550[112]
Total number of CNG road vehicles registered	
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

11.2 ELECTRICITY

In France, the objectives for 2015 and 2020 are to reach 1.2% and 5% of the total percentage of EV respectively, which would correspond to a fleet of around 450,000 by 2015 and 2 million vehicles by 2020.

While registrations of electric vehicles increased by 20% in 2014, France wishes to amplify the momentum in 2015 with many incentives[113], announced on January 2015:

- from € 500 to € 10,000 to replace diesel. The bonus of € 10,000 to buy electric cars will be operational in April 2015, provided an old diesel car is scrapped. If a driver prefers a hybrid vehicle to replace their diesel one, the aid will be € 6,500. The premium will be lower for acquiring a gasoline car (€ 500).
- a tax credit of 30% for the installation of individual charging points.
- new recommendations to simplify access to terminals and to facilitate their use: terminal standardization, registration of each terminal on a national website and interoperability of terminals, which allows a subscriber to an operator to use the network of another operator as he moves.
- Panels to facilitate location and access to charging stations.
- The deployment of charging stations on the public domain is accelerating. The Compagnie Nationale du Rhône (CNR) last December submitted a report to create a corridor of 23 fast charging stations along the Rhone axis. As part of the Future Investment Program (PIA), Ademe supports electric mobility through the deployment of charging infrastructure for electric and hybrid vehicles. This device has already financed fifteen projects representing over 5,000 charging points. It was renewed July 17, 2014 and will end on 31 December 2015.

[106] Updated to January 1st 2014, source: SOeS-RSVERO
[107] Updated to January 1st 2014, source: SOeS-RSVERO
[108] Updated to January 1st 2014, source: SOeS-RSVERO
[109] EAFO – number of EV (M1 – passengers cars) at October 2015
[110] EAFO – number of EV (M1 – passengers cars) at October 2015
[111] AEGPL (European LPG Association), market data 2013
[112] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014
[113] http://proxy-pubminefi.diffusion.finances.gouv.fr/pub/document/18/18632.pdf

- The environmental bonus will be maintained for 2015: 6,300 € for electric vehicles (<20gCo2 / km) and € 4,000 for plug-in hybrid (<60gCo2 / km).

These incentives are in addition to already existing ones[114], namely:

- Hybrid vehicles emitting 110 g/km of CO2 or less benefit from a premium of € 3,300.
- Electric vehicles are exempt from the company car tax. Hybrid vehicles emitting less than 110 g/km are exempt during the first two years after registration.

11.3 HYDROGEN

n.a.

11.4 CNG

n.a.

11.5 LNG FOR ROAD TRANSPORT

n.a.

11.6 LNG FOR WATERBORNE TRANSPORT

France has planned to have one more LNG terminal in operation by 2019 (Fos-sur-Mer, FosFaster)

11.7 LPG (LIQUEFIED PETROLEUM GAS)

The French government adopted a policy of encouraging the use of LPG (and CNG) in 1996[115], involving a sharp reduction in the excise duty on the fuel and the introduction of a range of other fiscal and regulatory measures. The duty has been held constant since 1999 at 6 euro cents/litre, while duties on gasoline and diesel, already much higher, have increased over that time.

There are a number of other public policy measures in place to encourage the use of LPG. The purchase of any vehicle (including one fuelled by LPG) with low emissions now qualifies for an ecological bonus (a cash grant). Other tax measures include the initial vehicle-registration tax for commercial and non-commercial LPG vehicles in the most part of metropolitan regions. Businesses can also recover all of the VAT on LPG fuel purchases.

11.8 BIOFUELS

The main support scheme for renewable energy sources used in transport is a quota system. This scheme prompts companies importing or producing petrol, gas or diesel fuels to ensure that biofuels make up a defined percentage of the company's total annual sale of fuel. Furthermore, biofuels are supported through fiscal regulation[116].

- Biofuel quota: reduction of the tax on polluting activities.

The National Biofuels Development Plan ("Plan national de développement des biocarburants") has set a target of 10% of biofuels in the total fossil fuels

[114] ACEA, Electric vehicle overview. April 2014

[115] WLPGA (2014), Autogas Incentive Policies. A country-by-country analysis of why and how governments encourage Autogas and what works

[116] Legal sources on renewable energy: http://www.res-legal.eu/

production by 2015 (Art.4, Loi n. 2005-781). In order to reach this target, the quota of biofuels to be blended within conventional fuels is defined for each fuel type. In case companies releasing fuel for consumption do not respect the biofuels quota, they are submitted to a higher rate of the tax on polluting activities (TGAP) (Art. 266 quindecies, Code des Douanes).

- Tax regulation mechanism: exemption of the domestic consumption.

Biodiesel and bioethanol used for fuel purposes and blended within conventional fuels benefit from a partial exemption of the domestic consumption tax. In order to benefit from the tax exemption, biofuels shall be produced by units approved by the Minister of Budget following a European tender procedure (Art. 265 bis A, Code des Douanes). The approval has a validity period of 6 years (Art. 265 bis A, Code des Douanes). The reduction rates can be increased depending on the economical context. Moreover, pure vegetable oils used as agricultural fuel, for fishing fleets or for captive fleet automobiles of territorial collectivities benefit from a full exemption of the domestic consumption tax (Art. 265 ter and 265 quater, Code des Douanes).

12 GERMANY

12.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	Total number of stations: 4641[117]
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	0[118]
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	920[119]
Number of refuelling points for LPG vehicles	6 851[120]
Number of refuelling point for hydrogen vehicles	23[121]
Number of ports with shore-side electricity	
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

[117] EAFO – October 2015
[118] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at May 2014
[119] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at May 2014
[120] http://www.mylpg.eu/stations/germany
[121] Hydrogen Filling Stations Worldwide: http://h2stations.org

VEHICLES DATA	
Number of road vehicles registered	
Total number of light road vehicles (cars) registered	44 403 124[122]
Total number of heavy road vehicles registered (trucks)	
Total number of heavy road vehicles registered (bus)	
Statistics on public transport fleets	
Total number of electric road vehicles registered	27 180[123]
Total number of hybrid road vehicles registered	PHEV: 16 177[124]
Total number of LPG road vehicles registered	494 148[125]
Total number of LNG road vehicles registered	Total NGV: 98 172[126]
Total number of CNG road vehicles registered	
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

12.2 ELECTRICITY

The German Government, by means of the National Development Plan for Electric Mobility[127] (2009), has set the following targets for 2020[128]:

- Total number of electric vehicles: 1,000,000 (100,000 by 2014, 500,000 by 2017)
- Number of public charging points: 150,000
- Number of private charging points: 800,000
- Total number of charging points: 950,000

In order to achieve these ambitious goals, the 2010 National Platform for Electro-mobility[129] (NPE) was initiated to develop and coordinate a specific implementation strategy with specific targets and measures. The strategy includes specific research and development funding and testing and demonstration projects.[130] The table below indicates the expectations for the development of the infrastructure in this market.

[122] http://www.kba.de/DE/Statistik/Fahrzeuge/Bestand/Umwelt/2014_b_umwelt_dusl_absolut.html?nn=663524
[123] EAFO – number of EV (M1 – passengers cars) at October 2015
[124] EAFO – number of EV (M1 – passengers cars) at October 2015
[125] http://www.kba.de/DE/Statistik/Fahrzeuge/Bestand/2015_b_jahresbilanz.html;jsessionid=61E84E9A2D7D8906223E01E47AE596A1.live1042?nn=644526
[126] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at May 2014
[127] http://www.gtai.de/GTAI/Navigation/EN/Invest/Industries/Smarter-business/Smart-mobility/national-electromobility-development-plan.html#384070
[128] European Electro-mobility Observatory (EEO): http://ev-observatory.eu
[129] http://www.gtai.de/GTAI/Navigation/EN/Invest/Industries/Smarter-business/Smart-mobility/national-electric-mobility-platform-npe.html
[130] Policy brief, European Electro-mobility Observatory, January 2015; www.ev-observatory.eu

Germany

	2014	2017	2020
Walbox/ private/ at home	62370	285 638	531 300
Parking Lot of business industry	35890	117707	171 700
public and public accessable (sum)	19250	107 823	227 350
public near housings	6738	55 852	150 051
public at central places in cities	1733	2588	2274
public accessable, but on private property and with private investments	10780	49383	75026
Fast Charging DC	679	3 182	7170
total	118 189	541 350	937 5020

As for regulatory instruments and national legislation, Germany started focusing on electro-mobility in 2007 as part of the Federal Integrated Energy and Climate Programme. It set targets of one million electric cars by 2020 on the German roads, supported by charging infrastructure. In this view, the German Federal Government successively created and amended the 2009 National Development Plan for Electric Mobility[131]. While the primary aim of the plan was to "speed up research and development in battery electric vehicles and their market preparation and introduction in Germany", the programme evolved to providing legal and fiscal frameworks to deploy electro-mobility. In 2010, Germany set up the National Electro-mobility Platform to publish advice on the most appropriate measures. An Electric Mobility Act (EMA I+II+III) was proposed in order to introduce incentives and privileges dedicated specifically to EVs and infrastructure. It is expected to come into force in 2015, and its objective is to to adjust the regulatory framework to support further deployment, integration, harmonization and interoperability of EVs and electric charging infrastructure[132].

Germany provides support to vehicles with the aim of contributing to the EU2020 targets. The focus is more on policy measures and non-economic instruments. Electro-mobility is not supported by grants in Germany. It is more based on a systemic, market-oriented and technology-friendly approach via priority given to showcases deploying regional demonstration and pilot projects.

In 2012, the German parliament voted on a tax exemption for pure EVs licensed before the 31st of December 2015 for a period of 10 years, while EVs licensed between 2016 and 2020 would be granted tax exemption of a 5-year period Germany favours a project-based approach to develop its electro-mobility infrastructure. This links in both with Germany's ambition to reach its 2020 Climate targets, and its aim to develop the research and energy sector when looking into smart grids, reliance on renewable energies and innovative charging technologies.

Most economic measures tend to restrict access to polluting vehicles and provide support to low-emitting vehicles. This was further marked in the

[131] http://www.bmub.bund.de/en/service/publications/downloads/details/artikel/-2b17a30dad/?tx_ttnews[backPid]=706

[132] http://www.globalpost.com/dispatch/news/xinhua-news-agency/140924/germany-passes-draft-bill-promoting-electric-cars

latest law released in 2014. On 24th September 2014, the German minister for Transport and Digital Infrastructure announced the publication of Law 093/2014[133], which would enter into force in 2015.

The 2014 legislation provides particular advantage to electric vehicles through:

- Definition of the "privileged" electric vehicles;
- Marking on the license plate;
- Parking and stopping regulations;
- Use of bus lanes;
- Repeal of access prohibitions.

Within this legislation, municipalities are granted the possibility to reserve parking at charging stations for the use of electric vehicles, to offer free parking, to arrange exceptions of supply and transit restrictions (for reasons of air pollution or noise abatement), or to open individual bus lanes to marked vehicles when this is useful in individual cases and if the public transport is not hindered. The actual decision is at the discretion of the responsible road authority.[134]

The following incentives are in place[135][136]:

- Electric vehicles are exempt from the annual circulation tax for a period of ten years from the date of their first registration.
- Extra funding and tax breaks for a period of 10 years.
- €180 million for R&D by 2015.
- Introduction of minimum range for electric power.
- Non-monetary incentives granting local governments the authority to allow EV access to bus lanes, offer free parking and reserved parking spaces in locations with charging points.
- Individual labeling for EVs.

12.3 HYDROGEN

The country takes part in the advanced FCEV and HRS programme, as part of the existing H2Mobility initiatives will create the start of a European hydrogen network.[137] This will ensure a need-related supply for the fuel cell electric vehicles available to the market in the coming years. A first step will be the deployment of 100 hydrogen stations in Germany over the next 4 years.

12.4 CNG

German government is promoting natural gas as fuel in vehicles through public initiatives. Renewable bio-methane makes up for approximately 22% of the methane sold as fuel. CNG is priced competitively in Germany as a result of reduced tax rates. A kilogramme of CNG costs currently around € 1.10.

[133] http://www.bmub.bund.de/themen/luft-laerm-verkehr/verkehr/luft-verkehrdownload/artikel/elektromobilitaetsgesetz-emog/?tx_ttnews[backPid]=289
[134] Policy brief, European Electro-mobility Observatory, January 2015; www.ev-observatory.eu
[135] ACEA, Electric vehicle overview. April 2014
[136] Friends of Europe (2014), Electric cars: revving up on the rough road to a sustainable future. Background briefing.
[137] Presentation "EU roadmap for Rollout of HRSs and FCEVs" by NEW IG, November 2014, www.fch-ju.eu

Germany's reduced taxes on natural gas as a vehicle fuel expire in 2018. Extension of the reduced tax rates beyond this date is one of the main demands of the vehicle- and gas industry, as it will secure investments in both vehicles and infrastructure[138].

12.5 LNG FOR ROAD TRANSPORT

n.a.

12.6 LNG FOR WATERBORNE TRANSPORT

Maritime LNG Platform e.V.[139], the national LNG initiative is an association of companies, ports and initiatives targeting cleaner shipping through the use of LNG and the significant reduction of emissions, such as SO_x, NO_x, CO_2 and particulate matter. It is focused on providing information and research and is committed to the establishment of framework conditions that enable a timely introduction to the market. In addition, the objectives of the platform include the promotion of water-side LNG-based power supply for freighters and cruise liners as well as sustainable energy and mobility concepts by using LNG for water and land transport in the port cities.

The platform's activities are defined by a specific roadmap:

- In 5 years - the operation of at least 50 additional ships in German ports using LNG.
- In 5 years - at least 5 ports in Germany that ensure the supply of LNG for the shipping industry.
- In 3 years - at least 250 additional ships per year supplied by shore power through LNG on the water side.
- A specific and measurable reduction of SOx, NOx, CO2 and particulate matter based on the above measures.

12.7 LPG (LIQUEFIED PETROLEUM GAS)

The German federal government supports the use of LPG largely through fuel-tax incentives. Since the completion in 2003 of a major reform of energy taxation aimed at introducing ecological taxes, the rates of excise tax on LPG, gasoline and diesel have been constant.

In 2008, the German Bundestag (Parliament) adopted an energy tax law that included a commitment to keep the tax rate on LPG well below that on the other fuels until at least the end of 2018, in order to provide certainty to investors in LPG distribution and refuelling infrastructure and motorists looking to switch to LPG.

12.8 BIOFUELS

The main support scheme for renewable energy sources used in transport (fuel for road transport) is a quota system. This scheme obliges companies importing or producing petrol, gas or diesel fuels to ensure that biofuels make up a defined percentage of the company's total annual sale of fuel. Furthermore, biofuels are supported through fiscal regulation[140].

[138] http://www.ngvaeurope.eu/germany
[139] http://www.lng-info.de/en/initiative/
[140] Legal sources on renewable energy: http://www.res-legal.eu/

- *Biofuels quota*: The main means of support for renewable energy sources used in transport is a quota obligation. The mechanism obliges companies importing or producing petrol, gas or diesel fuels to ensure that biofuels make up a defined percentage of the company's total annual sale of fuel as set out in the Federal Pollution Control Act. Obliged fuel suppliers may assign this obligation to other companies. From 2015, a greenhouse gas reduction quota will replace the biofuels quota (§ 37a (3a) BImSchG)[141].
- *Tax regulation mechanism:* The Energy Tax Act on mineral oil products obliges companies producing, processing, holding, receiving or dispatching energy products to pay a defined amount of tax. The tax relief for biofuels varies depending on the type of biofuel. The tax relief is only granted if the produced amount of biofuel is pure and not used to fulfil the biofuels quota.

[141] http://dejure.org/gesetze/BImSchG/37a.html

13 GREECE

13.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	23
Number of accessible recharging points (high power)	1
Number of refuelling points for LNG vehicles	
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	9 refuelling points in 5 cities in Greece
Number of refuelling points for LPG vehicles	500
Number of refuelling point for hydrogen vehicles	
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	0
Average number of public electric recharging points in urban areas	22
Average distance between public recharging points in urban areas	3 km
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	7
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	200 km
Maximum distance between two recharging points for electric vehicles (suburban)	35 km (between two recharging points in the center of Athens and in the airport Eleftherios Venizelos)
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	40 km
Maximum distance between two refuelling points for CNG vehicles (suburban)	40 km

VEHICLES DATA	
Number of road vehicles registered	8 035 423[142]
Total number of light road vehicles (cars) registered	5 124 208[143]
Total number of heavy road vehicles registered (trucks)	1 315 836[144]
Total number of heavy road vehicles registered (bus)	26 783[145]
Statistics on public transport fleets	2205 buses in the Athens Metropolitan Area (1423 gasoline/diesel buses + 416 CNG buses + 366 trolley buses - data taken of the year of 2013 from Thermal Bus Company & Electrical Bus Company)
Total number of electric road vehicles registered	80
Total number of hybrid road vehicles registered	160 000 (Gasoline and LPG + Gasoline and CNG vehicles)
Total number of LPG road vehicles registered	400
Total number of LNG road vehicles registered	
Total number of CNG road vehicles registered	1100
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

13.2 ELECTRICITY

In order to foster electromobility, in Greece the following incentives are in place[146]:

- Electric and hybrid vehicles are exempt from the registration tax, the luxury tax and the luxury living tax.
- Electric passenger cars and hybrid passenger cars with an engine up to 1,929 cc, are exempt from the circulation tax.
- Hybrid cars with a higher engine capacity pay 50% of the normal circulation tax rate.

A Special Commission, constituted by the decision of the Minister of Energy and Climate Changes (Ministerial Act 21612/20.9.2011) is charged with the responsibility of identification of the pillars needed for the development of a substantial market penetration of the electric and plug-in hybrid vehicles.

The Hellenic Institute of Electric vehicles (HEL.I.E.V)[147] is member of this Commission. Major section of the Commission's work is the planning of the necessary infrastructure in the form of private and public networks suitable to cover the demand expected until the end of the decade (2020). A report has been disseminated to the 13 regions of the country with proposals/suggestions for the planning and creation of Regional EV charging station networks. It is estimated that a total number of 6,900 public double outlet charging points should be in operation in the main urban areas of the country in the year 2020[148].

[142] ELSTAT -2013
[143] ELSTAT -2013
[144] ELSTAT -2013
[145] ELSTAT -2013
[146] ACEA, Electric vehicle overview. April 2014
[147] http://heliev.gr/?lang=en
[148] Impact Assessment of the Legislative proposal on Alternative Fuels Infrastructure, Table 12

13.3 HYDROGEN

n.a.

13.4 CNG

n.a.

13.5 LNG FOR ROAD TRANSPORT

n.a.

13.6 LNG FOR WATERBORNE TRANSPORT

n.a.

13.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

13.8 BIOFUELS

Greece is using a quota system for biofuels. Law No. 3054/2002 obliges producers and distributors of petrol and diesel to blend their fuels with a certain amount ("quota") of biofuels. The mandatory quota is set by ministerial resolution and is reviewed every year (art. 15A par. 3 Law No. 3054/2002)[149].

[149] Legal sources on renewable energy: http://www.res-legal.eu/

14 HUNGARY

14.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	53
Number of accessible recharging points (high power)	7
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	5
Number of refuelling points for LPG vehicles	366
Number of refuelling point for hydrogen vehicles	0
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	0
Average number of public electric recharging points in urban areas	60
Average distance between public recharging points in urban areas	in Budapest it is about 8 km note: the locations of the recharging points are not equally distributed in the various cities, only Budapest has significant data
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	n. a.
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	19 km (smallest distance 19 km (Mosonmagyaróvár - Austria border)
Maximum distance between two recharging points for electric vehicles (suburban)	in Budapest it is about 15 km
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	no refuelling points
Maximum distance between two refuelling points for LNG vehicles (suburban)	no refuelling points
Maximum distance between two refuelling points for LPG vehicles (suburban)	in Budapest it is about 8 km the locations of the refuelling points are not equally distributed in the various areas, we can provide expressive data only for Budapest, but it is difficult to differentiate the suburb area
Maximum distance between two refuelling points for CNG vehicles (suburban)	5 refuelling points, 2 of which are in one city

VEHICLES DATA	
Number of road vehicles registered	4 968 408
Total number of light road vehicles (cars) registered	3 567 288(M1, M1G)
Total number of heavy road vehicles registered (trucks)	617 203(N1, N1G, N2, N2G, N3, N3G)
Total number of heavy road vehicles registered (bus)	24 378 Bus (M2, M2G, M3, M3G)
Statistics on public transport fleets	7909 buses in the public transport (M2, M2G, M3, M3G)
Total number of electric road vehicles registered	567
Total number of hybrid road vehicles registered	7532 hybrid (Hybrid electric/diesel, Hybrid electric/petrol)
Total number of LPG road vehicles registered	57 003 LPG (LPG, LPG/diesel, LPG/petrol)
Total number of LNG road vehicles registered	There is no LNG-powered vehicle registered
Total number of CNG road vehicles registered	2376 pc CNG (CNG, CNG/diesel, CNG/petrol)
Total number of hydrogen road vehicles registered	There is no hydrogen-powered vehicle registered
Total number of LNG vessel	0

14.2 ELECTRICITY

Currently, in Hungary the following supporting measures are in place[150]:

- Electric vehicles are exempt from the registration tax and the annual circulation tax.

According to the Hungary Plans Tax Incentives For Electric Cars, further allowances would be introduced following discussions with provincial authorities. In particular, possible measures include:

- discounted purchases for car owners who trade in cars that are more than 15 years old;
- public sector use of electric cars, in particular by the police and the postal service;
- programs to promote electric cars[151].

Hungary also intends to increase the number of public electric charging points to 68,000 by 2020. Nissan and E.On are the main partners for this, although the Ministry says it also wants to involve other domestic and foreign companies in the development of the electric car industry[152]. However, a report made by PwC (2014)[153] provides a projection of the EV fleet by 2023 and states that, according to the realistic scenario, the number of electric vehicles could exceed 52,000 (88% plug-in hybrid, 12% all-electric) by 2023, which would represent 1.35% of all motor vehicles.

The Ministry for National Economy is expected to launch the Jedlik Ányos Plan (JÁT) in 2015, which aims to promote the popularity of electric vehicles[154]. The primary aim is to support the R+D+I activities linked to the dissemination of electro-mobility in order to enhance the domestic production. In addition, it is

[150] ACEA, Electric vehicle overview. April 2014

[151] http://www.tax-news.com/news/Hungary_Plans_Tax_Incentives_For_Electric_Cars____64076.html

[152] http://www.tax-news.com/news/Hungary_Plans_Tax_Incentives_For_Electric_Cars____64076.html

[153] PWC (2014), Electric cars: A market outlook. The future of plug-in hybrid electric and all-electric vehicles in Hungary.

[154] http://www.kormany.hu/en/ministry-for-national-economy/news/anyos-jedlik-plan-is-about-to-be-finalized

necessary to train professionals and technicians. A further step will be to examine the role of public transport in electromobility and its possible applications in order to enhance its financing and its involvement in the operation of international and EU organisations (e.g. European Green Vehicles Initiatives). The further directions of the plan are to enlarge the electronic mobility infrastructure bearing significant industry development potential, to enhance project financing and to define the pilot projects and enhance their financing.[155]

14.3 HYDROGEN

n.a.

14.4 CNG

n.a.

14.5 LNG FOR ROAD TRANSPORT

n.a.

14.6 LNG FOR WATERBORNE TRANSPORT

n.a.

14.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

14.8 BIOFUELS

In Hungary, the main support scheme for the promotion of renewable energy sources in the transport sector is a quota system. Furthermore, tax reimbursement applies to certain biofuels in case of engine development projects and vehicles used in the mining industry and in water management[156]:

- *Biofuels quota:* there is a target for biofuels, determined as the share of pure biofuels and biofuels added to conventional fuels in the total quantity of petrol placed in the market (§ 5 (1) Act No. CXVII of 2010). Only certified biofuels satisfying specific sustainability criteria can be taken into account for fulfilling the prescribed quota (§§ 2, 3 Decree No. 343/2010): bio-quota from 01.01.2014 until 31.12.2015: 4.9% for both petrol and diesel.

Tax regulation mechanism: there is a reimbursement of excise duty in place for E85, bioethanol and biodiesel in case of engine development projects and vehicles used in the mining industry and in water management (§ 55, 57/A Act No. CXXVII).

155 National Reform Programme of Hungary. Note: The national targets drafted in the Europe 2020 Strategy are supported by several measures, which are detailed in the table in Annex 2.

156 Legal sources on renewable energy: http://www.res-legal.eu/

15 IRELAND

15.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	730 (AC 3 phase, 22Kwh dual headed chargers) 107 (single phase 3.5Kwh single headed chargers)
Number of accessible recharging points (high power)	70 (16 triple headed, 14 dual headed, 40 CHADEmo)
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	2 (1 permanent in Cork, 1 temporary in Dublin)
Number of refuelling points for LPG vehicles	58[157]
Number of refuelling point for hydrogen vehicles	0
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	Dublin Airport
Average number of public electric recharging points in urban areas	58 in Dublin City Centre
Average distance between public recharging points in urban areas	480 metres in Dublin City Centre
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	26 km (M1 motorway from border to Applegreen Castlebellingham Service Station)[158]
Maximum distance between two recharging points for electric vehicles (suburban)	50 km (estimated)[159]
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	No refuelling point for hydrogen
Maximum distance between two refuelling points for LNG vehicles (suburban)	Closest LNG terminal in Milford Haven (UK)
Maximum distance between two refuelling points for LPG vehicles (suburban)	72 km (Killybergs - Letterkenny), 75 km (Bantry-Killarney)[160]
Maximum distance between two refuelling points for CNG vehicles (suburban)	Only one refuelling point in Cork city

[157] http://www.mylpg.eu/stations/ireland/list
[158] https://www.esb.ie/electric-cars/electric-car-charging/electric-car-charge-point-map.jsp
[159] https://www.esb.ie/electric-cars/electric-car-charging/electric-car-charge-point-map.jsp
[160] http://www.mylpg.eu/stations/ireland

VEHICLES DATA	
Number of road vehicles registered	2 482 557 (2013)[161]
Total number of light road vehicles (cars) registered	1 911 165 (2013)[162]
Total number of heavy road vehicles registered (trucks)	317 849 (2013)[163]
Total number of heavy road vehicles registered (bus)	2422
Statistics on public transport fleets	2422 coaches and buses (453 Bus Eireann, 907 Dublin Bus, 1062 other)[164]
Total number of electric road vehicles registered	1109 (991 private, 118 goods)
Total number of hybrid road vehicles registered	8935 (8613 private, 20 goods, 302 taxi)
Total number of LPG road vehicles registered	77 (58 private, 19 goods (DVCSD Data)
Total number of LNG road vehicles registered	0
Total number of CNG road vehicles registered	9 (4small vans, 1 large van, 1 12 tonne rigid (dedicated gas), 3 articulated tractor units)
Total number of hydrogen road vehicles registered	0
Total number of LNG vessel	0

15.2 ELECTRICITY

Ireland has set a target of 10% of its fleet to be composed of electric vehicles by 2020, which will represent approximately 230,000 vehicles[165].

The following incentives are in place[166]:

- Electric vehicles benefit from VRT (registration tax) relief up to a maximum of € 5,000. For plug-in hybrids, the maximum relief is € 2,500. For conventional hybrid vehicles and other flexible fuel vehicles, the maximum relief is € 1,500.

15.3 HYDROGEN

n.a.

15.4 CNG

The Irish Government's Finance Bill 2015 confirmed that a set excise duty of € 9.36 per megawatt hour will be applied to CNG for the next 8 years. This represents a significant reduction in the excise applied to diesel or petrol and reflects the government's commitment to providing alternatives for Irelands future transport energy needs. The first publicly accessible refill locations will open in Ireland in 2015[167].

15.5 LNG FOR ROAD TRANSPORT

n.a.

[161] http://www.dttas.ie/sites/default/files/publications/roads/english/irish-bulletin-vehicle-and-driver-statistics-2013/irish-bulletin-vehicle-and-driver-statistics-2013.pdf
[162] http://www.dttas.ie/sites/default/files/publications/roads/english/irish-bulletin-vehicle-and-driver-statistics-2013/irish-bulletin-vehicle-and-driver-statistics-2013.pdf
[163] http://www.dttas.ie/sites/default/files/publications/roads/english/irish-bulletin-vehicle-and-driver-statistics-2013/irish-bulletin-vehicle-and-driver-statistics-2013.pdf
[164] Transport Trends (DTTAS)
[165] Sustainable Energy Authority of Ireland (SEAI), A Guide to Electric Vehicles
[166] ACEA, Electric vehicle overview. April 2014
[167] http://www.gasnetworks.ie/en-IE/Gas-Industry/Natural-Gas-Vehicles/

15.6 LNG FOR WATERBORNE TRANSPORT

n.a.

15.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

15.8 BIOFUELS

In Ireland, the support scheme for renewable energy sources used in the transport sector is a quota system. The Biofuels Obligation Scheme (BOS) obliges fuel suppliers to include a certain percentage (currently 6% by volume) of biofuels in their annual fuel sales. The scheme is administrated by a state agency (the National Oil Reserves Agency - NORA)[168].

[168] Legal sources on renewable energy: http://www.res-legal.eu/

16 ITALY

16.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	
Number of refuelling point for LNG ships	1 -(Piacenza Interporto)
Number of refuelling point for CNG vehicles	7
Number of refuelling points for LPG vehicles	1,064
Number of refuelling point for hydrogen vehicles	3,649
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	-
Maximum distance between two refuelling points for LPG vehicles (suburban)	-
Maximum distance between two refuelling points for CNG vehicles (suburban)	(around 50 Km)

VEHICLES DATA	
Number of road vehicles registered	52 353 828
Total number of light road vehicles (cars) registered	37 351 382
Total number of heavy road vehicles registered (trucks)	842 491
Total number of heavy road vehicles registered (bus)	95 391
Statistics on public transport fleets	
Total number of electric road vehicles registered	24 507
Total number of hybrid road vehicles registered	73 424
Total number of LPG road vehicles registered	2 709 069
Total number of LNG road vehicles registered	50
Total number of CNG road vehicles registered	937 781
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

16.2 ELECTRICITY

The National Plan for electric vehicles charging infrastructures[169] was signed on July 29, 2014. The plan will develop the charging network to get to over 130,000 public charging stations by 2020, and has been framed in cooperation with the major sector stakeholders, including manufacturers, grid operators, utilities, fleets, local authorities, and industrial associations.

The following incentives are in place[170]:

- Electric vehicles are exempt from the annual circulation tax (ownership tax) for a period of five years from the date of their first registration. After this five-year period, they benefit from a 75% reduction of the tax rate applied to equivalent petrol vehicles in many regions.
- Non-financial policy measures: free parking, access to restricted areas (such as city centres)
- Financial support at purchase (once-only support): total funds 120,000,000 €.

16.3 HYDROGEN

n.a.

16.4 CNG

n.a.

16.5 LNG FOR ROAD TRANSPORT

n.a.

16.6 LNG FOR WATERBORNE TRANSPORT

Five LNG terminals are planned for waterborne transport:

- Falconara Marittima (Api nòva energia, 2018);
- Porto Empedocle (Enel, 2018);

[169] http://www.mit.gov.it/mit/site.php?p=cm&o=vd&id=2714
[170] ACEA, Electric vehicle overview. April 2014

- Brindisi (BG Group);
- Taranto (gasNatural);
- Gioia Tauro (LNG Medigas Terminal).

16.7 LPG (LIQUEFIED PETROLEUM GAS)

The Italian government has traditionally promoted the use of LPG through fiscal incentives, initially to provide an outlet for surplus volumes of LP Gas from the large domestic refining industry, though Italy has since become an importer of LP Gas. In recent years, environmental concerns have been the main driving force behind LPG policies.

The Italian government and local authorities encourage LPG use through a mixture of policies, including favourable fuel taxes, incentives for clean vehicles and traffic regulations. LPG currently enjoys a substantial excise tax advantage.

The Italian government also encourages LPG and other clean fuels through vehicle incentives. Grant schemes for the conversion of an existing vehicle or the purchase of an OEM LPG vehicle have been in place for several years. In May 2014, grants were reintroduced for the purchase of LPG and other AFVs on condition their CO2 emissions do not exceed 120 grammes per km for businesses and 95 g/km for private motorists. Many LPG vehicles also benefit from a lower annual vehicle road tax, which depends on engine power and CO2 emissions[171].

16.8 BIOFUELS

A quota system for biofuels is currently in place in Italy. This system is the main tool through which the 10% goal of biofuels in consumption is to be reached by 2020.

The current goal foresees 5 % of biofuels in consumption by 2015. The competent authority is the Ministry of Environment and the obligated parties are all parties that feed gasoline or diesel in the system. Each obligated party must prove compliance by providing a certain number of certificates, which are distributed by the Ministry. Each certificate is tradable and corresponds to 10 GCal[172].

[171] WLPGA (2014), Autogas Incentive Policies. A country-by-country analysis of why and how governments encourage Autogas and what works

[172] Legal sources on renewable energy: http://www.res-legal.eu/

17 LATVIA

17.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	14
Number of accessible recharging points (high power)	3
Number of refuelling points for LNG vehicles	0 (for the public charging)
Number of refuelling point for LNG ships	N.A.
Number of refuelling point for CNG vehicles	0 (for the public charging)
Number of refuelling points for LPG vehicles	226
Number of refuelling point for hydrogen vehicles	0
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	0
Average number of public electric recharging points in urban areas	N.A.
Average distance between public recharging points in urban areas	N.A.
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	N.A.
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	More than 100 km
Maximum distance between two recharging points for electric vehicles (suburban)	20 km (only in Riga)
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	N.A.
Maximum distance between two refuelling points for LNG vehicles (suburban)	N.A.
Maximum distance between two refuelling points for LPG vehicles (suburban)	~5 km (only in Riga)
Maximum distance between two refuelling points for CNG vehicles (suburban)	N.A.

VEHICLES DATA	
Number of road vehicles registered	751 441
Total number of light road vehicles (cars) registered	662 644
Total number of heavy road vehicles registered (trucks)	83 953
Total number of heavy road vehicles registered (bus)	4844
Statistics on public transport fleets	N.A.
Total number of electric road vehicles registered	
Total number of hybrid road vehicles registered	201
Total number of LPG road vehicles registered	48 368[173]
Total number of LNG road vehicles registered	N.A.
Total number of CNG road vehicles registered	N.A. (data from year 2011 - approx. 200 vehicles)
Total number of hydrogen road vehicles registered	0
Total number of LNG vessel	N.A.

17.2 ELECTRICITY

Electric vehicles in Latvia are exempt from the registration tax[174].

Government support is mainly based on funding from the Change Financial Instrument (KPFI) which is split equally between funding the introduction of (M1) EVs and the installation of EV charging infrastructure[175].

The aim of the Latvian Government is to have 4,409 EVs on the road and 1,791 charging points (291 public and 1500 private) by 2020[176].

17.3 HYDROGEN

n.a.

17.4 CNG

n.a.

17.5 LNG FOR ROAD TRANSPORT

n.a.

17.6 LNG FOR WATERBORNE TRANSPORT

n.a.

17.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

17.8 BIOFUELS

Both the "Biofuel Production and Use in Latvia (2003-2010)" programme and the state support programme "Aid for Biofuel Production" have been finalised. The only instrument for the promotion of renewable energy sources in the

[173] AEGPL (European LPG Association), market data 2013
[174] ACEA, Electric vehicle overview. April 2014
[175] http://5.179.30.125/fei/projects/climate-ch.pdf
[176] European Electro-mobility Observatory (EEO): http://ev-observatory.eu

transport sector currently available is a tax regulation mechanism. According to the Ministry of Finance, the Biofuel Development Advisory Council is currently discussing the introduction of a new support scheme. The Law on Excise Duties obliges companies processing, holding, receiving or dispatching mineral oil products to pay excise tax (§ 5 Law on Excise Duties). This amount is reduced if the fuel is blended with biofuels (§ 14 Law on Excise Duties)[177].

[177] Legal sources on renewable energy: http://www.res-legal.eu/

18 LITHUANIA

18.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	4
Number of accessible recharging points (high power)	4
Number of refuelling points for LNG vehicles	
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	Available in 5 cities (Vilnius, Kaunas, Klaipeda, Siauliai, Panevezys)
Number of refuelling points for LPG vehicles	Sufficient network480
Number of refuelling point for hydrogen vehicles	
Number of ports with shore-side electricity	1 (Klaipeda sea port)
Number of airports with apron electrification service	2 (Vilnius VNO, Kaunas KUN)
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

VEHICLES DATA	
Number of road vehicles registered	1 302 275 (L, M, N)
Total number of light road vehicles (cars) registered	1 171 678 (M1)
Total number of heavy road vehicles registered (trucks)	38 060 (N3)
Total number of heavy road vehicles registered (bus)	3840 (M3)
Statistics on public transport fleets	
Total number of electric road vehicles registered	104 (M1) + 432 (M3 - includes trolleybuses) + 39 (L1) + 4 (L3) + + (L5) + + (L6) + + (L7) + 7 (N1)
Total number of hybrid road vehicles registered	1942 (M1) + 1 (N1)
Total number of LPG road vehicles registered	118 968 (M, N)
Total number of LNG road vehicles registered	
Total number of CNG road vehicles registered	224 (M, N)
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

18.2 ELECTRICITY

The table below shows the actual and targeted number of electric vehicles (EVs) and charging points in Lithuania.

	2012	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Electric cars	55	150	*400*	*1,000*	*2,400*	*5,500*	*12,000*	*27,000*	*60,000*
Home charging stations	14	38	*100*	*275*	*600*	*1,375*	*3,000*	*6,750*	*15,000*
Public charging stations	44	120	*320*	*880*	*1,920*	*4,400*	*9,600*	*21,600*	*48,000*
Fast charging stations	1	2	*2*	*4*	*4*	*7*	*14*	*32*	*72*
Battery replacement stations	-	-	*1*	*2*	*4*	*6*	*8*	*10*	*12*

According to the opinion of Lithuanian Electric Vehicles Association (LEVA), by 2020 the number electric cars will increase up to 3,4 % of all registered vehicles. Based on optimistic projections, the number of electric cars should reach 60,000. In anticipation of such number of electric cars, nearly 48,000 public charging stations should be built in Lithuania before 2020[178].

The Lithuanian government is considering removing VAT from electric vehicles and reducing it to 9% on hybrid vehicles in an effort to encourage more Lithuanians to embrace sustainable car travel[179].

18.3 HYDROGEN

n.a.

18.4 CNG

n.a.

[178] http://pe.org.pl/articles/2014/1/24.pdf
[179] http://www.eltis.org/discover/news/lithuania-considers-vat-free-electric-vehicles

18.5 LNG FOR ROAD TRANSPORT

n.a.

18.6 LNG FOR WATERBORNE TRANSPORT

On the 12th of June, 2012, the Seimas adopted the Law on Liquefied Natural Gas Terminal (No. XI-2053), in which general principles and requirements for LNG Terminal construction, activity and operation are laid down. The Law also provides legal, financial and organizational conditions to implement the Project of LNG Terminal.

In accordance with EU directives and National Energy Strategy, which pays great attention to ensure energy security and natural gas long-term supply reliability, Lithuania has made decision to implement the Project of Liquefied Natural Gas (LNG) Terminal in the southern part of Klaipėda state seaport[180].

The liquefied natural gas (LNG) terminal in the Lithuanian port city of Klaipėda officially opened its commercial operations on the first day of 2015.

18.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

18.8 BIOFUELS

In Lithuania, renewable energy use in the transport sector is promoted through several support schemes. These include the reimbursement, by the National Paying Agency of the Ministry of Agriculture, of raw materials for biofuel production, an excise tax relief and an exemption from environmental pollution tax. The schemes are the following[181]:

- Reimbursement: Part of the price of rapeseed oil used for the production of rapeseed methyl (ethyl) ester (RME) and part of the price of rapeseed and cereal grain purchased for the production of dehydrated ethanol will be repaid. This measure is implemented by the National Paying Agency on behalf of the Ministry of Agriculture.
- Excise Tax Relief: Excise tax relief applies to biofuels for transport. The rate of excise tax is reduced in proportion to the percentage of biomass per tonne of biofuel. The relief applies to bioethanol, biodiesel, bio-ETBE and vegetable oil.
- Environmental Pollution Tax Exemption: Natural and legal persons using biofuels in vehicles are released from environmental pollution tax on their mobile source emissions.

[180] http://www.sgd.lt
[181] Legal sources on renewable energy: http://www.res-legal.eu/

19 LUXEMBOURG

19.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	58
Number of accessible recharging points (high power)	2
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	6
Number of refuelling points for LPG vehicles	13[182]
Number of refuelling point for hydrogen vehicles	0
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	not known
Average number of public electric recharging points in urban areas	1 public charging station per 4,73 km² in urban areas (urban areas = 111, 112 and 121 of Corine Land Cover 2006)
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	not known
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	no recharging points on motorways so far
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	(1 refuelling points for CNG per 37,86 km² in urban areas (urban areas = 111, 112 and 121 of Corine Land Cover 2006))

[182] http://www.mylpg.eu/stations/luxembourg/list (confirmed stations at 20 December 2015)

VEHICLES DATA	
Number of road vehicles registered	501.243
Total number of light road vehicles (cars) registered	379.106
Total number of heavy road vehicles registered (trucks)	5.728
Total number of heavy road vehicles registered (bus)	1480 autobus and 357 autocars
Statistics on public transport fleets	
Total number of electric road vehicles registered	566 cars and 2 autocars
Total number of hybrid road vehicles registered	cars: 2142 gasoline/electric; 109 electric/gasoline, 220 electric/diesel; autobus: 2 electric/diesel
Total number of LPG road vehicles registered	1 Diesel+LPG truck
Total number of LNG road vehicles registered	0
Total number of CNG road vehicles registered	cars: 1 petrol, 84 CNG/ petrol; 1 CNG truck; 1 CNG autobus
Total number of hydrogen road vehicles registered	0
Total number of LNG vessel	1 ("dual fuel" ship)

19.2 ELECTRICITY

In Luxembourg, the following incentives are in place[183]:

- Purchasers of electric or plug-in hybrid vehicles emitting 60 g/km or less of CO 2 receive a premium of € 5,000. The purchaser shall have concluded an agreement to buy electricity from renewable energy sources in order to obtain the premium. However, the Car-e bonus for electric cars is discontinued from 1 January 2015 as the Government prefers to focus on supporting electro-mobility in public transport rather than for private vehicles[184].

At the same time, the Luxembourg Government aims to have approximately 10% of the fleet to be constituted of electric cars (corresponding to about 40,000 cars) and 850 public charging stations installed by 2020. The rollout to achieve this target began in 2013. The plan is to install these charging points in public car parks across Luxembourg[185]. A specific law[186] laid down the major principles for the development of electro-mobility in Luxembourg.

19.3 HYDROGEN

n.a.

19.4 CNG

Reduced VAT rate.

19.5 LNG FOR ROAD TRANSPORT

n.a.

19.6 LNG FOR WATERBORNE TRANSPORT

n.a.

[183] ACEA, Electric vehicle overview, April 2014
[184] http://www.ecologic.eu/sites/files/publication/2014/eea_2014_country_profile_luxembourg_0.pdf
[185] National plan for smart, sustainable and inclusive growth Luxembourg 2020
[186] The law dated 7 August, 2012 amending the law dated 1 August, 2007 relating to the organization of the electricity market.

19.7 LPG (LIQUEFIED PETROLEUM GAS)

Reduced VAT rate.

19.8 BIOFUELS

The government of Luxembourg has designated sustainable mobility and biofuels as some of the priority areas that shall be developed with the aim of fostering economic growth in the country (GovLux 2012a). Following the transposition of directive 2003/30/EC on biofuels the use of biofuels in road transport is regulated by the Law of 18 December 2009[187] which introduced an obligation for oil companies releasing petrol and diesel for consumption to meet a specific quota of biofuels per year. In addition, from January 2013, the providers of petrol or diesel fuels have to ensure that biofuels make up at least 3.75% of the company's total annual sale of fuel[188].

[187] Loi du 18 décembre 2009 concernant le budget des recettes et des dépenses de l'Etat pour l'exercice 2010

[188] http://ec.europa.eu/clima/policies/g-gas/progress/docs/lu_2014_en.pdf

20 MALTA

20.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	90
Number of accessible recharging points (high power)	0
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	0
Number of refuelling points for LPG vehicles	3
Number of refuelling point for hydrogen vehicles	0
Number of ports with shore-side electricity	No public available shore-supply installations. Only private for interisland ferry and in yacht marinas.
Number of airports with apron electrification service	0
Average number of public electric recharging points in urban areas	90 (Malta due to its small size is usually considered as one urban area)
Average distance between public recharging points in urban areas	2.5km
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	Not available
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	N/A. There are no motorways in Malta
Maximum distance between two recharging points for electric vehicles (suburban)	6.5km
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	N/A
Maximum distance between two refuelling points for LNG vehicles (suburban)	N/A
Maximum distance between two refuelling points for LPG vehicles (suburban)	N/A
Maximum distance between two refuelling points for CNG vehicles (suburban)	N/A

VEHICLES DATA	
Number of road vehicles registered	334 717 licensed at end 2014
Total number of light road vehicles (cars) registered	256 658 licensed M1 vehicles as at end 2014 but also 31 793 N1 vehicles as at end 2014
Total number of heavy road vehicles registered (trucks)	11 933 licensed N2 & N3 vehicles as at end 2014
Total number of heavy road vehicles registered (bus)	1548 licensed M2 & M3 vehicles as at end 2014
Statistics on public transport fleets	278 licensed buses used in the Regular Passenger transport Service as at end of 2014 (incl. mainly Euro V engine and 10 diesel- electric hybrid)
Total number of electric road vehicles registered	207 licensed N, M & L series vehicles
Total number of hybrid road vehicles registered	358 licensed Petrol/Electric and Diesel/Electric Hybrid
Total number of LPG road vehicles registered	473 licensed LPG road vehicles (incl. 18 LPG, 9 LPG/Diesel Dual Fuel, 455 LPG/Petrol Dual Fuel_
Total number of LNG road vehicles registered	-
Total number of CNG road vehicles registered	-
Total number of hydrogen road vehicles registered	-
Total number of LNG vessel	NA

20.2 ELECTRICITY

Transport Malta has launched a grant scheme to encourage motorists to buy electric vehicles and quadricycles. The scheme provides for a grant of €4,000 to persons registering an electric car and €1,500 to those registering an electric quadricyle. The grant shall increase from €4,000 to €5,000 in case of persons registering an electric vehicle while at the same time de-registering a car which is at least 10 years old. The Government has allocated €300,000 over 24 months for this scheme[189].

Furthermore, by means of the "National Strategy for the Introduction of Electromobility in Malta and Gozo"[190], the Government aims to increase the uptake of electric and hybrid vehicles as an alternative to fossil fuel powered cars while decoupling increased transportation requirements from vehicle-generated harmful emissions.

As an indicative target, the Government of Malta has foreseen to reach the threshold of 5,000 electric vehicles by 2020, and 500 charging units, both fast and medium.

The Ministry for Transport and Infrastructure, together with Transport Malta, have come up with a comprehensive plan of action (Malta National Electromobility Action Plan[191]) to put land transport in Malta on track to environmental sustainability while addressing a number of EU obligations that Malta must fulfil under the 2020 Climate Change and Energy Package.

In addition, the following two National Programmes on electro-mobility were implemented[192]:

[189] http://www.transport.gov.mt/land-transport/electric-cars
[190] http://www.transport.gov.mt/transport-strategies/strategies-policies-actions/national-transport-visions-strategies
[191] http://www.transport.gov.mt/transport-strategies/strategies-policies-actions/national-transport-action-plans
[192] European Electro-mobility Observatory (EEO): http://ev-observatory.eu

- PortPVEV (August 2012 - November 2014). Demonstrating how to make ports more energy efficient as well as demonstrating the use of electromobility in ports and port areas.
- Life+ DemoEV[193] (October 2011 - December 2014). Demonstrating the feasibility of electric vehicles towards climate change mitigation

20.3 HYDROGEN

n.a.

20.4 CNG

n.a.

20.5 LNG FOR ROAD TRANSPORT

n.a.

20.6 LNG FOR WATERBORNE TRANSPORT

n.a.

20.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

20.8 BIOFUELS

Support for renewable energy sources used in transport is provided through tax relief. The Malta Resources Authority is proposing that the existing system of tax exemption on biofuels is partly replaced by a mandatory substitution obligation. When the new regulation enters into force, importers will be obliged to blend a specific percentage of biofuels into their product[194].

[193] http://www.electricvehiclesmalta.eu/
[194] Legal sources on renewable energy: http://www.res-legal.eu/

21 NETHERLANDS

21.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	Total number of stations:367[195]
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	6[196]
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	147[197]
Number of refuelling points for LPG vehicles	1403[198]
Number of refuelling point for hydrogen vehicles	3[199]
Number of ports with shore-side electricity	
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

[195] EAFO – October 2015
[196] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at May 2014
[197] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at May 2014
[198] http://www.mylpg.eu/stations/netherlands
[199] Hydrogen Filling Stations Worldwide: http://h2stations.org

VEHICLES DATA	
Number of road vehicles registered	
Total number of light road vehicles (cars) registered	7 979 083[200]
Total number of heavy road vehicles registered (trucks)	948 843[201] (LDV + HDV (rigid) + HDV (articulated))
Total number of heavy road vehicles registered (bus)	14 795[202]
Statistics on public transport fleets	9597[203]
Total number of electric road vehicles registered	10 726[204]
Total number of hybrid road vehicles registered	PHEV: 54 663[205]
Total number of LPG road vehicles registered	168 234[206]
Total number of LNG road vehicles registered	Total NGV: 7573[207]
Total number of CNG road vehicles registered	
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

21.2 ELECTRICITY

The Netherlands focuses on the application of policy measures (subsidy to smart grid field experiments; franchise agreements) and non-economic instruments (leadership of infrastructure implementation at local levels) dedicated to infrastructure development. The support for electro-mobility in the Netherlands is characterized by market-focused financing and franchise agreements.

As for the national support to charging infrastructure, there is no nation-wide supportive funding yet for the roll out of charging infrastructure. The larger cities in the Netherlands all have installed charge points themselves or supported installation by other parties. In addition to supporting the public infrastructure, many municipalities provide financial support for the installation of charging stations on private grounds, including homes, parking garages, etc. There are a number of guidelines available in Dutch to support municipalities in making plans and taking decisions.

The following incentives are in place in the Netherlands[208]:

- Electric vehicles are exempt from the registration tax BPM. Other vehicles including hybrid vehicles are also exempt from the registration tax if they emit maximum 85 g/km (diesel) or 88 g/km (petrol) of CO 2 respectively. Vehicles emitting maximum 50 g/km of CO 2 are exempt from the annual circulation tax.

[200] http://www.cbs.nl/nl-NL/menu/methoden/dataverzameling/statistiek-motorvoertuigenpark-ob.htm (values at 2015)
[201] http://www.cbs.nl/nl-NL/menu/methoden/dataverzameling/statistiek-motorvoertuigenpark-ob.htm (values at 2015)
[202] http://www.cbs.nl/nl-NL/menu/methoden/dataverzameling/statistiek-motorvoertuigenpark-ob.htm (values at 2015)
[203] http://www.cbs.nl/nl-NL/menu/methoden/dataverzameling/statistiek-motorvoertuigenpark-ob.htm (values at 2015)
[204] EAFO – number of EV (M1 – passengers cars) at October 2015
[205] EAFO – number of EV (M1 – passengers cars) at October 2015
[206] http://www.cbs.nl/nl-NL/menu/methoden/dataverzameling/statistiek-motorvoertuigenpark-ob.htm
[207] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at May 2014
[208] ACEA, Electric vehicle overview. April 2014

The "Electric Mobility gets up to speed 2011-2015 Action Plan" was released on 3 October 2011 setting some clear objectives regarding the Electro-mobility sector (see Table below):

Year	Electric vehicles on the road (3 or more wheels)
2015	15,000 to 20,000
2020	200,000
2025	1,000,000
Last years' trend	
2011-12	1,579
2012-12	7,311
2013-12	30,086
2014-12	45,915

21.3 HYDROGEN

n.a.

21.4 CNG

The infrastructure of CNG fuelling stations, gas upgrading plants and gas injection is quite developed. National Government and other authorities made efforts to expand the filling infrastructure with the programme "Tankstations Alternatieve Brandstoffen (TAB)"-Alternative Fuel Filling Stations.

21.5 LNG FOR ROAD TRANSPORT

The Government with the National LNG Platform[209] establishes an objective of 500 trucks running on LNG by 2015. Moreover, some logistic operators are already using this fuel in part of their fleets (e.g. Rotra Logistics), charging them in privately owned refuelling stations.

21.6 LNG FOR WATERBORNE TRANSPORT

In June 2012, the representatives of the Dutch government (Minister of Economic Affairs, Agriculture and Innovation and the Secretary of State), the Rotterdam Port Authority and their partners (3TU, VSL, TNO, Energy Valley, Deltalinqs), have signed the agreement "LNG Green Deal"[210]. The main goal of the LNG Green Deal is to make the inland shipping, fisheries and marine more sustainable through the use of LNG as fuel.

The Green Deal focuses on two specific areas: the Wadden and North Sea area and the Rhine between Rotterdam and Basel, including Amsterdam and Vlissingen. In both areas, initiatives are being developed, such as the LNG ferry owned by shipping company Doeksen between Harlingen and Terschelling, petrol station "Green Planet" in Pesse where an LNG tank infrastructure will be installed for heavy trucks and two Anthony Veder ethylene vessels, which will run between England and the European continent.

The government also established the National LNG Platform[211] which has a "50-50-500 objective": at least 50 barges, 50 sea-going vessels and 500 trucks running on LNG by 2015. Initiators of the Platform are the two areas: the Wadden Sea-North Sea and the Rhine region from Rotterdam to Basel, Switzerland, which will include the cities of Amsterdam and Vlissingen, unified

[209] www.nationaallngplatform.nl
[210] www.rijksoverheid.nl/onderwerpen/duurzame-economie/green-deal
[211] www.nationaallngplatform.nl

in Energy Valley (the energy cluster in the north of the Netherlands), and Deltalinqs (the business organization representing companies in the port of Rotterdam, part of the Rotterdam Climate Initiative).

21.7 LPG (LIQUEFIED PETROLEUM GAS)

The Dutch government has encouraged the use of LPG generally for many years, mainly through favourable fuel taxes, since the Netherlands with its large refining industry used to be a major producer and exporter of the fuel, although policy support has waned recently. The country is now a net importer of LPG, so the rationale for encouraging LPG now is purely environmental.

There are no grants or tax credits available for LPG conversions or OEM purchases. However, vehicle-purchase taxes are significantly lower than for diesel cars (and the same as for gasoline cars). On the other hand, the annual vehicle (road) tax, known as the holdership tax, for LPG vehicles is higher than for both gasoline and diesel vehicles (except for the lightest vehicles)[212].

21.8 BIOFUELS

The Netherlands has adopted an obligation scheme which should result in a 10% RES share of energy consumption in the transport sector. Tax credits exist for biofuel and hydrogen related RES-T investments:

- *Tax regulation mechanisms*: Several different tax credit systems exist. Different RES-T technologies can from one or a combination of these tax credits.
- *Biofuel quota*: The biofuels quota scheme obliges companies importing or producing petrol, gas or diesel fuels to ensure that biofuels make up a defined percentage of the company's total annual sale of fuel.

[212] WLPGA (2014), Autogas Incentive Policies. A country-by-country analysis of why and how governments encourage Autogas and what works

22 POLAND

22.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	approx. 50
Number of accessible recharging points (high power)	2
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	25
Number of refuelling points for LPG vehicles	5520
Number of refuelling point for hydrogen vehicles	0
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	no data available
Average number of public electric recharging points in urban areas	no data available
Average distance between public recharging points in urban areas	no data available
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	no data available
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	no data available
Maximum distance between two recharging points for electric vehicles (suburban)	no data available
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	no data available
Maximum distance between two refuelling points for LNG vehicles (suburban)	no data available
Maximum distance between two refuelling points for LPG vehicles (suburban)	no data available
Maximum distance between two refuelling points for CNG vehicles (suburban)	no data available

VEHICLES DATA	
Number of road vehicles registered	25 683 575
Total number of light road vehicles (cars) registered	19 566 605
Total number of heavy road vehicles registered (trucks)	258 166
Total number of heavy road vehicles registered (bus)	102 602
Statistics on public transport fleets	no data available
Total number of electric road vehicles registered	976
Total number of hybrid road vehicles registered	30
Total number of LPG road vehicles registered	2 846 868
Total number of LNG road vehicles registered	50
Total number of CNG road vehicles registered	3000
Total number of hydrogen road vehicles registered	0
Total number of LNG vessel	0

22.2 ELECTRICITY

There is not any national programme in place in Poland that would provide incentives to citizens to purchase electric cars[213].

22.3 HYDROGEN

n.a.

22.4 CNG

n.a.

22.5 LNG FOR ROAD TRANSPORT

Poland is the first European country to welcome city bus lines with liquefied natural gas (LNG)[214]. The municipal transport company of Warsaw, Miejskie Zakłady Autobusowe (MZA), has decided to add 35 articulated liquefied natural gas (LNG) buses to its vehicle fleet. Gazprom Germania and Polish bus manufacturer Solbus are providing their expertise and investment in launching natural gas for transport on the Polish market.

In October 2013 Europe's first 11 LNG buses were launched in Olsztyn. These eco-friendly buses are also due to enter service in Warsaw in 2015.

22.6 LNG FOR WATERBORNE TRANSPORT

There are plans to build LNG terminals in Poland[215]. Polskie LNG agreed in November 2012 to construct and operate a LNG terminal in Świnoujście. In October 2014, Polskie LNG announced the signing of a letter of intent with Poland's natural gas monopolist PGNiG on cooperation in the construction of the terminal's extension. PGNiG is also considering capital involvement in the project.

The Swinoujscie terminal is still under construction and at the end of September 2014 it was 93.7% complete. It is expected to be in operation in

[213] ACEA, Electric vehicle overview. April 2014
[214] http://www.ngvglobal.com/lng-buses-for-warsaw-and-olsztyn-1108
[215] http://www.thenews.pl/1/12/Artykul/184991,Poland-plans-LNG-terminal-extension

2015. In its current form it has two gas storage units, providing for an annual import capacity of 5 billion cubic metres of LNG.

22.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

22.8 BIOFUELS

In Poland, renewable energy in transport is promoted through a biofuels quota obligation[216]. The obliged companies have to ensure that biofuels make up a certain percentage of the company's total annual sale or consumption of fuel (art. 23 par. 1 Act on Biocomponents and Liquid Biofuels). The following quotas have been set for the period 2013-2018 (see § 1 Regulation on the National Indicative Targets):

- 2013 - 7.10%
- 2014 - 7.10%
- 2015 - 7.10%
- 2016 - 7.10%
- 2017 - 7.80%
- 2018 - 8.50%

The producers, importers and suppliers of fuels are obliged to meet an annual quota of biofuels in the total amount of liquid fuels produced/supplied/imported. The obligation levels are determined every three years for a period of 6 years by the Council of Ministers which may, by regulation, lower the amount of quota obligation in the event of extraordinary market events leading to changing conditions of supply of agricultural raw materials or biomass (art. 24 par. 2 Act on Biocomponents and Liquid Biofuels).

As for fees and penalty charges, if an obliged company fails to fulfil the quota, it will be punished with a fine (art. 33 par. 1 no. 5 Act on Biocomponents and Liquid Biofuels). The amount of the fine is calculated with a formula described in art. 33 par. 5 Act on Biocomponents and Liquid Biofuels).[217]

[216] Legal sources on renewable energy: http://www.res-legal.eu/

[217] http://www.res-legal.eu/search-by-country/poland/single/s/res-t/t/promotion/aid/biofuel-quota-national-indicative-target/lastp/175/

23 PORTUGAL

23.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	1179
Number of accessible recharging points (high power)	10
Number of refuelling points for LNG vehicles	2+2(in project)*
Number of refuelling point for LNG ships	Information not available at moment
Number of refuelling point for CNG vehicles	9+2(in project)*
Number of refuelling points for LPG vehicles	319
Number of refuelling point for hydrogen vehicles	none
Number of ports with shore-side electricity	Information not available at moment
Number of airports with apron electrification service	Information not available at moment
Average number of public electric recharging points in urban areas	33
Average distance between public recharging points in urban areas	2.5 km (Estimate data)
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	564 (Estimate data)
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	48 km[218]
Maximum distance between two recharging points for electric vehicles (suburban)	141 km
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	Information not available at moment
Maximum distance between two refuelling points for LNG vehicles (suburban)	Information not available at moment
Maximum distance between two refuelling points for LPG vehicles (suburban)	Information not available at moment
Maximum distance between two refuelling points for CNG vehicles (suburban)	Information not available at moment

[218] Viana to Castelo to Galicia: 39 km; Bragança to Galicia: 20 km; Guarda to Castilla Leon: 44 km; Castelo Branco to Estremadura: 72 km; Portalegre to Estremadura: 32 km; Évora to Estremadura: 65 km; and Faro to Andalucia: 61 km

FUEL VEHICLES DATA	
Number of road vehicles registered	5 615 079 (data at 2013)
Total number of light road vehicles (cars) registered	4 327 478 (data at 2013)
Total number of heavy road vehicles registered (trucks)	81 845 (data at 2013)
Total number of heavy road vehicles registered (bus)	12 111 (data at 2013)
Statistics on public transport fleets	10 452 (data at 2013)
Total number of electric road vehicles registered	2010 (data at 2013)
Total number of hybrid road vehicles registered	99 (hybrid plug in) +11 514 (hybrid not plug in) (data at 2013)
Total number of LPG road vehicles registered	Information not available at moment
Total number of LNG road vehicles registered	Information not available at moment
Total number of CNG road vehicles registered	Information not available at moment
Total number of hydrogen road vehicles registered	Information not available at moment
Total number of LNG vessel	Information not available at moment

23.2 ELECTRICITY

The following incentives are in place in Portugal[219]:

- Electric vehicles are exempt from the registration tax ISV and from the annual circulation tax.
- Hybrid vehicles benefit from a 50% reduction of the registration tax.

The Portuguese Government launched a National Programme for Electro-mobility in early 2008 called MOBI.E[220] that provides an integrated solution to electro-mobility, working as an open model which is suitable for any business model and market. The MOBI.E charging network is expected to create 1,300 normal and 50 fast charging stations at shopping centres, car parks, petrol stations, as well as near hotels in 25 towns and cities around Portugal. The open system of charging points will be compatible with all electric vehicle (EV) brands, including electric motorbikes and heavy goods vehicles when they become available[221].

The number of EVs in Portugal is expected to reach 200,000 by 2020; the public charging infrastructure may count 25,000 public charging points by that time[222].

23.3 HYDROGEN

n.a.

23.4 CNG

n.a.

23.5 LNG FOR ROAD TRANSPORT

n.a.

[219] ACEA, Electric vehicle overview. April 2014
[220] http://www.mobie.pt/en/mobie
[221] https://www.mobie.pt/en/mobie
[222] http://www.mobieurope.eu/the-project/ongoing-initiatives/mobi-e/

23.6 LNG FOR WATERBORNE TRANSPORT

n.a.

23.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

23.8 BIOFUELS

In Portugal, there are two support schemes for the use of renewable energy sources in the transport sector[223]. A tax exemption is applied to small producers (PPDs) and a biofuel quota to companies supplying fuels for consumption in the market.

- *Tax regulation mechanism:* Small producers of biofuels benefit from a total exemption of the Petrol Product Tax (ISP).
- *Biofuel quota:* Companies supplying fuels for consumption shall incorporate a certain percentage of biofuels in the fuels they supply to the market from 2011 to 2020.

[223] Legal sources on renewable energy: http://www.res-legal.eu/

24 ROMANIA

24.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	20
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	0
Number of refuelling points for LPG vehicles	665[224]
Number of refuelling point for hydrogen vehicles	
Number of ports with shore-side electricity	
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

[224] http://www.mylpg.eu/stations/romania

VEHICLES DATA	
Number of road vehicles registered	6 270 582
Total number of light road vehicles (cars) registered	4 907 564
Total number of heavy road vehicles registered (trucks)	712 317
Total number of heavy road vehicles registered (bus)	44 283, including minibus
Statistics on public transport fleets	
Total number of electric road vehicles registered	2762
Total number of hybrid road vehicles registered	
Total number of LPG road vehicles registered	1672
Total number of LNG road vehicles registered	
Total number of CNG road vehicles registered	517
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

24.2 ELECTRICITY

The following incentives are in place in Romania:

Support type	Incentives/measures	Amount of support (e.g. %)
Financial support at purchase	Co-funding for purchase by authorities	"Minimis scheme" for non-polluting and energy efficient vehicles: - EV acquisition Eco ticketing; for the moment only a few number of tickets are available (approximately € 2,700/ticket)
Financial support during use	Yearly tax exemption/reduction	EV are subject to environmental tax cuts
Non-financial support	E.g. Free parking, free charging at (semi)public stations, exemption/reduction road tolls/charging and congestion taxes, use of reserved lanes for public transport/car-pooling, access to restricted areas (such as city centres), supporting consultancy, education and promotion of EV use	N/A

Electro-mobility in Romania is merely at its beginning since it faces several challenges, such as the high purchase price of electric vehicles, lack of proper infrastructure correlated with financial limits of municipalities, as well as lack of national supporting programmes. In this regard, only very few municipalities have undertaken relevant actions, such as promoting the introduction of electro-mobility in their development strategies. It is the Covenant of Mayors signatories that are main promoters in this regard, as electromobility actions were introduced in their Sustainable Energy Action

Plans. There are not many plans of municipalities in the field of electro-mobility for the future, but the envisaged actions include the following:

- acquisition of electric taxis (until 2020) in Bucharest;
- acquisition of electric buses by Alba Iulia, Timisoara and Brasov (CoM signatories);
- acquisition of 18 electric vehicles (mainly utility vans) by Suceava Municipality.

The AVER (Romanian Electric Vehicle Association) founded in 2005 working as an NGO can be considered locally as the biggest promoter of EVs in Romania. The main objective of AVER is to facilitate the preparation of a national strategy for electro-mobility.

In the 2014-2020 programme period, the European Structural and Investment Funds (ESIFs) under Cohesion Policy might be used to support the purchase of electric vehicles by municipalities in Romania.

24.3 HYDROGEN

n.a.

24.4 CNG

n.a.

24.5 LNG FOR ROAD TRANSPORT

n.a.

24.6 LNG FOR WATERBORNE TRANSPORT

In Romania there is one planned LNG Import Terminal to be built in Constanta.

24.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

24.8 BIOFUELS

In Romania, renewable energy sources in the transport sector are promoted by a quota system

Biofuels quota: There is a target for biofuels in place for adding biofuels to petrol and diesel (Art. 3 par. 1 Decision No. 935/2011). Only certified biofuels satisfying specific sustainability criteria can be taken into account for fulfilling the prescribed quota (art. 5 par. 3-9 Decision No. 935/2011).

In addition, Art. 3 par. 1 Decision No. 935/2011 as referred to in Art. 1 par. 1 Decision No. 918/2012 and as referred to in Art. I par. 1 and 2 Decision No. 1121/2014 defines the following quotas for biofuels which were not produced from waste, residues or non-alimentary celluloses:

- For diesel: from 01/01/2013: min. 6%; from 01/01/2016: min. 6.5%;
- For petrol: from 01/01/2014: min. 4.5%; from 01/01/2018: min. 8%.

In case that biofuels were used for quota fulfilment and were produced from waste, residues or non-alimentary celluloses, the above quotas are halved (art. 1 par. 2 Decision No. 918/2012). For these biofuels, certificates of origin

need to be presented (Art. 3 par. 4-1 Decision No. 935/2011 as referred to in Art. I par. 5 Decision No. 1121/2014).

For 2020, the biofuel quota for petrol and diesel for each retailer has to amount to 10% (art. 1 par. 2 Decision No. 918/2012). Aside from fulfilling the prescribed biofuel quota, fuel retailers are obliged to meet reduction quota for greenhouse gas emissions. By 31 December 2020, fuel retailers have to reduce the greenhouse gas emissions of one unit of fossil fuel over its whole life-cycle by 10% compared to the standard amount of greenhouse gas emissions of one unit of fossil fuels utilised in 2010. Until 31 December 2018, the greenhouse emissions should be reduced by 6% (Art. 8 par. 10 Decision No. 928/2012 as referred to in Art. I par. 5 Decision No. 1121/2013).

Fuel retailers are required to reduce the greenhouse gas emissions of the market fuels (Art. 8 par. 10 Decision No. 928/2012 as referred to in Art. I par. 5 Decision No. 1121/2013).

25 SLOVAKIA

25.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	Total number stations: 103[225]
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	0[226]
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	14[227]
Number of refuelling points for LPG vehicles	226[228]
Number of refuelling point for hydrogen vehicles	
Number of ports with shore-side electricity	
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

[225] EAFO – October 2015
[226] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014
[227] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014
[228] Legal sources on renewable energy: http://www.res-legal.eu/

VEHICLES DATA	
Number of road vehicles registered	
Total number of light road vehicles (cars) registered	1 880 000[229]
Total number of heavy road vehicles registered (trucks)	
Total number of heavy road vehicles registered (bus)	
Statistics on public transport fleets	
Total number of electric road vehicles registered	90[230]
Total number of hybrid road vehicles registered	PHEV: 23[231]
Total number of LPG road vehicles registered	
Total number of LNG road vehicles registered	
Total number of CNG road vehicles registered	Total NGV: 1426[232]
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

25.2 ELECTRICITY

n.a.

25.3 HYDROGEN

n.a.

25.4 CNG

n.a.

25.5 LNG FOR ROAD TRANSPORT

n.a.

25.6 LNG FOR WATERBORNE TRANSPORT

n.a.

25.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

25.8 BIOFUELS

In Slovakia, the main support scheme for renewable energy sources used in transport is a quota system. This scheme obliges companies importing or producing petrol or diesel to ensure that biofuels make up a defined percentage of their annual fuel sales. Furthermore, biofuels are supported through a tax regulation mechanism:

- Biofuels quota. In Slovakia, there is an obligatory biofuel share for petrol and diesel fuel introduced on the Slovak market. The minimum content of biofuels has been legally defined for the years 2011 to 2020.

[229] http://ec.europa.eu/eurostat/statistics-explained/index.php/Passenger_cars_in_the_EU#Database (data at 2013)
[230] EAFO – number of EV (M1 – passengers cars) at October 2015
[231] EAFO – number of EV (M1 – passengers cars) at October 2015
[232] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014

- Tax regulation mechanism. In Slovakia, petrol and diesel from a legally defined minimum content of biogenic material are subject to a lower mineral oil tax. Mineral oil solely from biogenic material is exempt from this tax.

26 SLOVENIA

26.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	227
Number of accessible recharging points (high power)	107
Number of refuelling points for LNG vehicles	0
Number of refuelling point for LNG ships	0
Number of refuelling point for CNG vehicles	3
Number of refuelling points for LPG vehicles	100
Number of refuelling point for hydrogen vehicles	1
Number of ports with shore-side electricity	0
Number of airports with apron electrification service	0
Average number of public electric recharging points in urban areas	32 (in Ljubljana)
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

VEHICLES DATA	
Number of road vehicles registered	1 396 691
Total number of light road vehicles (cars) registered	1 063 795
Total number of heavy road vehicles registered (trucks)	68 195
Total number of heavy road vehicles registered (bus)	2410
Statistics on public transport fleets	
Total number of electric road vehicles registered	120
Total number of hybrid road vehicles registered	254
Total number of LPG road vehicles registered	
Total number of LNG road vehicles registered	0
Total number of CNG road vehicles registered	58
Total number of hydrogen road vehicles registered	0
Total number of LNG vessel	

26.2 ELECTRICITY

There following supporting measures for the deployment of electromobility are in place:

	Support type	Amount of support
Financial support at purchase	Co-funding for purchase by authorities	National co-funding for buying new electric vehicles is up to € 5,000
Financial support during use	Yearly tax exemption	
Non-financial support	Free parking, free charging, access to city centres' restricted zones	

26.3 HYDROGEN

n.a.

26.4 CNG

n.a.

26.5 LNG FOR ROAD TRANSPORT

n.a.

26.6 LNG FOR WATERBORNE TRANSPORT

n.a.

26.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

26.8 BIOFUELS

In Slovenia, the main support mechanisms for RES in transport are a quota system and a tax regulation mechanism (excise duty relief). The quota system mainly obliges the state to achieve a certain percentage of biofuels in

the fuel market. The companies importing and producing petrol, gas or diesel fuels are therefore obliged to ensure that biofuels are offered at their petrol stations.

Biofuel quota: The Decree obliges fuel distributors to offer to the users of their petrol stations:

- a low quantity (up to 5%) of biodiesel blended with mineral diesel, which must comply with standards BS EN 590 on the quality of fuels for motor vehicles and SIST EN 14214 on the quality of fatty acid methyl esters for diesel engines, and
- a low quantity (up to 5%) of bio-ethanol or other biofuels blended with petrol, which complies with the standards that are prescribed for the quality of liquid fuels (§ 6 par. 1 Act Decree No. 103/2007).

Excise duty is levied on all fuels, however the producers/users of biofuels may be fully exempt from the payment of excise duty (§ 54 par. 3 no. 10 Excise Duty Act). When biofuel is added to other (carbon-based) fuels, the tax amount is reduced. The beneficiary may request a tax refund from the Customs Office, which is responsible for excise duty taxation (§ 54 par. 11 and 12 of Excise Duty Act).

27 SPAIN

27.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	1000 points of public access, normal and high power (disaggregated data non available)
Number of accessible recharging points (high power)	1000 points of public access, normal and high power (disaggregated data non available)
Number of refuelling points for LNG vehicles	18 points of public access
Number of refuelling point for LNG ships	No data available
Number of refuelling point for CNG vehicles	42 points of public access
Number of refuelling points for LPG vehicles	600 approximately
Number of refuelling point for hydrogen vehicles	4 refuelling points. 6 by the end of 2015.
Number of ports with shore-side electricity	No data available
Number of airports with apron electrification service	No data available
Average number of public electric recharging points in urban areas	No data available
Average distance between public recharging points in urban areas	No data available
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	No data available
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	No data available
Maximum distance between two recharging points for electric vehicles (suburban)	No data available
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	No data available
Maximum distance between two refuelling points for LNG vehicles (suburban)	No data available
Maximum distance between two refuelling points for LPG vehicles (suburban)	No data available
Maximum distance between two refuelling points for CNG vehicles (suburban)	No data available

VEHICLES DATA	
Number of road vehicles registered	
Total number of light road vehicles (cars) registered	22 248 000[233]
Total number of heavy road vehicles registered (trucks)	
Total number of heavy road vehicles registered (bus)	
Statistics on public transport fleets	No data available
Total number of electric road vehicles registered	BEV: 12478, REEV:186
Total number of hybrid road vehicles registered	HEV: 57890, PHEV:632
Total number of LPG road vehicles registered	3339
Total number of LNG road vehicles registered	164
Total number of CNG road vehicles registered	559
Total number of hydrogen road vehicles registered	39
Total number of LNG vessel	No data available

27.2 ELECTRICITY

Spain provides both regulatory instruments and policy measures in order to boost electro-mobility as regards support to infrastructure and vehicles. Improved communication systems and special energy deals are used to support infrastructure, while direct subsidy for EV purchase can be considered as the main policy measure dedicated to promote the purchase of EV vehicles in Spain.

The Efficient Vehicle Incentives Programme (Spanish acronym PIVE), whose fifth edition is underway, allocates € 175 M. The normal grant is € 2,000, which is reduced from the cost of the vehicle at source. There are various types of vehicles that are eligible for the Plan PIVE grants, although they must be fuel-efficient and cannot cost more than € 25,000 (net cost before sales tax). Electric or hybrid cars are not subject to this maximum cost.

27.3 HYDROGEN

n.a.

27.4 CNG

n.a.

27.5 LNG FOR ROAD TRANSPORT

Spain is involved in the EU project "LNG Blue Corridors". The core of the project is the roll out and demonstration of four LNG Blue Corridors. This will include building 14 new LNG or L-CNG stations and building up a fleet of about 100 LNG Heavy Duty Vehicles which will operate along the corridors. The following Spanish companies are participating in the project: Gas Natural Fenosa, Iveco España, Mendyra, Transportes Monfort.

27.6 LNG FOR WATERBORNE TRANSPORT

n.a.

[233] http://ec.europa.eu/eurostat/statistics-explained/index.php/Passenger_cars_in_the_EU#Database (data at 2012)

27.7 LPG (LIQUEFIED PETROLEUM GAS)

The development of this fuel in Spain is only nascent. The reason is that this fuel was forbidden for private users until 2003 and that infrastructure has only being growing recently.

27.8 BIOFUELS

Promotion of biofuels in Spain consists of a quota system. The quota system obliges whoever feeds fuels in the national system (retail and wholesale operators) as well as consumers relying on sources other than retail and wholesale operators to feed in or consume a certain amount of biofuels every year. This amount is established in percentage and compliance is proven to the national energy commission (CNE) through certificates. At the end of each year, the obligated parties must turn in the certificates corresponding to their biofuel sale / consumption. The CNE checks compliance and collects fees for non-compliance from the obligated parties. The penalty fees paid by the parties who did not reach their quota are redistributed among the parties who sold or consumed more biofuels than their set quota. These amounts are redistributed in proportion to the amount of biofuels that complying parties have sold or consumed in addition to their set quota.

28 SWEDEN

28.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	Total number of stations: 1894[234]
Number of accessible recharging points (high power)	
Number of refuelling points for LNG vehicles	4[235]
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	205[236]
Number of refuelling points for LPG vehicles	37[237]
Number of refuelling point for hydrogen vehicles	
Number of ports with shore-side electricity	
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	
Average distance between public recharging points in urban areas	
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	
Maximum distance between two recharging points for electric vehicles (suburban)	
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	
Maximum distance between two refuelling points for LNG vehicles (suburban)	
Maximum distance between two refuelling points for LPG vehicles (suburban)	
Maximum distance between two refuelling points for CNG vehicles (suburban)	

[234] EAFO – October 2015
[235] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014
[236] http://www.ngvaeurope.eu/european-ngv-statistics - datum updated at September 2014
[237] http://www.mylpg.eu/stations/sweden

VEHICLES DATA	
Number of road vehicles registered	5 544 556 in use, 1 753 314 not in use (pc, lorries, busses, mc, mopeds)
Total number of light road vehicles (cars) registered	4 585 519 in use, 1 124 758 not in use
Total number of heavy road vehicles registered (trucks)	581 205 in use, 226 965 no in use
Total number of heavy road vehicles registered (bus)	13 992 in use, 5 870 not in use (all busses)
Statistics on public transport fleets	12960 buses in use, with a permit to drive commercial traffic
Total number of electric road vehicles registered	3016 in use, 404 not in use (pc, lorries, busses)
Total number of hybrid road vehicles registered	39 959 in use, 1244 not in use (pc, lorries, busses)
Total number of LPG road vehicles registered	330 in use, 380 not in use (pc, lorries, busses)
Total number of LNG road vehicles registered	
Total number of CNG road vehicles registered	50 105 in use, 3217 not in use (pc, lorries, busses)
Total number of hydrogen road vehicles registered	
Total number of LNG vessel	

28.2 ELECTRICITY

The following incentives are in place in Sweden:

- Five year exemption from paying annual circulation tax: Electric vehicles with an energy consumption of 37 kWh per 100 km or less are exempt from the annual circulation tax for a period of five years from the first registration. The same five year exemption applies to electric hybrid and plug-in hybrid vehicles that fulfil the new green car definition applied for new registrations from 1 January 2013. The definition is dependent on the CO2 emission in relation to the curb weight of the car.
- Reduction of company car taxation: For electric and plug-in hybrid vehicles, the taxable value of the car for the purposes of calculating the benefit in kind of a company car under personal income tax is reduced by 40% compared with the corresponding or comparable petrol or diesel car. The maximum reduction of the taxable value is SEK 16,000 (about € 1,700) per year.
- Super green car premium new cars: A so called Super green car premium (Supermiljöbilspremie) of SEK 40,000 (about € 4,200) is available for the purchase of new cars with CO2 emissions of maximum 50 g/km. The premium is applied both for the purchase by private persons and companies. For companies purchasing a super green car, the premium is calculated as 35% of the price difference between the super green car and a corresponding petrol/diesel car, with a maximum of SEK 40,000 (about € 4,200). The premium will be paid for a total of maximum 5,000 cars.

The electricity industry and the Royal Swedish Academy of Sciences have estimated that there could be as many as 600,000 EVs on the road in Sweden by 2020 (15% of total passenger car fleet). Sweden has also set a target of achieving a fossil fuel-free transport sector by 2030.

28.3 HYDROGEN

Sweden is involved in the Scandinavian Hydrogen Highway Partnership (SHHP)[238], a partnership between local, regional and national authorities and

[238] http://www.scandinavianhydrogen.org/news?page=1

private industries and research institutions. The objective of the SHHP is to make the Scandinavian region one of the first regions in Europe where hydrogen is commercially available and used in a network of refuelling stations.

The target is to create a Hydrogen Refuelling Stations (HRS) network that includes:

- 15 stations
- satellite stations
- A large fleet of vehicles: 100 buses, 500 cars and 500 speciality vehicles.

28.4 CNG

Sweden is one of the Europe's leading countries in this type of fuel. The use of biomethane as a vehicle fuel is continuously growing. Most filling stations to date are found in South and West Sweden, but the number is also increasing in other parts of the country.

28.5 LNG FOR ROAD TRANSPORT

n.a.

28.6 LNG FOR WATERBORNE TRANSPORT

The construction of two more LNG terminals is planned for 2016:

- Göteborg (SwedeGas);
- Gaevle (Skanglass).

28.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

28.8 BIOFUELS

The main incentive for renewable energy use in transport is a tax exemption for biofuels. Companies supplying, importing and producing fossil fuels are obliged to pay energy and carbon dioxide taxes. Biofuels are exempt from these taxes

29 UNITED KINGDOM

29.1 STATISTIC DATA

INFRASTRUCTURE DATA	
Number of accessible recharging points (normal power)	2246
Number of accessible recharging points (high power)	6002 (rapid AC 315; rapid DC 757; fast 4895)
Number of refuelling points for LNG vehicles	18
Number of refuelling point for LNG ships	
Number of refuelling point for CNG vehicles	12
Number of refuelling points for LPG vehicles	1400 public selling points in the UK with LPG dispensers (as well as over 2000 private depots)
Number of refuelling point for hydrogen vehicles	1
Number of ports with shore-side electricity	
Number of airports with apron electrification service	
Average number of public electric recharging points in urban areas	Data unknown
Average distance between public recharging points in urban areas	Data unknown
Number of recharging points not accessible to the public (institutions, companies, admin., etc.)	49 611 (EV dedicated domestic charge points only)
Distance from the national boundaries of recharging points closest to the borders themselves (on motorways)	Data unknown
Maximum distance between two recharging points for electric vehicles (suburban)	Data unknown
Maximum distance between two refuelling points for hydrogen vehicles (suburban)	Data unknown
Maximum distance between two refuelling points for LNG vehicles (suburban)	Data unknown
Maximum distance between two refuelling points for LPG vehicles (suburban)	Data unknown
Maximum distance between two refuelling points for CNG vehicles (suburban)	Data unknown

VEHICLES DATA	
Number of road vehicles registered	273 444[239]
Total number of light road vehicles (cars) registered	250 490 cars, 13933 light goods vehicles (<3500kg gross weight) [240]
Total number of heavy road vehicles registered (trucks)	1091[241]
Total number of heavy road vehicles registered (bus)	Since 2009 the UK department for transport has partially subsidised the purchase of around 1200 green buses by bus service operators
Statistics on public transport fleets	Data unknown
Total number of electric road vehicles registered	25 796[242]
Total number of hybrid road vehicles registered	190 131[243], of which over 21 654 were plug-in hybrids
Total number of LPG road vehicles registered	57 498[244] using gas or gas combination of all types
Total number of LNG road vehicles registered	-
Total number of CNG road vehicles registered	-
Total number of hydrogen road vehicles registered	19 fuel cell vehicles
Total number of LNG vessel	5 liquid gas tankers are on the UK shipping register, according to IHS Global data.

29.2 ELECTRICITY

The UK Government provides for both regulatory instruments and policy measures (support to regional development of infrastructure and setting targets for vehicles) in order to promote electro-mobility. The public grant support is dedicated both to infrastructure and vehicles.

As for national legislation, the British government set initiatives to encourage more use of "ultra-low emission vehicles". The action focuses on support to Electric Vehicles, funding consortia of businesses and public sector partners to install electric vehicle charging points.

The following incentives are in place in the UK:

- Plug-in Car Grant: Purchasers of electric vehicles and plug-in hybrid vehicles with CO2 emissions below 75 g/km receive a premium of £ 5,000 (maximum) or 25% of the value of a new car or £ 8,000 (maximum) or 20% of the value of a new LCV meeting eligibility criteria (for example, minimum range 70 miles for electric vehicles, 10 miles electric range for plug-in hybrid vehicles).
- Electric vehicles are exempt from the annual circulation tax. This tax is based on CO2 emissions and all vehicles with emissions below 100 g/km are exempt from it.
- Electric cars are exempt from company car tax until April 2015 and electric vans are exempt from the van benefit charge until that date too.
- Electric vehicles and other vehicles emitting less than 95 g/km of CO2 can claim a 100% first-year allowance for depreciation.

[239] Figure are as at 31 December 2014
[240] Figures are as at 31 December 2014
[241] Figures are as at 31 December 2014
[242] Figures are as at 31 December 2014
[243] Figures are as at 31 December 2014
[244] Figures are as at 31 December 2014

29.3 HYDROGEN

n.a.

29.4 CNG

n.a.

29.5 LNG FOR ROAD TRANSPORT

n.a.

29.6 LNG FOR WATERBORNE TRANSPORT

The LNG trucks fleet is expanding, with examples as Marks & Spencer plc, which has begun deliveries of goods to its London food stores using a fleet of 10 new trucks running on liquefied natural gas fuel.

29.7 LPG (LIQUEFIED PETROLEUM GAS)

n.a.

29.8 BIOFUELS

A quota system for biofuels has been in place in the United Kingdom since 2007. Fuel suppliers for transport are obliged to satisfy a specified quota amount of biofuels in the total supplied fuel. There is a certificate system for providing proof of compliance.

The Renewable Transport Fuel Obligation (RTFO) launched in 2008 is one of the UK Government's main policies for reducing greenhouse gas (GHG) emissions from road transport in the UK. The RTFO intends to deliver reductions in carbon dioxide emissions from the road transport sector by encouraging the supply of renewable fuels.

In the UK, biofuel must meet specified sustainability criteria in order to be entitled to the benefit of RTFCs. One RTFC is issued per litre/kg of liquid/gaseous biofuel derived from crop based feed stocks. Biofuels produced from wastes, non-agricultural residues, non-food cellulosic material, and ligno-cellulosic material are issued two RTFCs per litre/kg.

The RED (directive) is closely linked to the Fuel Quality Directive (FQD). Both directives include mandatory carbon and sustainability requirements that must be met if biofuel is to count towards European targets. Obligated parties must supply the same sustainable biofuel to meet their obligation under both directives. The sustainability criteria are the following:

- Biofuels must achieve at least a 35% GHG emissions saving (this threshold will rise over time);
- Biofuels may not be made from raw material obtained from land with high biodiversity value.
- Biofuels may not be made from raw material obtained from land with high carbon stock such as forests or land that was undrained peatland unless strict criteria are met.