



# **National Policy Framework**

## **“Alternative fuels infrastructure”**

### **BELGIUM**

**16/11/2016:** version 1

**01/02/2017:** version 2 (update Walloon Region)

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# **Part I**

## **Introduction NPF Belgium**



# 1 INTRODUCTION NATIONAL POLICY FRAMEWORK OF BELGIUM

In response to the **Directive 2014/94/EU** of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure, Belgium has developed a policy framework regarding alternative transport fuels/infrastructure.

The introduction and roll out of alternative fuels in the Belgian transport sector could contribute significantly to the following objectives:

- The reduction of our oil dependence.
- The integration of more renewable energy in the transport sector.
- The strengthening of our economy & the creation of additional employment
- The improvement of air- and sound quality.
- The fight against climate change.

However, a significant introduction of alternative fuel vehicles has progressed relatively slowly over the past few years in Belgium. This is mainly due to some persisting barriers that are difficult to overcome, such as for example:

- higher purchase price of alternative fuel vehicles
- the lack of recharging infrastructure
- limited driving range
- the lack of objective and correct information (which causes prejudices among consumers)

Underlying regional and federal policy frameworks aim at providing an overview of the current and/or planned policies and measures in favour of the development of alternative fuel infrastructure and vehicles in Belgium. Moreover, specific targets have been determined regarding the roll-out of alternative fuels infrastructure in Belgium.

The Regions of Belgium (i.e. Flemish Region, Walloon Region & Brussels-Capital Region) are competent for most aspects of Directive 2014/94 (see also chapter 2 “division of competences in Belgium” of this introductory part). Accordingly, the national policy framework will be structured as follows:

- **Part 1:** Introduction
- **Part 2:** Flemish policy framework
- **Part 3:** Walloon policy framework
- **Part 4:** Brussels policy framework
- **Part 5:** Federal policy framework





## 2 DIVISION OF COMPETENCES IN BELGIUM

Table 1 gives an overview of the division of competences regarding alternative fuels in Belgium.

**Table 1: Division of competences regarding alternative fuels in Belgium**

	Federal	Regional	Local (municipalities)
<b>Fiscal measures</b>	<ul style="list-style-type: none"> <li>- Tax reduction motorcycles, tri- or quadricycles;</li> <li>- Deductibility of clean company cars;</li> <li>- System of taxable benefits of all kinds (company cars);</li> <li>- Excise duties.</li> </ul>	<ul style="list-style-type: none"> <li>- Purchase premium for electric vehicles (private individuals);</li> <li>- Car registration tax;</li> <li>- Annual circulation tax;</li> <li>- Kilometre based road charge.</li> </ul>	/
<b>Mobility &amp; Transport</b>	<ul style="list-style-type: none"> <li>- Highway code;</li> <li>- Registration of vehicles;</li> <li>- Technical standards of vehicles.</li> </ul>	<ul style="list-style-type: none"> <li>- Public road infrastructure (highways and regional roads);</li> <li>- Availability of alternative fuels on rest areas along highways</li> <li>- Public refuelling and charging infrastructure;               <ul style="list-style-type: none"> <li>- Vehicle inspection;</li> <li>- Homologation vehicles;</li> </ul> </li> <li>- CNG/LNG/Shore Power installations in ports and along inland waterways;</li> <li>- Public transport (bus/tram);</li> <li>- H2 installations.</li> </ul>	<ul style="list-style-type: none"> <li>- Public road infrastructure (local roads);</li> <li>- Parking facilities on municipal territory.</li> </ul>
<b>Energy</b>	<ul style="list-style-type: none"> <li>- Access to transmission network</li> <li>- Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>- Regulation of gas and electricity retail markets;</li> <li>Access to distribution networks;               <ul style="list-style-type: none"> <li>- Distribution tariffs;</li> </ul> </li> <li>- Renewable energy sources (except offshore wind energy);</li> <li>- Energy R&amp;D (except nuclear).</li> </ul>	/
<b>Economy &amp; other</b>	<ul style="list-style-type: none"> <li>- Standardisation/normalisation</li> <li>- Price indication of energy products &amp; inspection of price indications</li> </ul>	<ul style="list-style-type: none"> <li>- Integration of refuelling and charging points in petrol stations;</li> <li>- Development of public network of refuelling and charging infrastructure;</li> <li>- Spatial planning.</li> </ul>	/

## 3 COOPERATION WITHIN BELGIUM

### 3.1 BELGIAN AUTHORITIES

Given the complex institutional context in Belgium (both regional and federal entities are directly involved) and the various involved policy areas such as economy, mobility, energy, environment, finances,..., an interdepartmental transversal government working group (Energy-Transport) was created.

Main mission of this Energy-Transport working group:

- to coordinate the transposition and implementation of the European Directive 2014/94 on the deployment of alternative fuels infrastructure;
- to coordinate and determine the Belgian position with regard to alternative fuel issues;
- to coordinate and cooperate on the development of a national policy framework, as stipulated by Directive 2014/94;
- to make concrete work agreements with all involved entities in order to ensure the development of a coherent national policy framework;
- to analyse and discuss common challenges/questions/problems regarding alternative fuels and identify possible solutions;
- to exchange information/studies and to share best practices among federal and regional entities
- to discuss cross-border issues (Benelux, EU,...) on alternative fuels.

The key government departments involved (regional & federal) are represented in this transversal group (see table 2).

**Table 2: Overview key government departments and contact persons from Belgian regional and federal authorities**

<b>Federal Government</b>		
<b>Federal Public Service Economy (DG Energy)</b>	Lenhard Vanhoorn	<a href="mailto:lenhard.vanhoorn@economie.fgov.be">lenhard.vanhoorn@economie.fgov.be</a>
<b>Federal Public Service Mobility &amp; Transport</b>	Laurent Demilie	<a href="mailto:laurent.demilie@mobilite.fgov.be">laurent.demilie@mobilite.fgov.be</a>
<b>Flemish Region</b>		
<b>Flemish administration (LNE - Energy &amp; Environment)</b>	Jeroen Cockx	<a href="mailto:jeroen.cockx@lne.vlaanderen.be">jeroen.cockx@lne.vlaanderen.be</a>



<b>Flemish administration (LNE - Energy &amp; Environment)</b>	Simon Ruyters	<a href="mailto:simon.ruyters@mow.vlaanderen.be">simon.ruyters@mow.vlaanderen.be</a>
<b>Flemish administration (MOW - Mobility)</b>	Olivier Vandersnickt	<a href="mailto:olivier.vandersnickt@mow.vlaanderen.be">olivier.vandersnickt@mow.vlaanderen.be</a>
<b>Flemish administration (EWI - Science, Technology &amp; Innovation)</b>	Hilde Vermeulen	<a href="mailto:hilde.vermeulen@ewi.vlaanderen.be">hilde.vermeulen@ewi.vlaanderen.be</a>
<b>Walloon Region</b>		
<b>Walloon administration (DGO4 - Energy)</b>	Pascal Lehance	<a href="mailto:pascal.lehance@spw.wallonie.be">pascal.lehance@spw.wallonie.be</a>
<b>Walloon administration (DGO2 - Transport)</b>	Muriel Dozier	<a href="mailto:muriel.dozier@spw.wallonie.be">muriel.dozier@spw.wallonie.be</a>
<b>Brussels-Capital Region</b>		
<b>Brussels administration (Energy &amp; Environment)</b>	Nele Sergeant	<a href="mailto:nsergeant@environnement.brussels">nsergeant@environnement.brussels</a>
<b>Brussels administration (Mobility)</b>	Jasper van der Hoop	<a href="mailto:jvanderhoop@gob.brussels">jvanderhoop@gob.brussels</a>

The Federal Public Service of Economy and the Federal Public Service of Mobility & Transport (federal government of Belgium) are coordinating the national concertation and development of the Belgian policy framework. However, as already mentioned earlier, the regions are competent for most aspects of Directive 2014/94.

## 3.2 STAKEHOLDERS

### a) National Steering Group

In 2011, the Federal Public Service of Economy created a national Steering Group on electric vehicles (EV Steering Group). The mission of the steering group was to bring together all involved **key** sector-stakeholders and authorities in Belgium in order to make recommendations regarding the introduction of electric mobility in our country.

Some examples of involved sector-stakeholders in the Belgian EV Steering Group:

- **VBO-FEB:** Federation of Belgian Enterprises
- **Agoria:** Federation of the technology industry



- **FEBIAC**: Federation of car and two-wheeler industries
- **TRAXIO**: Federation car dealership and reparation
- **FELEG**: Federation of the Belgian electricity and gas companies
- **Synergrid**: Federation of the Belgian distribution system operators (gas & electricity)
- **ELIA**: Transmission System Operator (electricity)
- **Fluxys**: Transmission System Operator (gas)
- **ASBE**: Belgian section of the European AVERE network for manufacturers, suppliers, importers and distributors of electrically propelled vehicles (battery, hybrid, fuel cell,...) and accessories.
- **Association of cities and municipalities**
- Several Belgian **universities** and **research organizations**
- **Environmental organizations**

The national EV Steering Group is currently not active in its present (national) form. The regions have organized several stakeholder consultations on a regional level, also in the context of the development of the regional policy frameworks (see part 2, 3 and 4 of this national policy framework).

#### ***b) Belgian Platform on Electric Vehicles / Alternative Fuels***

The Belgian Platform on Alternative Fuels is founded by the Federal Public Service of Economy. The main goal is to bring together *all* interested parties (organizations, companies, citizens,...) in Belgium to discuss about alternative fuels and to formulate positions on concrete themes, as for example on charging and refuelling infrastructure, batteries, the role of the authorities,... . Eight Belgian Platform sessions have been organized between October 2010 and May 2014<sup>1</sup>.

Since May 2014, the Belgian Platform has not been organized. As already put forward, the stakeholder consultations are currently organized on a regional level, rather than on a national level. More detailed information can be found in the regional policy frameworks (part 2, 3 and 4).

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<sup>1</sup> More information on these meetings can be found via the following link:  
[http://economie.fgov.be/nl/consument/Energie/Duurzame\\_ontwikkeling/elektrische\\_voertuigen/belgian\\_platform\\_on\\_electric\\_vehicles/ontmoetingen/BE\\_EV\\_8/#.V72dh\\_mLTcs](http://economie.fgov.be/nl/consument/Energie/Duurzame_ontwikkeling/elektrische_voertuigen/belgian_platform_on_electric_vehicles/ontmoetingen/BE_EV_8/#.V72dh_mLTcs)



## **4 COOPERATION WITH NEIGHBOURING MEMBER STATES**

### **A. REGIONAL COOPERATION**

Given that Member States must submit to a common framework and minimum requirements for the deployment of a network infrastructure for alternative fuels, Article 3, paragraph 4 of the directive requires that, if necessary, the Member States shall cooperate, through consultations or joint frameworks, to ensure coherence and coordination of measures necessary for achieving the objectives of the directive.

### **B. BENELUX REGIONAL COOPERATION**

In the need for regional cooperation, Belgium and its regions emphasize close cooperation with neighboring countries. Recalling the Benelux recommendation M(2015)10 on cooperation regarding the deployment of infrastructure for alternative fuels which was signed in October 2015 by the three Benelux countries. This cooperation aims to strengthen the exchange of knowledge and best practices on the deployment of infrastructure for alternative fuels in the territories ensuring a minimum coverage by the end of 2020, 2025 and 2030.

The Benelux recommendation points out particular attention to cross-border aspects of infrastructure deployment. Furthermore, initiatives concerning infrastructure concessions could require cooperation between neighboring countries and regions to ensure a coordinated development of sustainable infrastructure, particularly in cross-border areas. Finally, interoperability and information exchange between systems and with citizens in the event of cross-border itineraries should be taken into account.

### **C. BENELUX REGIONAL COOPERATION IN EU CONTEXT**

As the Benelux cooperation has been coordinated by a working group with the support of the Benelux Secretariat, opportunities to link to other regional neighboring projects and to play a facilitating role in this are welcomed. The joint forces regarding expertise networks, legislative incentives and possible funding represent a considerable asset in the EU context in order to ensure the further implementation of the strategy and provide clean power to all forms of transport.



## 5 CURRENT FIGURES & TARGETS

### 5.1 OVERVIEW BELGIAN VEHICLE FLEET (PASSENGER CARS)

Table 3 provides an overview of the evolution of the Belgian vehicle fleet between 1985 and 2015.

**Table 3: Evolution of the Belgian vehicle fleet 1985 - 2015 (passenger cars)**

	Petrol / gasoline		Diesel		LPG	Hybrid	PHEV	Electr.	CNG	H <sub>2</sub>	Total
		%		%							
<b>1985</b>	2 658 517	79,5%	546 259	16,3%	78 070			33			<b>3 342 704</b>
<b>1990</b>	2 744 249	71,0%	1 014 905	26,3%	40 099			23			<b>3 864 159</b>
<b>1995</b>	2 828 284	66,2%	1 393 386	32,6%	32 044			16			<b>4 273 451</b>
<b>1996</b>	2 827 692	65,2%	1 457 928	33,6%	33 908			18			<b>4 339 231</b>
<b>1997</b>	2 814 737	63,7%	1 541 388	34,9%	39 549			23			<b>4 415 343</b>
<b>1998</b>	2 783 825	62,0%	1 643 392	36,6%	44 865			47			<b>4 491 734</b>
<b>1999</b>	2 768 698	60,4%	1 748 956	38,2%	46 314			71			<b>4 583 615</b>
<b>2000</b>	2 732 352	58,4%	1 867 351	39,9%	59 059			71			<b>4 678 376</b>
<b>2001</b>	2 677 500	56,5%	1 971 124	41,6%	72 129			64			<b>4 739 850</b>
<b>2002</b>	2 620 276	54,7%	2 073 832	43,3%	74 186			57			<b>4 787 359</b>
<b>2003</b>	2 557 100	53,0%	2 173 718	45,1%	71 014			51			<b>4 820 868</b>
<b>2004</b>	2 489 629	51,1%	2 300 504	47,2%	65 291			30			<b>4 874 426</b>
<b>2005</b>	2 422 338	49,2%	2 416 818	49,1%	60 413			22			<b>4 918 544</b>
<b>2006</b>	2 328 882	46,8%	2 570 671	51,7%	56 188	1 589	0	9	1	0	<b>4 976 286</b>
<b>2007</b>	2 244 943	44,5%	2 730 958	54,2%	51 019	2 856	0	9	7	0	<b>5 042 095</b>
<b>2008</b>	2 157 241	42,1%	2 903 238	56,7%	46 550	4 566	0	9	37	0	<b>5 123 972</b>
<b>2009</b>	2 086 292	40,2%	3 038 521	58,5%	42 424	6 180	0	13	61	0	<b>5 191 714</b>
<b>2010</b>	2 028 166	38,4%	3 181 017	60,3%	37 440	9 927	9	61	94	1	<b>5 275 610</b>
<b>2011</b>	1 996 618	36,9%	3 341 076	61,8%	33 598	15 888	26	323	143	1	<b>5 406 362</b>
<b>2012</b>	1 968 908	36,2%	3 401 604	62,5%	29 954	20 576	347	826	227	1	<b>5 440 754</b>
<b>2013</b>	1 991 671	36,2%	3 442 753	62,5%	23 884	25 476	590	1 205	359	1	<b>5 504 809</b>
<b>2014</b>	2 038 966	36,6%	3 457 282	62,0%	20 972	31 491	1 544	2 196	1 253	4	<b>5 572 574</b>
<b>2015</b>	2 115 479	37,4%	3 463 234	61,2%	18 368	36 765	3 831	3 308	1 889	8	<b>5 661 742</b>

Source: Federal Public Service of Mobility & Transport

#### 5.1.1 Diesel & petrol vehicles (passenger cars)

Gas and diesel oil is the most used oil product in Belgium, accounting for 45% of total oil products consumption<sup>2</sup>.

This partly reflects the structure of Belgium's vehicle fleet: freight transport by road uses almost solely diesel and out of Belgium's 5.6 million passenger cars in 2015, 61.2% were diesel and 37.4% gasoline (see table 3). Diesel cars overtook gasoline cars in number in 2006. The government has maintained excise taxes for diesel

<sup>2</sup> IEA in-depth review Belgium (2016)

significantly lower than petrol, originally to help commercial users. On the other hand, the country's large company car fleet (accounting for 42% of passenger cars registered since 2005) is around 80% diesel, reflecting lower fuel costs per kilometre.

Although Belgium had more diesel cars than ever in 2014, the decades-long dieselisation trend seems to have stabilised, as the share of diesel cars in total passenger car stock has remained at around 62% from 2011 to 2014 and even declined to 61,2% in 2015.

Also, the share of diesel cars in new car registrations has declined from the peak of 79% in 2008 to 59,9% in 2015. The turn in the trend can be explained by policy changes. In 2008, the purchase of low-CO<sub>2</sub> emitting cars was subsidised at the federal level and also in the Walloon region. All these measures favoured purchasing diesel cars, which emit less CO<sub>2</sub> than petrol ones. Subsequently, however, the measures have been abandoned, partly because of budget constraints, but also to avoid a stronger dieselisation of the car fleet. The excise tax reform of October 2015 will also discourage the use of diesel cars, as it will significantly increase excise duties on diesel until 2018 and, at the same time, reduce the excise duties on gasoline.

### 5.1.2 Alternative fuel vehicles (passenger cars)

As shown by table 4, the number of alternative fuel vehicles (passenger cars) remain very modest with respect to the total Belgian passenger car fleet.

**Table 4: Evolution alternative fuel vehicles 2006 - 2015 in Belgium (passenger cars)**

	PHEV		Electric		CNG		H <sub>2</sub>		TOTAL FLEET
		%		%		%		%	
2006	0	0,00%	9	0,00%	1	0,00%	0	0,00%	4.976.286
2007	0	0,00%	9	0,00%	7	0,00%	0	0,00%	5.042.095
2008	0	0,00%	9	0,00%	37	0,00%	0	0,00%	5.123.972
2009	0	0,00%	13	0,00%	61	0,00%	0	0,00%	5.191.714
2010	9	0,00%	61	0,00%	94	0,00%	1	0,00%	5.275.610
2011	26	0,00%	323	0,01%	143	0,00%	1	0,00%	5.406.362
2012	347	0,01%	826	0,02%	227	0,00%	1	0,00%	5.440.754
2013	590	0,01%	1.205	0,02%	359	0,01%	1	0,00%	5.504.809
2014	1.544	0,03%	2.196	0,04%	1.253	0,02%	4	0,00%	5.572.574
2015	3.831	0,07%	3.308	0,06%	1.889	0,03%	8	0,00%	5.661.742

*Source: Federal Public Service of Mobility & Transport*

In 2015, the shares of the alternative fuel vehicles (passenger cars) with respect to the total Belgian passenger car fleet were the following:

- Share PHEV: 0,07%
- Share full electric vehicles: 0,06%
- Share CNG: 0,03%
- Share H<sub>2</sub>: 0,00014%



## 5.2 NUMBER OF ALTERNATIVE FUEL VEHICLES

**Table 5: Number of current alternative fuel vehicles in Belgium**

Current AFVs	TOTAL	Flemish Region (June 2016)	Walloon Region (31/12/2015)	Brussels-Capital Region (31/12/2015)
Battery Electric Vehicles (BEV)	<b>4.748</b>	3.012*	960	776
Plug-in Hybrid Vehicles (PHEV)	<b>6.583</b>	5.762*	479	342
CNG vehicles	<b>3.559</b>	2.874*	477	208
Hydrogen vehicles	<b>12</b>	8	0	4

\* Number of current electric (BEV/PHEV) and CNG *cars* for the Flemish region.

**Table 6: Number of targeted alternative fuel vehicles in Belgium (2020)**

Targeted AFVs (2020)	TOTAL	Flemish Region	Walloon Region	Brussels Capital Region
Electric vehicles	<b>86.641</b>	74.100	9.903	2.638
CNG vehicles	<b>42.584</b>	41.000	1.344	240

More detailed information on current and targeted alternative fuel vehicles can be found in the respective regional policy frameworks (i.e. parts 2-4).





### 5.3 ELECTRICITY RECHARGING POINTS

**Table 7: Number of current recharging points in Belgium**

Current recharging points	TOTAL	Flemish Region (June 2016)	Walloon Region (31/12/2015)	Brussels Capital Region (31/12/2015)
Normal power recharging points (Public)	522	251	212	59
High power recharging points (Public)	84	70	3	11
Normal power recharging points (Private)	2.667	2.348	237	82
High power recharging points (Private)	1.030	1.013	17	0
Shore-side electricity supply for <u>inland vessels</u> in maritime and inland ports (Terminals)	329	285	44	0
Shore-side electricity supply for <u>sea-going vessels</u> in maritime and inland ports (Terminals)	9	9	Not available	0
Electricity supply for stationary airplanes	Present	Present	Present	Not applicable

**Table 8: Number of targeted recharging points in Belgium (2020)**

Targeted recharging points (2020)	TOTAL	Flemish Region	Walloon Region	Brussels-Capital Region
Normal & high power recharging points (Public)	8.324	7.436	688	200
Shore-side electricity supply in maritime and inland ports	527	524	-	3

More detailed information on current and targeted recharging points can be found in the respective regional policy frameworks (i.e. parts 2-4).

## 5.4 NATURAL GAS REFUELLING STATIONS

**Table 9: Number of current natural gas refuelling stations in Belgium**

Current situation	TOTAL	Flemish Region (June 2016)	Walloon Region (31/12/2015)	Brussels-Capital Region (31/12/2015)
CNG refuelling stations (public)	<b>58</b>	52	5	1
CNG refuelling stations (private)	-	Not available	Not available	0
LNG refuelling stations for HD vehicles (public)	<b>2</b>	2	0	0
LNG refuelling stations for HD vehicles (private)	<b>1</b>	1	Not available	0
LNG locations for Truck-to-Ship bunkering	<b>3</b>	3*	Not available	0
Sea Ports - LNG refuelling points	<b>0</b>	0	Not applicable	Not applicable
Inland Ports - LNG refuelling points	<b>0</b>	0	0	0

\*: several locations in three Flemish ports (Zeebrugge, Gent and Antwerp)

**Table 10: Number of targeted natural gas refuelling stations in Belgium (2020)**

Targeted gas stations (2020)	TOTAL	Flemish Region	Walloon Region	Brussels Capital Region
CNG refuelling stations (public)	<b>333</b>	300	30	3

More detailed information on current and targeted natural gas refuelling stations can be found in the respective regional policy frameworks (i.e. parts 2-4).



## 5.5 HYDROGEN REFUELLING STATIONS

**Table 11: Number of current hydrogen refuelling stations in Belgium**

Current situation	TOTAL	Flemish Region (June 2016)	Walloon Region (31/12/2015)	Brussels Capital Region (31/12/2015)
Refuelling Stations (350 bar -public)	1	1*	0	0
Refuelling Stations (350 bar -private)	2	2	0	0
Refuelling Stations (700 bar -public)	1	1*	0	0
Refuelling Stations (700 bar -private)	0	0	0	0

\*: both on the same location (Zaventem)

**Table 12: Number of targeted hydrogen refuelling stations in Belgium (2020)**

Targeted hydrogen stations (2020)	TOTAL	Flemish Region	Walloon Region	Brussels Capital Region
Refuelling Stations – 350 bar (public)	22	20*	2	-
Refuelling Stations – 700 bar (public)	22	20*	2	-

\*: the targeted 20 hydrogen refuelling stations in the Flemish region will probably be equipped with both 350 and 700 bar.

More detailed information on current and targeted natural hydrogen refuelling stations can be found in the respective regional policy frameworks (i.e. parts 2-4).

## 6 EXECUTIVE SUMMARIES OF THE REGIONAL AND FEDERAL POLICY FRAMEWORKS

As explained in chapter 1 of this introductory part, the Belgian policy framework is structured as follows:

- **Part 1:** Introduction
- **Part 2:** Flemish policy framework
- **Part 3:** Walloon policy framework
- **Part 4:** Brussels policy framework
- **Part 5:** Federal policy framework

The regional and federal policy frameworks (i.e. parts 2-5) have been drafted in Dutch and/or French. In this introductory part, an executive summary is provided in English of the regional and federal policy frameworks.

### 6.1 EXECUTIVE SUMMARY - FLEMISH POLICY FRAMEWORK

The Flemish policy framework regarding alternative fuels infrastructure for transport in response to Directive 2014/94/EU is based on the Action Plan on the deployment of alternative fuels infrastructure as adopted by the Flemish Government on December 18, 2015. With this Action Plan, the Flemish Government wants to accelerate the transition towards the roll out of an alternative fuels vehicle market in Flanders and to support the European dimension regarding this topic, e.g. in rolling out cross-border infrastructure for alternative fuels. As observed in other countries, multiple actions will be set up simultaneously in order to achieve maximum effect. Market support for green vehicles must be accompanied by the development of charging and refuel infrastructure while at the same time informing the stakeholders concerned, including the early adopter-drivers of Clean Power vehicles. In conclusion, the implementation of the actions as defined in the Action Plan should operate as a driving force during the period 2015-2020, stimulating future Clean Power development.

The Action Plan focusses on four-wheelers and integrates 2020 objectives for electric vehicles and vehicles on natural gas as well as objectives for charging and refuelling infrastructure. Long-term goals (horizon 2025 and 2030) are to be further explored and examined. The main actions stimulate market uptake for Clean Power vehicles and aim for a fast expansion of the infrastructure required. The actions should remove the main barriers as experienced by current users, more specifically the purchase price, the lack of charging infrastructure and the limited user knowledge regarding Clean Power. A well-organized coordination structure with working groups for the implementation, including feedback and reporting mechanisms, ensures the transversal character and the involvement of all stakeholders concerned in the policy development. Key concerns are clear consumer information, visibility and user friendliness.

In order to reach the targets set forward in the Flemish Action Plan, the following policy measures will be implemented:

- Fiscal incentives for Clean Power vehicles (exemption from registration and annual circulation taxes)
- A zero-emission premium of 5000 euro maximum for individuals when purchasing battery-electric or hydrogen vehicles
- The obligation for the Distribution Grid Operators (DGO's) to make sure that 5000 publicly accessible charging points are installed through public procurement in 2020



- The introduction of a notification requirement for publicly accessible charging points
- The setup of a website dedicated to Clean Power and an accompanying communication campaign
- The development and provision of a tool to compare the total cost of ownership (TCO) of Clean Power vehicles to one another and other vehicles
- The deployment of the first publicly accessible hydrogen refuelling stations
- The setup of actions to encourage the use of shore power for vessels on inland waterways
- The design of an electric mobility guide for local governments
- The mobilization of funds (1 million euro each year) to support studies ( e.g. light electric vehicles) and Clean Power projects
- The 2 year prolongation of the financial support provided under the ecology subsidy to companies for the installation of electric charging infrastructure
- The initiation of projects regarding niche market fleets, e.g. taxi's
- The exploration of potential deployment of public electric busses

## **6.2 EXECUTIVE SUMMARY - WALLOON POLICY FRAMEWORK**

Wallonia has decided to put forward a fair balance between the rapid technological developments in the sector and the opening-up of the market, on the one hand, and the fragile budgetary context which has to be optimized in order to offer real opportunities for each alternative fuel without being too burdensome for the Region and the community as well as for individuals.

The objectives set up in the plan were taken on basis of a "business as usual" scenario which provides a fairly optimistic growth of the number of vehicles and infrastructures within four years. The rapid technological evolution regarding the electro-mobility sector has led to the choice not to set up objectives in 2025 and 2030. We are convinced that major breakthroughs are going to occur inbetween that can lead to a major and more rapid slide to BEV/PHEV after 2020.

At this point, Wallonia has decided not to favour one or another technology in order to keep the market in a fair competition. On the other hand, this choice must lead to a more controlled growth that may avoid major congestions on the electricity grid mainly.

As we have already noticed, the deployment of the infrastructures, i.e. electric charging points, has already followed growing curves in major cities and in more densely populated regions of Wallonia and the trend will be reinforced in the coming years. A major attention will be kept on more fragile rural regions of the southern part of Wallonia.

## **6.3 EXECUTIVE SUMMARY - BRUSSELS POLICY FRAMEWORK**

The Brussels Capital Region (BCR) is facing important challenges in improving local air quality and reducing road congestion. Especially the numerous diesel vehicles daily entering and circulating the roads contribute strongly to the emissions of particulate matter and nitrogen oxydes, causing important health problems, as well as damage to ecosystems and cultural heritage. Changing the way of transportation towards more sustainable modes of transport (walking, cycling, public transport) is the main driver in the regional mobility policy and is translated in the Region's objective to reduce motorised traffic with 20 % by 2018, compared to 2001.



In order to reach the BCR's targets regarding air quality and climate change, additional actions are necessary. These actions have been defined by the 'Air-Climate-Energy Plan' (ACE plan), adopted on June 2<sup>nd</sup> 2016 by the Brussels' regional government. Besides rationalising the transport demand and encouraging a modal shift, the plan includes several measures to improve the environmental performance of vehicles. The introduction of a Low Emission Zone (excluding the most polluting diesel and petrol cars, vans and buses) on the complete BCR territory as of January 2018, is one of the most important measures which have been decided upon. The vehicle taxation (annual circulation tax and registration tax) will also be reformed, as part of the ACE plan, giving an advantage to environmentally friendly vehicles.

Alternatively fuelled vehicles form an interesting solution for the nuisance caused by conventional diesel and petrol vehicles, although these vehicles will not resolve the congested roads. Seen the urban context of the BCR and the fact that on average only 5 kilometres are travelled inside the region per trip, electric vehicles are considered as the most promising alternative vehicle technology. This is especially the case for captive fleets, such as taxis, carsharing, public fleets, etc.

To stimulate the transition towards electric transport, the BCR has already taken different measures, e.g. quota on electric cars in the public fleets, financial support for small and medium enterprises to purchase hybrid, electric and fuel cell vehicles, electric taxis, etc. The public transport company in the BCR (STIB – MIVB) is also preparing the transition towards electric buses, following a test period with 3 fully electric bus lines.

In 2017 the deployment of a public charging infrastructure network will take a lead, with an objective to have 200 recharging points by 2020 for 2000 electric cars and 600 light duty vehicles. Currently, only one public CNG station is operational in the BCR, which will be expanded towards 3 public stations by 2020.

The port of Brussels (an inland port, part of the TEN-T core network) will also start the transition towards alternative fuels for vessels with the installation of 3 shore-side electricity supply points by 2020, as well as one LNG refuelling point by 2030.

The urban context and limited presence of motorways on the BCR territory directs the objectives of the Brussels policy framework strongly towards electric recharging infrastructure. Infrastructure for hydrogen or LNG for heavy duty vehicles is currently not included in this policy framework due to safety considerations within our densely populated region.

## 6.4 EXECUTIVE SUMMARY - FEDERAL POLICY FRAMEWORK

The federal part (i.e. part 5) of the Belgian policy framework will describe the main federal policy measures/competences which directly or indirectly regard alternative fuels / vehicles / infrastructure. The federal part goes beyond the scope of Directive 2014/94. The main elements with regard to Directive 2014/94 can be found in the policy frameworks of the three regions (i.e. part 2-4 of this Belgian policy framework) being mainly competent for aspects regarding alternative fuels infrastructure.

The structure of **chapter 1** of the federal part is based on the main related federal policy measures/competences, namely:

- Federal fiscal measures
- Economy & Employment
- Mobility & Transport



- Energy & Environment
- Federal government fleet
- Standardization
- Security

Following federal government departments / institutions are directly or indirectly concerned:

- Federal Public Service Economy (<http://economie.fgov.be/en/>)
- Federal Public Service Mobility and Transport (<http://mobilit.belgium.be/fr>)
- Federal Public Service Finances (<http://financien.belgium.be/fr>)
- Federal Public Service Environment (<http://www.health.belgium.be/en>)
- Federal Public Service federal government staff & organisation ([http://www.fedweb.belgium.be/fr/spf\\_p-o](http://www.fedweb.belgium.be/fr/spf_p-o))
- Federal Public Service Internal Affairs (<http://ibz.be/fr>)
- National Bureau for Standardization (<http://www.nbn.be/en>), which is a public interest body supervised by the Federal Minister responsible for the economy.

**Chapter 2** of the federal part provides a brief description on the related support actions in which the federal government of Belgium plays a role.

- Coordination of the national policy framework. The Federal Public Service of Economy and the Federal Public Service of Mobility & Transport coordinated the national concertation and development of the Belgian policy framework.
- Bring together national stakeholders
- European and regional cooperation
- Communication

**Chapters 3 and 4** provide information respectively with regard to the national railway agency "NMBS/SNCB" and the national airport "Brussels Airport", which both fall under the authority of the federal government (Federal Public Service Mobility and Transport).

## **Part II**

# **Flemish Policy Framework**



The Flemish authorities set out their vision and objectives in the 'Action Plan Clean Power for Transport', which was approved by the Flemish Government on 18 December 2015 (VR 2015 1812 DOC.1438-2TER CPT).<sup>3</sup> This Action Plan contains the principles, objectives and work packages with measures and a structure for monitoring the implementation of the Flemish Action Plan. This forms the basis for the Flemish policy framework, as presented below.

## 1 ASSESSMENT OF THE CURRENT STATE OF ALTERNATIVE FUELS IN THE TRANSPORT SECTOR

### 1.1 PERCENTAGE OF CURRENT USE OF DIFFERENT FUELS FOR TRANSPORT

In this respect, we refer to the joint part 1 of the Belgian 'NPF'.

### 1.2 NUMBER OF CURRENT ALTERNATIVE FUEL VEHICLES

**Table 13: Number of current AFVs in the Flemish Region**

ALTERNATIVE FUEL VEHICLES	NUMBER OF VEHICLES
	June 2016
Electric Cars BEV	3012
PHEV	5762
Electric Light Duty Vehicles	Unknown
Electric Heavy Duty Vehicles	Unknown
Electric Buses	4
Electric Motorbike	Unknown
CNG Cars	2874
CNG Light Duty Vehicles	Unknown
CNG Heavy Duty Vehicles	Unknown
CNG Buses	Unknown
LNG Light Duty	Unknown
LNG Heavy Duty	Unknown
LNG Buses	Unknown
Hydrogen Car	2
Hydrogen Light Duty	Unknown
Hydrogen Heavy Duty	1
Hydrogen Buses	5
Other (if any)	Unknown

<sup>3</sup><http://www.milieu vriendelijkervoertuigen.be/sites/default/files/atoms/files/Actieplan%20CPT.pdf>

### 1.3 ELECTRICITY

**Table 14: Number of current recharging points in the Flemish Region**

ELECTRICITY	Recharging Points
	As indicated
Normal power recharging points (Public)	251* †
High power recharging points (Public)	70 (AC+DC)* ‡
Normal power recharging points (Private)	2348*
High power recharging points (Private)	1013 (AC+DC)*
Shore-side electricity supply for <u>inland vessels</u> in maritime and inland ports (Terminals)	285 (473 points)**
Shore-side electricity supply for <u>sea-going vessels</u> in maritime and inland ports (Terminals)	9**
Electricity supply for stationary airplanes	Available

\* Number of recharging points, installed in Belgium on 31 December 2014

Source: 12 operators (new figures for 7 (2014), older for 5 of them (2013))

\*\* Situation June 2016

† of which 2 recharging points on car park provided under a concession by the Agency for Roads and Traffic (Agentschap Wegen en Verkeer)

‡ of which 6 recharging points on car park provided under a concession by the Agency for Roads and Traffic (Agentschap Wegen en Verkeer) (Ruisbroek (E19 dir. Brussels); Drongen (E40 dir. Ostend); Drongen (E40 dir. Ghent))

**Table 15: Shore-side electricity for sea-going vessels in the Flemish Region (June 2016)**

Port Name	Quai-wall (n°) & Terminal Name	# connection points	Operator
Ostend	406	1	PAO*
Ostend	604/605/606/607	4	PAO*
Ostend	105	1	PAO*
Ostend	303/309	2	PAO*
Zeebrugge	143 - ZIP terminal	1 (11kV)	PSA-ZIP

\*Port Authority of Ostend

## 1.4 NATURAL GAS

**Table 16: Number of current natural gas refuelling stations in the Flemish Region**

NATURAL GAS	Natural gas refuelling stations	
	June 2016	
CNG refuelling stations (public)	52	
CNG refuelling stations (private)	Unknown	
LNG refuelling stations for HD vehicles (public)	2	
LNG refuelling stations for HD vehicles (private)	1	
LNG locations for Truck-to-Ship bunkering	3*	
Sea Ports - LNG refuelling points	0	
Inland Ports - LNG refuelling points	0	

\*: several locations in three Flemish ports (Zeebrugge, Ghent and Antwerp)

## 1.5 HYDROGEN

**Table 17: Number of current hydrogen refuelling stations in the Flemish Region**

HYDROGEN	Hydrogen Refuelling stations (June 2016)	
	350 bar	700 bar
Refuelling Stations (public)	1*	1*
Refuelling Stations (private)	2	0

\* Both on 1 location (Zaventem)

## **2 TARGETS AND OBJECTIVES**

The Flemish Action Plan, approved by the Flemish Government, focuses primarily on a breakthrough for electric vehicles (including fuel cell vehicles) and also offers opportunities to vehicles and vessels running on natural gas and shore-side electricity to develop.

At present, electricity offers the best prospects in the search for low-carbon, environmentally friendly mobility by 2050, certainly in combination with renewable sources of energy. Natural gas (preferably in the form of biogas) can in the meantime contribute to ensuring that the fleet rapidly becomes more environmentally friendly and is also more easily applicable for larger vehicles and vessels (trucks, ships, etc.). Fuel cell vehicles in theory and in the future present a number of the advantages of battery electric vehicles, but without the limited driving distance. In practice, the technology must become cheaper and it is important whether hydrogen can be produced in an environmentally friendly manner.

To underpin the CPT objectives, a study was carried out into the (environmental) potential of electric vehicles and CNG cars in Flanders.<sup>4</sup> Moreover, a model was also devised to serve as a basis for the calculation of scenarios. The changing technology was taken into account as far as possible (cheaper batteries, longer driving distance, supply, image, etc.). The figures in this study are theoretical (based on a full supply). Pricing in the main policy measures from the Action Plan (premium, recharging infrastructure) and the ensuing image improvement resulted in a sales potential of 7.8% for BEV; 1.1% for PHEV and 3.9% for CNG. When defining the objectives, this potential was combined with the European expectations, the framework conditions under the climate policy, the ambitions of other European countries, the market expectations and the realisation of the share of renewable energy in mobility.

The targets for the recharging infrastructure were then determined, taking into account that the European CPT Directive recommends, for guidance, at least 1 recharging point per 10 electric vehicles. The ratio to be followed depends on the charging strategy followed and the expected increase in driving distance.

### **2.1 PERCENTAGE OF TARGETED USE OF DIFFERENT FUELS FOR TRANSPORT**

In this respect, we refer to the joint part 1 of the Belgian 'NPF'.

### **2.2 ALTERNATIVE FUEL VEHICLES TARGETS**

Target laid down in the 'Action Plan Clean Power for Transport'.

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<sup>4</sup> '(Milieu) potentieel van elektrisch rijden in Vlaanderen', VUB, 2011

**Table 18: Number of targeted alternative fuel vehicles in the Flemish Region**

ALTERNATIVE FUEL VEHICLES	Number of Vehicles		
	2020	2025	2030
Electric Cars	<b>74.100</b>	Not yet specified	Not yet specified
Electric Light Duty Vehicles	Not specified	Not specified	Not specified
Electric Heavy Duty Vehicles	Not specified	Not specified	Not specified
Electric Buses	Not specified	Not specified	Not specified
Electric Motorbike	Not specified	Not specified	Not specified
CNG Cars	<b>41.000</b>	Not yet specified	Not yet specified
CNG Light Duty Vehicles	Not specified	Not specified	Not specified
CNG Heavy Duty Vehicles	Not specified	Not specified	Not specified
CNG Buses	Not specified	Not specified	Not specified
LNG Light Duty	Not specified	Not specified	Not specified
LNG Heavy Duty	Not specified	Not specified	Not specified
LNG Buses	Not specified	Not specified	Not specified
Hydrogen Car	Not specified	Not specified	Not specified
Hydrogen Light Duty	Not specified	Not specified	Not specified
Hydrogen Heavy Duty	Not specified	Not specified	Not specified
Hydrogen Buses	Not specified	Not specified	Not specified
Other (if any)	Not specified	Not specified	Not specified

## 2.3 ELECTRICITY

The targets for ordinary recharging points have been laid down in the Flemish 'Action Plan Clean Power for Transport'. The fast chargers are included in a European project. This involves 18 stations, each with 2 recharging points: Jabbeke (direction Ostend), Jabbeke (direction Ghent), Waarloos (direction Antwerp), Waarloos (direction Brussels), Kalken (direction Antwerp), Kalken (direction Ghent), Minderhout (direction Antwerp), Hoegaarden (direction Liège), Tessenderlo (direction Hasselt), Tessenderlo (direction Antwerp), Nazareth (direction Kortrijk), Nazareth (direction Ghent), Zolder (direction Netherlands), Zolder (direction Hasselt), Ruisbroek (direction Brussels), Ruisbroek (direction Mons), Drongen (direction Ghent), Drongen (direction Ostend)

**Table 19: Number of targeted recharging points in the Flemish Region**

ELECTRICITY	Recharging Points		
	2020	2025	2030
Normal power recharging points (Public)	<b>7.400</b>	Not yet specified	Not yet specified
High power recharging points (Public)	<b>36</b>	Not yet specified	Not yet specified
Normal power recharging points (Private)	Not specified	Not specified	Not specified
High power recharging points (Private)	Not specified	Not specified	Not specified
Shore-side electricity supply for inland shipping	<b>513</b>	<b>595</b>	Not yet specified
Shore-side electricity supply for sea going vessels	<b>11</b>	Not yet specified	Not yet specified
Electricity supply for stationary airplanes	Not specified	Not specified	Not specified

**Table 20: Number of targeted points for shore-side electricity supply for sea-going vessels in the Flemish Region**

TEN-T Port	Connection Points		
	2020	2025	2030
Antwerp	<b>0</b>	Not specified	Not specified
Ghent	<b>0</b>	Not specified	Not specified
Ostend	<b>10</b>	<b>12</b>	<b>14</b>
Zeebrugge	<b>1</b>	Not specified	Not specified

## 2.4 NATURAL GAS

Objective laid down in the 'Action Plan Clean Power for Transport'.

**Table 21: Number of targeted natural gas refuelling stations in the Flemish Region**

NATURAL GAS	Refuelling Stations		
	2020	2025	2030
CNG refuelling stations (public)	300	Not yet specified	Not yet specified
CNG refuelling stations (private)	Not specified	Not specified	Not specified
LNG refuelling stations for HD vehicles(public)	Not specified	Not specified	Not specified
LNG refuelling stations for HD vehicles (private)	Not specified	Not specified	Not specified

**Table 22: Number of targeted natural gas refuelling stations in TEN-T Core Ports in Flanders**

NATURAL GAS	TEN-T Port	Refuelling Stations		
		2020	2025	2030
CNG refuelling stations (public)	Antwerp	2*	Not specified	Not specified
	Ghent	1	Not specified	Not specified
	Ostend	0	0	0
	Zeebrugge	1	2	Not specified
CNG refuelling stations (private)	Antwerp	Not specified	Not specified	Not specified
	Ghent	0	Not specified	Not specified
	Ostend	1	2	2
	Zeebrugge	1	Not specified	Not specified
LNG refuelling stations for HD vehicles(public)	Antwerp	1†	Not specified	Not specified
	Ghent	0	0	0
	Ostend	1	1	1

NATURAL GAS	TEN-T Port	Refuelling Stations		
		2020	2025	2030
	Zeebrugge	0	0	0
LNG refuelling stations for HD vehicles (private)	Antwerp	Not specified	Not specified	Not specified
	Ghent	0	Not specified	Not specified
	Ostend	0	0	0
	Zeebrugge	0	0	0
LNG refuelling stations for inland vessels	Antwerp	1	Not specified	Not specified
	Ghent	0	Not specified	Not specified
	Ostend	1	1	1
	Zeebrugge	0	0	0
LNG refuelling locations for Truck-to-Ship bunkering	Antwerp	1	Not specified	Not specified
	Ghent	1	Not specified	Not specified
	Ostend	0	1	1
	Zeebrugge	Several	Several	Several
LNG bunker & feeder vessels operating in port	Antwerp	2†	Not specified	Not specified
	Ghent	0	Present	Present
	Ostend	0	0	0
	Zeebrugge	1	1 or 2	1 or 2

\* 4 DATS 24 & 2 Drive systems, both 2 refuelling points

† Drive Systems

‡ Coming from Rotterdam (Shell) and Zeebrugge (Engie)

**Table 23: Number of targeted natural gas refuelling stations (not in TEN-T seaports) in Flanders**

NATURAL GAS	Refuelling Stations		
	2020	2025	2030
LNG refuelling stations for Heavy-Duty vehicles (public)	14*	Niet bepaald	Niet bepaald

\* Based on a sector survey



## 2.5 HYDROGEN

Target laid down in the 'Action Plan Clean Power for Transport'.

**Table 24: Number of targeted hydrogen refuelling stations in the Flemish Region**

HYDROGEN	Refuelling Stations		
	2020	2025	2030
Refuelling Stations – 350 bar (public)	20*	Not yet specified	Not yet specified
Refuelling Stations – 350 bar (private)	Not specified	Not specified	Not specified
Refuelling Stations – 700 bar (public)	20*	Not yet specified	Not yet specified
Refuelling Stations – 700 bar (private)	Not specified	Not specified	Not specified

\* There are 20 stations in total which probably provide both 350 bar and 700 bar.

### 3 MEASURES NECESSARY TO ENSURE TARGETS AND OBJECTIVES ARE REACHED

The Flemish ambitions, as formulated in the Action Plan, must enable us to make up our arrears in relation to a number of other European countries and in this way also link up with European dynamics which have arisen around this topic, for example in the roll-out of cross-border infrastructure. Experience in other countries shows that it is important to synchronise the various measures to achieve maximum effect. Market support must go hand in hand with the roll-out of recharging infrastructure and information for the various interested parties, including the drivers of clean power vehicles. Finally, the measures from this Action Plan, which are scheduled in the period 2015-2020, must act as a driving force. In an ideal situation, they will in time be mutually reinforcing so that the necessary volume allows the creation of a mature market. For the automotive market, this applies on a larger scale (e.g. within Europe); for other parts of the value chain, this is also possible at Flanders scale. The Action Plan focuses mainly on the period up to 2020, with incentive measures being taken especially with a view to the more distant future. The focus here is on four-wheel vehicles.

The main measures aim for stimulation of the CP market and rapid expansion of the infrastructure required. The measures are consequently directed towards removing the barriers identified, such as the high purchase price, the limited recharging infrastructure and the limited knowledge of clean power. Because this subject is pre-eminently of a transversal nature with a wide range of stakeholders, it is also important to ensure effective organisation of consultations and implementation and to provide for the necessary feedback/reporting. Finally, a social transition is initiated, in which the consumer has an important role to play. Clear information, visibility and user-friendliness are key factors. In the further development of the policy and the implementation of the Action Plan, it is necessary to pay heed to the respective roles and to cooperation (public authorities, firms, consumers, etc.). An opportunity arises with regard to niche fleets, including those of the various public authorities in Flanders. Cooperation within Belgium, the Benelux countries and Europe is crucial to ensure this greening of transport.

#### 3.1 LEGAL MEASURES

**1) 16 MAY 2014.** Flemish Government Decree on the terms and conditions for the award of a project subsidy to permit holders for recharging infrastructure for electric vehicles at carpool car parks or Park&Rides under the management of the Flemish Region in implementation of the Flemish Climate Policy Plan 2013-2020 (*Besluit van de Vlaamse Regering betreffende de modaliteiten voor de toekenning van een projectsubsidie aan vergunninghouders voor laadinfrastructuur voor elektrische voertuigen op carpoolparkings of Park&Rides in beheer van het Vlaamse Gewest in uitvoering van het Vlaams Klimaatbeleidsplan 2013-2020*).

**2) 12 DECEMBER 2014.** Flemish Government Decree amending the Flemish Government Decree of 16 May 2014 on the terms and conditions for the award of a project subsidy to permit holders for recharging infrastructure for electric vehicles at carpool car parks or Park&Rides under the management of the Flemish Region in implementation of the Flemish Climate Policy Plan 2013-2020 (*Besluit van de Vlaamse*

Regering tot wijziging van het besluit van de Vlaamse Regering van 16 mei 2014 betreffende de modaliteiten voor de toekenning van een projectsubsidie aan vergunninghouders voor laadinfrastructuur voor elektrische voertuigen op carpoolparkings of Park&Rides in beheer van het Vlaamse Gewest in uitvoering van het Vlaams Klimaatbeleidsplan 2013-2020).

**3) 18 DECEMBER 2015.** Decree containing provisions accompanying the budget for 2016 (*Decreet houdende bepalingen tot begeleiding van de begroting 2016*) (1)

*Exemption from registration and annual road tax for private electric vehicles and hydrogen vehicles and (until 2020) for CNG cars.*

**4) 8 JANUARY 2016.** Flemish Government Decree amending the Energy Decree of 19 November 2010 concerning the introduction of a premium for zero-emission vehicles (*Besluit van de Vlaamse Regering houdende wijziging van het Energiebesluit van 19 november 2010, wat betreft de invoering van een premie voor zero-emissie voertuigen*).

*Zero-emission premium (up to EUR 5 000) from 1 January 2016 for electric vehicles and hydrogen vehicles.*

**5) 25 MARCH 2016.** Flemish Government Decree amending the Energy Decree of 19 November 2010 concerning the activities and public service obligations of the distribution grid operators to promote the infrastructure for electric vehicles (*Besluit van de Vlaamse Regering tot wijziging van het Energiebesluit van 19 november 2010, wat betreft de activiteiten en openbardienstverplichtingen van de distributienetbeheerders ter stimulering van de infrastructuur voor elektrische voertuigen*).

*Establishment of a public service obligation for electricity distribution grid operators (i) to create a basic network of 5000 publicly accessible recharging points by 2020, (ii) to guarantee the principle of 'recharging station follows car' for owners of an electric vehicle without the possibility of recharging at a privately or publicly accessible recharging point within 500m and (iii) to establish an open database with the data supplied pursuant to the notification requirement in the electricity connection regulation concerning publicly accessible recharging points.*

*Anchoring of the definitions of 'electric vehicle', 'battery electric vehicle', 'zero emission vehicle', 'electric vehicle recharging point', 'publicly accessibly electric vehicle charging point', etc. in the energy legislation.*

**6) 29 APRIL 2016.** Flemish Government Decree amending the Flemish Government Decree of 16 May 2007 granting support to undertakings for ecological investments in the Flemish Region, with regard to the extension of the investment period (*Besluit van de Vlaamse Regering tot wijziging van het besluit van de Vlaamse Regering van 16 mei 2007 tot toekenning van steun aan ondernemingen voor ecologie-investeringen in het Vlaamse Gewest, wat betreft de verlenging van de investeringstermijn*).

### **7) Notification requirement concerning electric vehicle recharging points**

*The Flemish electricity distribution grid operators, following approval by the VREG (Flemish energy regulator), introduced a notification requirement for electric vehicle recharging points. They then made the information obtained on the notified recharging points available as open data to market participants concerned.*

**8) 9 SEPTEMBER 2016.** Flemish Government Decree on project subsidisation in implementation of the 'Clean power for transport' Action Plan (besluit van de Vlaamse Regering betreffende het subsidiëren van projecten in uitvoering van het actieplan 'Clean power for transport').

*Legal framework for the granting of subsidies to CPT projects. Projects are selected each year on the basis of varying themes.*

## 3.2 POLICY MEASURES AND INVESTMENTS

### A. ONGOING ACTIONS

#### 1) Creation of a Flemish CPT team

The format of the Action Plan (and progress reports), with the inclusion of targets, was used to develop a coordinated policy in which concrete initiatives are launched and the competent policy areas and actors involved guarantee implementation. A Coordination Working Group acts together with the main stakeholders as a Flemish CPT team with a view to the hoped-for breakthrough to an environmentally friendly vehicle fleet.

A number of working groups have been set up, including a local authorities working group, an infrastructure working group, a research and innovation working group and an LNG working group, consisting of representatives of the authorities and the main stakeholders.

#### 2) Roll-out of recharging infrastructure

The task has been given to the electricity grid operators to organise the installation of 5000 public recharging points by 2020. A location plan for Flanders has been drawn up. And in the meantime, the specifications for a first outsourcing of 1500 recharging points are being prepared. The actual roll-out is scheduled in 2017. An important consideration here is the interoperability of these recharging points, which will be stipulated as a condition in the specifications.

#### 3) Communication focusing specifically on CPT

- **Campaigns:** a first communication campaign took place during the Brussels Motor Show (beginning of 2016). The campaign provided for a website, leaflets, use of social media and a competition to drive an electric car for one week, in collaboration with a car magazine which also provides an accompanying article.
- **Website** ([www.milieuvriendelijkevoertuigen.be](http://www.milieuvriendelijkevoertuigen.be)): since the beginning of 2016, a specific CPT website has been set up. This website contains information on the various technologies, the environmental advantages, the recharging points, etc. In addition, the website provides a tool which compares the total cost of ownership of conventional with 'CPT' vehicles.
- **Data concerning recharging and refuelling points:** an open database has been established in which all current information is stored on publicly accessible recharging stations and CNG/H2 installations. The data will also be presented in map form on Geopunt.

#### **4) Support of local authorities**

At the end of 2016, the Flemish authorities will produce a start-up guide for electric mobility and supply it to every municipality in Flanders. This guide supports the local authorities in various ways and is tailored to them: it contains both more general descriptive information but also primarily practical guidelines and advice on how the municipality can address the issue of electric vehicles, including in the context of the Decree on the basic recharging infrastructure.

#### **5) Code on (semi-)public charging**

A partnership project took place in 2015 with a number of towns for the roll-out of electric vehicle recharging infrastructure: EVORA. The project aimed in 2015, within the space of one year, to find a sustainable solution for the recharging of electric vehicles in (semi-)public areas in close cooperation with local authorities, grid operators, car manufacturers and energy suppliers, among others. In view of the need of market participants and public sector parties for agreements concerning (non-conforming) minimum requirements for charging infrastructure, a 'Code for public recharging' was drawn up within EVORA, focusing in particular on the interests and needs of the (future) e-drivers.

#### **6) CPT plan for the Flemish authorities' own fleet**

The Flemish authorities will also play the eco-friendly card for their own fleet. The gradual switch to electric, plug-in hybrid and CNG vehicles is planned and made feasible. The target proposed is a share of 7.5% CNG and 10% (PH)EV, for this latter category increasing from 5% in 2015. The ambitions will be passed on to the various entities and monitored systematically.

#### **7) Electric taxis**

It is being examined with a number of municipalities and taxi firms how progress can be made in the very short term towards CP fleets; in the first instance with pioneers. The specific thresholds and possible support measures have been mapped and a number of pilot projects launched.

#### **8) Policy support**

In support of the objectives, use is made in Flanders of potential assessments (see study '(milieu)potentieel elektrisch rijden in Vlaanderen' (environmental potential of electric mobility in Flanders)). The underlying model is being updated in 2016. On the basis of this and the planned policy, an estimate will be made of the possible targets in 2025 and 2030.

#### **9) Hydrogen**

WaterstofNet (the association of the Interreg project Waterstofregio 2.0.) is participating in the European HIT2 Corridors project H2-Mobility Belgium (national implementation plan for Belgium) under the TEN-T programme, in which a roll-out scenario 2015-2030 is being developed for the hydrogen refuelling infrastructure in Belgium.

## **10) Shore-side electricity**

Measures to promote the use of shore-side electricity included the setting up of a shore-side electricity platform ([www.binnenvaartservices.be/walstroom](http://www.binnenvaartservices.be/walstroom)). This platform coordinates all actions with regard to the use, implementation and expansion of shore-side electricity for Flemish inland navigation. The platform involves Promotie Binnenvaart Vlaanderen, the ports, De Scheepvaart NV, Waterwegen en Zeekanaal NV, the Department of Environment, Nature and Energy and other stakeholders.

## **11) LNG for vessels**

The ports of Antwerp and Ghent have taken various measures to promote the use of LNG. For instance, in Antwerp there is a 10% reduction in port tax for seagoing vessels and 15% for inland barges.

## **12) Legislation**

It is crucial to eliminate legal and regulatory thresholds and restrictions. In addition, the legislation is supplemented by the necessary provisions concerning vehicles, recharging and refuelling infrastructure. The new legislation consequently still has to be assimilated by all stakeholders.

## **13) Project financing**

At the end of 2016, a start is being made on support for CPT projects. To this end, the legal basis has been created, a project structure devised and a first call launched.

## **14) Pilot projects for niche fleets** (large fleets, city distribution, car-share projects, etc.)

In a first call for project financing, the emphasis is laid on niche fleets and vehicle fleets such as taxis, buses and minibuses, small loaders for city distribution, home care, courier services, car-share projects, distribution grid operators, etc. The barriers with regard to recharging/refuelling infrastructure and driving distance can naturally be overcome more easily by planning their progress and their fixed locations. A specific focus on this and accompanying support measures enables a real difference to be made in the shorter term and at lower expense.

## **15) Exploring the feasibility and possibilities of conferring advantages for CP drivers**

The road infrastructure can be used to promote the use of electric vehicles. The possibilities are located at the level of specific parking facilities (with recharging facilities), temporary (exclusive) access to specific lanes/city centres (with historical buildings), tourist areas/nature reserves, etc. The possibilities and framework conditions are explored further in a study.

## **16) Recharging at home/at work**

The great potential for recharging at home and at work is actively promoted. This can be achieved via communication, but also via a number of pilot projects and communication on the subject. In this respect, the link can be made with the installation of smart meters. A specific assignment in this respect is being launched at the end of 2016.

## 17) Roll-out of infrastructure along motorways

The future potential for infrastructure for renewable fuels along motorways is being investigated. A study must lay the basis for a new strategic plan for the coming 10 years with guidelines for the development of infrastructure for renewable fuels at motorway parking areas in Flanders.

### B. PLANNED ACTIONS

- Roll-out of fast recharging infrastructure
- Implementation of MIG6 (energy information protocol) and smart meters
- Procedures for the construction of CNG/LNG and H2 infrastructure
- Cooperation agreement for greening taxes on leased vehicles
- Prioritisation of EV home chargers on roll-out of smart meters
- Research into the full value chain of batteries
- Adapt vessels for shore-side electricity
- Education and training: in a starting phase: it will be important to educate car buyers and garage owners on a large scale to be able to assist the customer in this new technology. The changes in relation to the car fleet must be reflected in the competency profiles of these trades. Not only car salesmen, garage owners, but also installers of recharging infrastructure (public and private) and ICT sector must receive extra training for the introduction of recharging infrastructure, safety, etc. Also the training of emergency services (paramedics, fire service, police, etc.) must not be overlooked.
- Semi-public recharging: for semi-public recharging, partnerships will be sought with car park managers to install and share recharging infrastructure. Permanent accessibility and reasonable prices will be important focuses for attention in this respect.

#### 3.2.1 Deployment and Manufacturing Support

**Table 25: Investment Programme for Deployment and Manufacturing Support in the Flemish Region**

Name of Investment programme	Short Description	2015	2016	2017
<b>Zero-emission premium</b>	Premium on the purchase of an electric vehicle by private individuals		EUR 5 million	EUR 5 million
<b>Subsidisation CPT projects and studies</b>	Framework for project calls CPT with varying themes		EUR 1 million	EUR 1 million
<b>Flemish authorities' car</b>	Support for the purchase of BEVs and recharging		EUR 2.5 million	

<b>fleet</b>	<b>infrastructure</b>		(2016-2019)	
<b>TENT-T project: Shore Power in Flanders (2012-BE-92063-S)</b>	Development of a shore-side electricity grid, including uniform payment system, for Flemish inland navigation	EUR 850 thousand	EUR 208 thousand	
<b>Shore-side electricity investment</b>	Installation of extra shore-side electricity in Evergem and Wijnegem along the	EUR 1 058 million*		
<b>programme (Flemish Climate Fund)</b>	Albert Canal			
<b>LNG bunker station for inland navigation in the Port of Antwerp</b>		EUR 300 thousand †	EUR 1.5 million †	EUR 5 million †
<b>LNG refuelling station for trucks</b>	Drive Systems (Long Blue Corridors)	EUR 850 thousand ‡		
<b>H2 refuelling station for buses</b>	Under the project High V.LO City	No information		
<b>LNG bunker vessel and the necessary port infrastructure</b>		EUR 20 million ^	EUR 3-5 million ^	
<b>Investment in bunker facilities, also for alternative energy</b>	Including investment in local wind turbines for electricity generation		EUR 250 thousand ^^	EUR 1 million ^^

\* Of which EUR 117 000 from the Flemish Climate Fund

† Of which EUR 150 000 financed by EU and EUR 150 000 by the Port of Antwerp (2015), EUR 1.5 million financed by the Port of Antwerp (2016), EUR 5 million financed by private partners (2017)

‡ Of which EUR 185 000 financed by Regional Government, EUR 120 000 by EU and EUR 545 000 by private partners

^ Of which EUR 20 million financed by private partners (2015) and EUR 3-5 million by the port operator (2016)

^^ Financed by the port operator (2016) and by private partners (2017)

### 3.2.2 Research, Technological Development and Demonstration (RTD&D)

There is no specific follow-up programme in the Flemish research and innovation policy for the Vlaamse Proeftuin Elektrische Voertuigen (Flemish Living Lab Electric



Vehicles) (2011-2014).<sup>5</sup> Project proposals within the framework of the continuation of the Flemish living lab platforms can apply for support under the generic R&D support programmes of Flanders Innovation & Entrepreneurship Agency (Vlaams Agentschap Innoveren en Ondernemen - VLAIO). In this way, more than 50 follow-up projects were launched from the living lab platforms.

The strategic research centre VITO carries out research into battery performance and management, smart integration of recharging infrastructure, renewable energy in the electricity grid and energy services based on EV. Research also focuses on user-oriented services and new market and business models. VITO also plays an active role in a number of European Horizon2020 projects concerning batteries (e.g. SPICY, etc.). The research at VITO into batteries and low-emission technologies for vehicles is conducted under the EnergyVille partnership ([www.energyville.be](http://www.energyville.be)), in which VITO cooperates with the Catholic University of Leuven and Imec in the field of research into sustainable energy and smart energy systems.

The strategic research centre Flanders' Make also runs research programmes concerning electric and hybrid drive systems, design and production of smart, lightweight structures and other related clean technologies for the development of CPT for the vehicle of the future.

Under the Interreg project '*Waterstofregio Vlaanderen-Zuid-Nederland*' (Flanders-South Netherlands hydrogen region) (2009-2014, EUR 14 million), concrete demonstration projects have already been carried out with a focus on sustainable hydrogen applications for transport. Following the first Interreg project, the second Interreg project Waterstofregio (hydrogen region) 2.0 was approved in May 2016. Complementary to this, a roadmap study '*Power to gas Vlaanderen*' (January 2016) was carried out and an innovative business network '*Power to gas*' set up (July 2016) with financial support from VLAIO (within the Flemish cluster policy). The business network or the cluster "power to gas" focuses on green hydrogen production via off-shore or on-shore wind farms, *inter alia*, and will work on knowledge accumulation, concrete demonstration projects and new business models for various value enhancement approaches, such as power-to-gas, power-to-chemicals, fuels, power-to-power and also power-to-mobility.

**Table 26: Investment Programme for Research, Technological Development and Demonstration in the Flemish Region**

Name of Investment programme	Short Description	TOTAL AMOUNT OF THE INVESTMENT	
		2015	2016
<b>Hydrogen region 2.0. (2016-2019)</b>	Interreg Flanders-Netherlands, coordinated by Waterstofnet	Not applicable	EUR 14 million*
<b>Smart,</b>	Project concerning green	Not	EUR 380

<sup>5</sup> The Flemish Living Lab Electric Vehicles received total support amounting to EUR 16.25 million from Flanders for the operation of 5 living lab platforms with regard to technological developments and demonstrations in the area of electric mobility, recharging infrastructure, energy and mobility ([www.livinglab-ev.be](http://www.livinglab-ev.be)).

<b>clean Energy and Electric Vehicles the City SEEV4-City</b>	transport and mobility approved under Interreg North Sea Region	applicable	thousand†
<b>LNG Masterplan for Rhine-Main-Danube</b>	Market research, safety studies, development and assessment of concept LNG bunker station	EUR 620 thousand	Not applicable
<b>TENT-T project: Shore-side electricity in Flanders</b>	The purpose of this research is to devise a strategy to promote the expansion of shore-side electricity technology in Flanders	EUR 112 thousand	Not applicable

\* Of which EUR 6 million via Interreg.

† Budget for Flemish partners, of which EUR 190 000 in 2016-2019 for Catholic University of Leuven, EUR 160 000 for POLIS and AVERE

### 3.3 COOPERATION WITH NEIGHBOURING MEMBER STATES

**Table 27: Cross Border Measures (FR)**

	Electric	CNG	LNG	Hydrogen	Other
<b>Name of the neighbouring Member States</b>					
<b>Benelux</b>					Recommendation of the Benelux Committee of Ministers on cooperation concerning the roll-out of infrastructure for alternative fuels
<b>Benelux</b>				Agreement for a joint plan for the expansion of hydrogen refuelling infrastructure	

## **4 MEASURES THAT CAN PROMOTE THE DEPLOYMENT OF PRIVATE ALTERNATIVE FUELS INFRASTRUCTURE**

### **4.1 LEGAL MEASURES**

At present, a BREF concerning small-scale processing and storage of LNG is under development. The results will be incorporated in the VLAREM.

### **4.2 POLICY MEASURES AND INVESTMENTS**

In contrast to other fuels, electric vehicle recharging points are free of a concession fee for existing concessionaires of service stations along Flemish motorways. New concessions will make electric vehicle recharging points compulsory.

## 5 MEASURES THAT CAN PROMOTE THE DEPLOYMENT OF ALTERNATIVE FUELS INFRASTRUCTURE IN PUBLIC TRANSPORT SERVICES

### **Electric buses<sup>6</sup>**

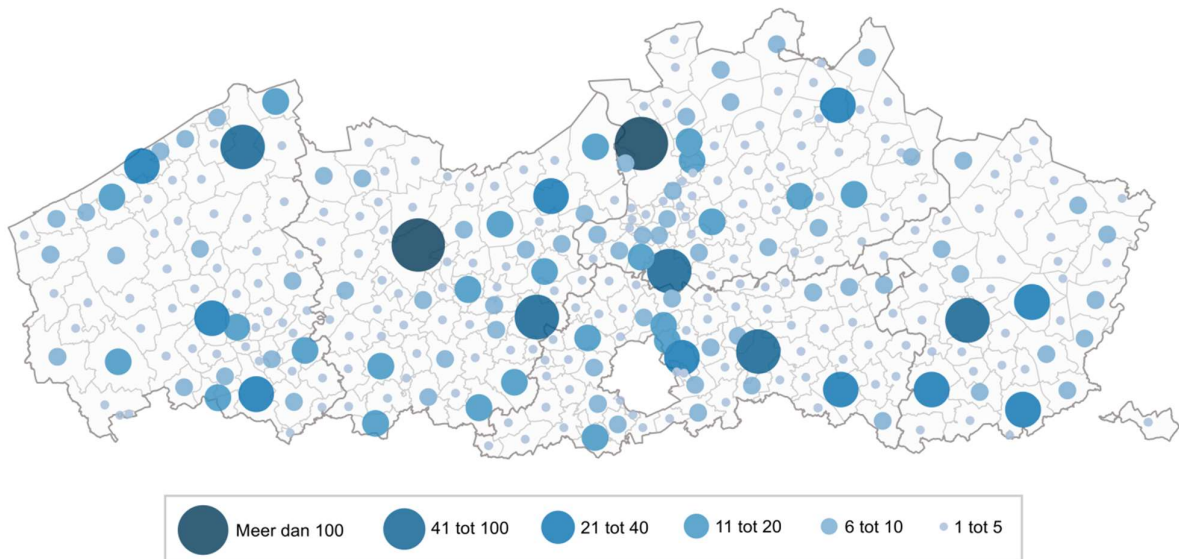
De Lijn wishes to carry out accelerated greening of its bus fleet and wishes by 2025 to operate in urban environments exclusively with green buses (mix of hybrid and battery electric buses), with electric buses only in the town centres. From 2017, a start-up project will be carried out in some locations in urban environments with battery electric buses for daily operation. For the longer, more rural trips, hydrogen buses are more suitable (project High VLO City). From 2019, only buses with alternative drive (hybrid, electric, hydrogen, etc.) will still be purchased by De Lijn. For the greening of the bus fleet, an extra EUR 22 million has been withdrawn from the Flemish Climate Fund.

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<sup>6</sup> See Flemish Government communication 'Versneld naar een duurzaam Vlaams openbaar vervoer' (Rapidly towards sustainable Flemish public transport) (VR20160807MED028)

## 6 INSTALLATION IN URBAN/SUBURBAN AGGLOMERATIONS OR DENSELY POPULATED AREAS AND ALONG EXTRA-URBAN NETWORKS

In view of the population and traffic density in the Flemish Region, it has been opted to consider the entire territory as 'urban/suburban agglomeration or densely populated area' within the meaning of the Directive. Reference is therefore made to the above-mentioned targets for the Flemish Region. Under the public service obligation, the distribution grid operators have drawn up a location plan for each municipality for the installation of 5000 public recharging points (see below). This location plan will be used as a basis for the award of the concession for installation and operation of the public recharging points.



Key "Meer dan 100" = over 100; "tot" = to

Following urban zones have been designated for the roll-out of the first hydrogen stations:

Aalst, Antwerp, Beringen, Bruges, Doornik, Genk, Ghent, Hasselt, Kortrijk, Leuven, Maasmechelen, Mechelen, Ostend, Sint-Niklaas, Turnhout, Zaventem and Zeebrugge.

## **7 REFUELLING POINTS FOR LNG AT MARITIME AND INLAND PORTS INSIDE TEN-T CORE NETWORK**

### **7.1 SEA PORTS INSIDE TEN-T CORE NETWORK**

See table 22

### **7.2 INLAND PORTS INSIDE TEN-T CORE NETWORK**

Not applicable

## **8 ASSESSMENT OF THE NEED FOR LNG REFUELLING POINTS AT MARITIME AND INLAND PORTS OUTSIDE THE TEN-T CORE NETWORK**

### **8.1 SEA PORTS OUTSIDE THE TEN-T CORE NETWORK**

Not applicable. All Belgian sea ports belong to the TEN-T core network.

### **8.2 INLAND PORTS OUTSIDE THE TEN-T CORE NETWORK**

Not applicable. All Flemish inland ports belong to the TEN-T core network.

## 9 SHORE SIDE ELECTRICITY IN MARITIME AND INLAND PORTS

### 9.1 SEA PORTS INSIDE THE TEN-T CORE NETWORK

See table 20

### 9.2 SEA PORTS OUTSIDE THE TEN-T CORE NETWORK

Not applicable. All Belgian sea ports belong to the TEN-T core network.

### 9.3 INLAND PORTS INSIDE THE TEN-T CORE NETWORK

**Table 28: Shore side electricity installation for inland vessels in inland ports in the Flemish Region (inside the TEN-T Core Network)**

PORT NAME	Terminal NAME	2020	2025	2030
<b>Port of Antwerp</b>	K 75	9 (34 points)	Not specified	Not specified
<b>Port of Antwerp</b>	K 15-16	4 (8 points)	Not specified	Not specified
<b>Port of Antwerp</b>	K 602	11 (44 points)	Not specified	Not specified
<b>Port of Antwerp</b>	River cruises	3 (8 points)	Not specified	Not specified
<b>Port of Antwerp</b>	Groenendijk	3 (9 points)	Not specified	Not specified
<b>Port of Antwerp</b>	Canal Dock B2	15 (45 points)	Not specified	Not specified
<b>Port of Antwerp</b>	Kieldrecht lock	5 (20 points)	Not specified	Not specified
<b>Port of Antwerp</b>	Lillo environmental park	3 (9 points)	Not specified	Not specified
<b>Port of Antwerp</b>	Willem Dock	6 (24 points)	Not specified	Not specified
<b>Port of Antwerp</b>	Asia Dock	3 (12)	Not	Not



		points)	specified	specified
<b>Port of Antwerp</b>	Kattendijk Dock	6 (24 points)	Not specified	Not specified
<b>De Scheepvaart NV port</b>	Albert Canal-Wijnegem	18 (36 points)	18 (36 points)	Not specified
<b>De Scheepvaart NV port</b>	Sint-Lenaerts (Dessel-Turnhout-Schoten)	9 (36 points)	9 (36 points)	Not specified
<b>De Scheepvaart NV port</b>	Albert Canal-Genk	Not known	5 (10 points)	Not specified

#### 9.4 SHORE SIDE ELECTRICITY INSTALLATIONS ALONG TEN-T CORE NETWORK

**Table 29: Shore side electricity installation for inland vessels along TEN-T Core Network in the Flemish Region**

PORT NAME	Terminal NAME	2020	2025	2030
<b>Waterwegen &amp; Zeekanaal NV port</b>	Canal Ghent-Ostend, Moerbrugge (upstream of Moerbruggebrug, right bank)	1 (4 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Canal Ghent-Ostend, Bruges (upstream of Katelijnepoortbrug, right bank)	4 (4 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Dender, Dendermonde lock (upstream)	3 (24 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Dender, Dendermonde lock (downstream)	1 (8 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Upper Scheldt, Asper lock	2 (16 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Upper Scheldt, Oudenaarde lock (upstream)	10 (40 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Upper Schelde, Oudenaarde lock (downstream)	2 (16 points)	Not specified	Not specified
<b>Waterwegen &amp;</b>	Ghent Ring Canal, Evergem lock	6 (32points)	Not	Not

<b>Zeekanaal NV port</b>	(waiting zone)		specified	specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Ghent Ring Canal, Evergem lock (downstream quay wall)	2 (16 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Ghent Ring Canal, Evergem lock (upstream quay wall, near weir)	1 (8 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Ghent Ring Canal, Evergem lock (upstream quay wall, control building side)	3 (12 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Leie, Sint-Baafs-Vijve lock (upstream)	3 (max. 12 points)	Not specified	Not specified
<b>Waterwegen &amp; Zeekanaal NV port</b>	Leie, Sint-Baafs-Vijve lock (downstream)	3 (max. 12 points)	Not specified	Not specified

## 10 ELECTRICITY SUPPLY AT AIRPORTS

### 10.1 AIRPORTS INSIDE TEN-T CORE NETWORK

Brussels Airport – see federal part (part 5 – chapter 4)

### 10.2 AIRPORTS OUTSIDE THE CORE TEN-T NETWORK

**Table 30: Electricity supply at airports in the Flemish Region (outside TEN-T Core Network)**

AIRPORT NAME	Type	2016	2020	2025	2030
<b>Antwerp</b> (outside extended TEN-T network)	400Hz	4	-	-	-
	Diesel GPUs	in use	-	-	-
<b>Kortrijk</b> (outside extended TEN-T network)	400Hz	0	-	-	-
	Diesel GPUs	In use	-	-	-
<b>Ostend</b> (inside extended TEN-T network)	400Hz	0	-	-	-
	Diesel GPUs	In use	-	-	-

## **Part III**

# **Walloon Policy Framework**

# 1 ASSESSMENT OF THE CURRENT STATE OF ALTERNATIVE FUELS IN THE TRANSPORT SECTOR

## 1.1 PERCENTAGE OF CURRENT USE OF DIFFERENT FUELS FOR TRANSPORT

This chapter examines the current situation and the development of the market for alternative fuels in the transport sector, including any possible simultaneous and combined use of such fuels, as well as the development of infrastructure for alternative fuels, taking into account cross-border continuity, if applicable.

## 1.2 NUMBER OF CURRENT AFVs

**Table 31: Number of current AFVs in the Walloon Region**

ALTERNATIVE FUEL VEHICLES	NUMBER OF VEHICLES
	2015
Electric Cars	1.359
Electric Light Duty Vehicles	79
Electric Heavy Duty Vehicles	1
Electric Buses (hybrid)	1
Electric Motorbike	46
CNG Cars	396
CNG Light Duty Vehicles	79
CNG Heavy Duty Vehicles	2
CNG Buses	0
LNG Light Duty	0
LNG Heavy Duty	0
LNG Buses	0
Hydrogen Car	0
Hydrogen Light Duty	0
Hydrogen Heavy Duty	0
Hydrogen Buses	0
Other (if any): Inland hybrid ship	1

As regards public transport, the TEC Group is currently testing a hybrid bus prior to acquiring a first series of hybrid buses (planned for 2017). In addition, they have a bus which runs on bioethanol.

In waterway transport, there are cargo vessels, passenger vessels and pleasure craft. According to the data provided by the Federal Public Department of Mobility and Transport, **the Walloon fleet in 2015** is estimated<sup>7</sup> to consist of:

- Bateaux de marchandise: 307 (dont 19 pousseurs et 56 barges)
- Bateaux à passagers: 61
- Bateaux de plaisance: 4990

All these vessels currently run on diesel. Up to now it has not been considered necessary to collect data on the type of fuel, either in regional databases<sup>8</sup> or at the federal level.<sup>9</sup>

Since a great number of pleasure craft and passenger vessels probably remain unused for most of the year, we believe that most of the effort to limit the use of auxiliary engines will be made by cargo vessels.

We have therefore estimated the number of cargo vessels running on alternative fuels by looking at the number of subsidy applications submitted under Wallonia's aid scheme for modernising the fleet<sup>10</sup>: So far only one subsidy application has been received, for equipping a cargo vessel with an engine running on alternative fuel. The vessel in questions is **a diesel/electric hybrid pusher**.

The main reason for this lack of interest is the additional costs generated by a change of technology.

- Cost of equipping an LNG-powered vessel: € 1 500 000
- Cost of equipping a diesel/electric vessel: € 1 000 000

### 1.3 ELECTRICITY

**Table 32: Number of current recharging points in the Walloon Region**

ELECTRICITY	Recharging Points
	2015
Normal power recharging points (Public)	212
High power recharging points (Public)	3
Normal power recharging points (Private)	237

<sup>7</sup> Hypothesis: the number of Belgian vessels travelling on the Rhine ~ the number of foreign vessels in the Walloon network

<sup>8</sup> In the Walloon Region, statistics on waterway transport are collected using the GINA software tool

<sup>9</sup> On 1 January 2015, the national vessel database kept until then by the Federal Public Department of Mobility and Transport was transferred to the Regions

<sup>10</sup> Scheme for 2014-2020: subsidy of 50% for equipping an inland waterway vessel (except for pleasure craft) with a new alternative propulsion system ([http://voies-hydrauliques.wallonie.be/opencms/opencms/fr/promotion/transport/plan\\_wallon.html](http://voies-hydrauliques.wallonie.be/opencms/opencms/fr/promotion/transport/plan_wallon.html))

<b>ELECTRICITY</b>	<b>Recharging Points</b>
	<b>2015</b>
High power recharging points (Private)	17
Shore-side electricity supply in maritime and inland ports (Terminals)	42
Electricity supply for stationary airplanes	(See below)

Table 32 shows infrastructure directly managed by a public authority or on its behalf and private infrastructure accessible to the general public.

#### Road infrastructure

The current accounting system for the infrastructure is extremely complicated. Operators have no legal obligation to register this infrastructure, either with the legal authorities granting environmental permits or with electricity distribution network operators.

So far, a variety of public and private initiatives have been taken and slightly over 200 sites have been identified. Certain public operators have launched deployment campaigns.

- Via its subsidiary ELSA, the inter-municipal IDETA has equipped its various member municipalities in Picardy Wallonia. Consequently, the border region of Tournai-Ath-Mouscron serves as an efficient and dynamic test laboratory for electric mobility in an area with strong economic growth that is under heavy cross-border pressure.
- The inter-municipal AIEG has equipped a number of recharging infrastructures on its territory (Andenne, Gesves, Ohey, Rumes and Viroinval) through a contract awarded to the ZE-MO company. However, some of the infrastructures have been dismantled since this work was carried out.
- Since 2013, the Province of Liège has proposed a framework contract to be used by Liège municipalities to purchase recharging points (wall-mounted or stand-alone) as well as a subsidy of € 2 500 for the purchase of the first charging point by a local public authority. The municipalities of Ans, Baelen, Bassenge, Berloz, Beyne-Heusay, Blegny, Braives, Crisnée, Hannut, Lincent, Spa and Sprimont as well as the inter-municipal Intradrel have already signed a partnership agreement with the Province of Liège and agreed to buy one or more recharging points. The Province of Liège has also purchased two base-mounted recharging points, which will soon be installed in Wégimont (done) and Jehay. Most of these recharging points remain to be deployed and have not been included in the statistics.

#### Airport areas:

At Charleroi airport, the parking positions of aircraft in the northern terminal are equipped with embedded 400-Hz electrical power units for supplying power to aircraft.

The other parking positions (those located far away from the northern deck and the parking positions on the southern deck) are not equipped with such a facility.

At Liège airport, the aircraft parking deck in the south does not have a network of embedded 400-Hz electrical power units. The aircraft parking deck in the north has a network of embedded electrical power units running at 50 Hz but not at 400 Hz. That facility is seldom used, because a frequency converter is needed to supply power to an aircraft.

#### Infrastructures on waterways:

In this report, we have only taken into consideration recharging points accessible to cargo vessels.

Since the pleasure craft season is relatively short, pleasure boating has a much smaller impact than merchant shipping. However, we would like to point out that all of Wallonia's marinas and service areas for boats are equipped with electric points where recreational boaters stopping by for at least one night may, for a fee, connect to a single-phase 230-V electric socket, which meets their domestic electricity needs (lighting, heating, kitchen, etc.). Within the meaning of the Directive, we have considered that these points are private, because they are accessible only under certain restrictive conditions (overnight stay in the port).

In certain quays, companies have invested in 1 or 2 electric points along waterways and allow boatmen to connect to them prior to loading. However, it is impossible to list all of them within the meaning of the Clean Fuels Directive and we have considered them private.

The 42 points currently available to boatmen are located on two quays on the western waterways (Antoing and Vaulx). They are used seldom because:

- there are few boatmen and they are in great demand, so they stop only when compelled to do so (opening hours of engineering structures, prior to loading, etc.).
- there are no defined mooring zones.

The supply of quayside electricity in Wallonia is fairly modest for the following reasons:

- the cost of an electric point (€5 to 10 000 excl. installation, €25 000 with an electronic payment system)
- the cost of setting up an automatic, uniform payment system

## 1.4 NATURAL GAS

**Table 33: Number of current natural gas refuelling stations in the Walloon Region**

NATURAL GAS	Natural Gas refuelling stations
	2015
CNG refuelling stations (public)	5
CNG refuelling stations (private)	0
LNG refuelling stations for HD vehicles (public)	0



LNG refuelling stations for HD vehicles (private)	0
Sea Ports - LNG refuelling points	0
Inland Ports - LNG refuelling points	0

This table does not include infrastructures built or being finalised in the second half of 2016.

## 1.5 HYDROGEN

**Table 34: Number of current hydrogen refuelling stations in the Walloon Region**

HYDROGEN	Hydrogen Refuelling stations (2015)	
	350 bar	700 bar
Refuelling Stations (public)	0	0
Refuelling Stations (private)	0	0

## 2 TARGETS AND OBJECTIVES

### 2.1 PERCENTAGE OF TARGETED USE OF DIFFERENT FUELS FOR TRANSPORT

The Walloon action framework will focus principally on a 'business as usual' (BAU) scenario. The choice of a BAU scenario is based on Wallonia's socio-economic realities, geographical context and potential related to the type of mobility.

#### 1° Socio-economic context

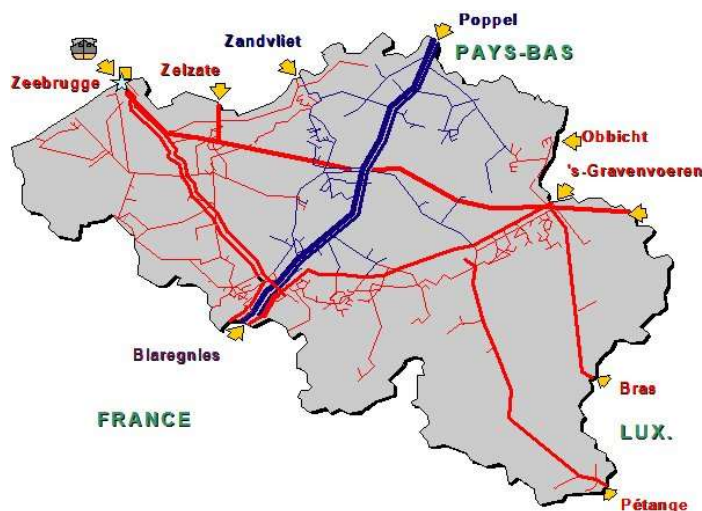
Wallonia is a Belgian region with a population whose income is lower than the national average. Even though there is some potential for developing a market for vehicles running on alternative fuels, it seems to us to be rather limited. As stated in the preamble to the Directive, action frameworks must not result in financial burdens for the Member States. Taking into account the expected development of the market and the costs of the related infrastructures, we consider that it is for the sector to see to the development of the market in a healthy climate.

#### 2° Geographical context

Wallonia's urban geography covers the industrial axis consisting of the Sambre and Meuse rivers, on the one hand, and the vast urban area of Brussels, on the other.

55% of the Walloon population lives in an area covering 25% of Wallonia. The rest of the population is distributed throughout rural areas interspersed with sub-regional clusters (see Chapter 6). Infrastructure development will therefore naturally take place in these areas, which are economically more attractive.

Furthermore, as regards compressed natural gas, it is important to keep in mind the need for a distribution infrastructure to ensure a well-organised deployment in these areas.



### 3° Typologie de mobilité

According to the BELDAM study<sup>11</sup> mobility patterns centre mainly on the home. The average distance travelled was 13.4 km, which rises to nearly 30 km for work-related journeys. We estimate that such distances do not require a massive deployment of infrastructure, but rather a structured deployment, especially as regards electric recharging points.

Besides, considering Belgium's geographical position in the heart of Europe, it seems appropriate to focus rather on a strategic infrastructure for the transit fleet, which is heavily present on the main highways, and on the B2B offer, which has significant potential.

## 2.2 ALTERNATIVE FUEL VEHICLES TARGETS

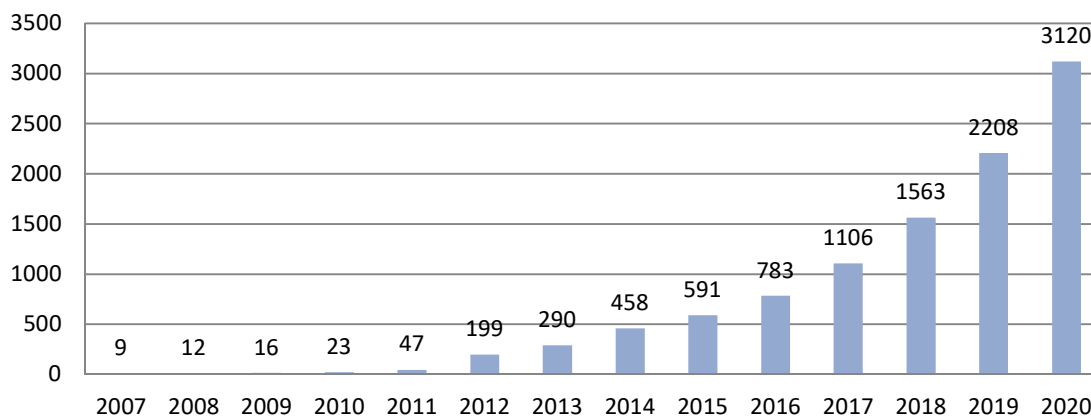
**Table 35: Number of targeted AFVs in the Walloon Region**

ALTERNATIVE FUEL VEHICLES	Number of Vehicles		
	2020	2025	2030
Electric Cars	9.605	Not assessed	Not assessed
Electric Light Duty Vehicles	Not assessed	Not assessed	Not assessed

<sup>11</sup> La Mobilité en Belgique en 2010 ('Mobility in Belgium 2010') : Résultats de l'Enquête BELDAM. ('Results of the BELDAM study'). Cornélis et al. - BELSPO and SPF Mobilité et Transports (2012).

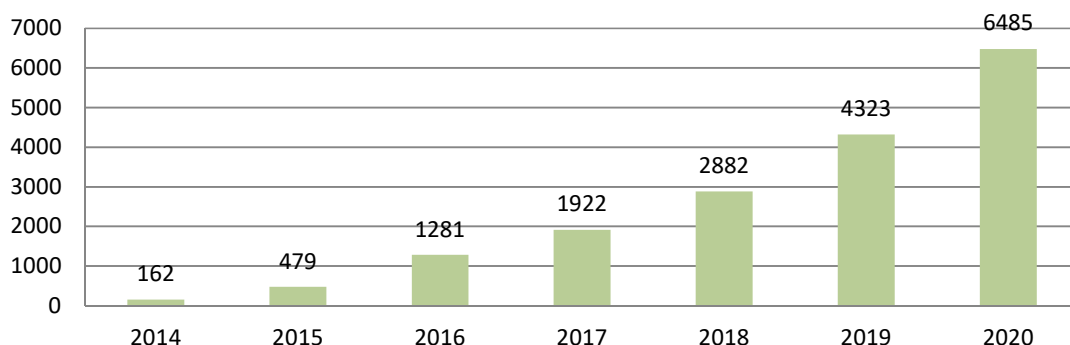
ALTERNATIVE FUEL VEHICLES	Number of Vehicles		
	2020	2025	2030
Electric Heavy Duty Vehicles	0	Not assessed	Not assessed
Electric Buses	298 <sup>12</sup>	Not assessed	Not assessed
Electric Motorbike	0	Not assessed	Not assessed
CNG Cars	1.344	Not assessed	Not assessed
CNG Light Duty Vehicles	0	Not assessed	Not assessed
CNG Heavy Duty Vehicles	0	Not assessed	Not assessed
CNG Buses	0	Not assessed	Not assessed
LNG Light Duty	0	Not assessed	Not assessed
LNG Heavy Duty	0	Not assessed	Not assessed
LNG Buses	0	Not assessed	Not assessed
Hydrogen Car	0	Not assessed	Not assessed
Hydrogen Light Duty	0	Not assessed	Not assessed
Hydrogen Heavy Duty	0	Not assessed	Not assessed
Hydrogen Buses	0	Not assessed	Not assessed
Other (if any)	0	Not assessed	Not assessed

### Number of electric vehicles



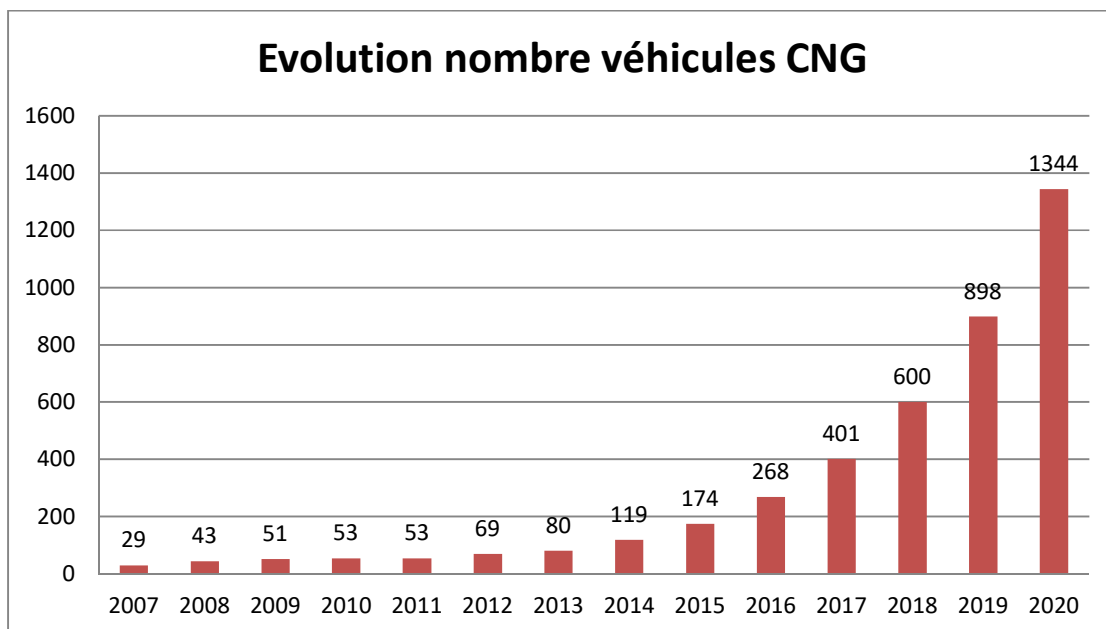
<sup>12</sup> Hybrids only.

## Number of Plug-in Hybrid Electric Vehicles



- The data has been extrapolated from the data of the Federal Planning Bureau for Wallonia.
- The timescale is different, because only Plug-in Hybrid Vehicles (PHEV), which appeared on the market in 2014, can be counted under the Directive.
- The estimate of the number of PHEVs is from a study carried out by the Walloon Agency for Air and Climate (AWAC), while the estimated number of electric vehicles comes from the Planning Bureau's statistics.
- There is one difference between the Planning Bureau's statistics and the AWAC's study. It results mainly from the categories examined by the two agencies, as they do not overlap.
- The growth estimate was 40%/year for electric vehicles and 50%/year for hybrid vehicles. The figure is higher for PHEVs, because of the current importance of the hybrid fleet, which will be renewed more significantly in coming years.

## Evolution nombre véhicules CNG



- The data has been extrapolated from the statistics of the Federal Planning Bureau for Wallonia.
- Growth at 50%/year.

## 2.3 ELECTRICITY

**Table 36: Number of targeted recharging points in the Walloon Region**

ELECTRICITY	Recharging Points		
	2020	2025	2030
Normal power recharging points (Public)	650	Not assessed	Not assessed
High power recharging points (Public)	38	Not assessed	Not assessed
Normal power recharging points (Private)	Not known <sup>13</sup>	Not assessed	Not assessed
High power recharging points (Private)	Not known	Not assessed	Not assessed
Shore-side electricity supply in maritime and inland ports (Terminals)	Not known	Not assessed	Not assessed
Electricity supply for stationary airplanes	Not known	Not assessed	Not assessed

Most needs will be met either at the point of departure or at the destination of the vehicle. At this level, Wallonia aims primarily at launching B2B deliveries, which seems more appropriate and cost-effective. As these deliveries cannot be counted within the meaning of the Directive, they will be reflected in future reports only to a small extent. As mentioned above, 213 recharging points are currently listed in Wallonia. At the same time, on 30 June 2016, the Walloon fleet totalled 687 electric vehicles and 880 PHEVs, i.e. 1 567 vehicles. Wallonia thus exceeds the Directive's objective of one recharging point for every ten vehicles.

Development is currently restricted by the cost of the infrastructure and, with a few exceptions, is usually limited to services provided to owners, or even to simple marketing operations. There has been little sustained development since 2010. Above all, the first recharging points have not been spread evenly throughout the area. Their distribution is as follows:

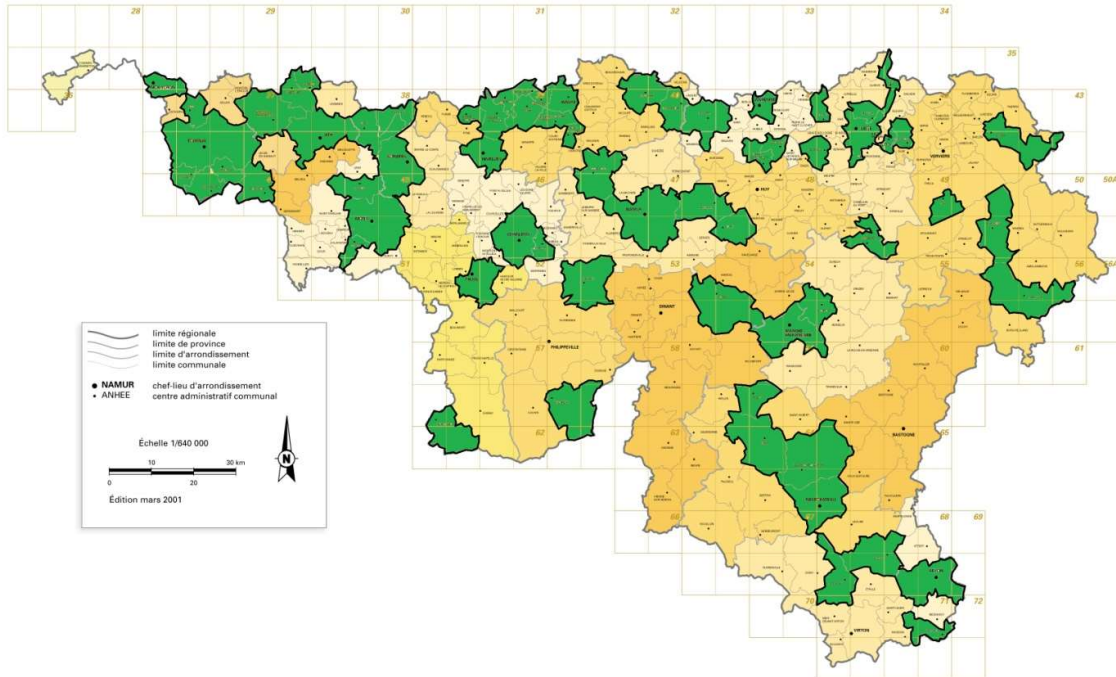
- Walloon Brabant: 35 points
- Hainaut: 67 points
- Liège: 49 points
- Luxembourg: 27 points (12 in Arlon alone)
- Namur: 20 points (11 in Namur alone)

En l'état, une quinzaine de communes wallonnes concentrent plus de la moitié des In other words, fifteen or so Walloon municipalities have more than half of the existing public infrastructure. Large 'blank' areas appear, in particular, in the rural areas in the southern part of the Sambre and Meuse region but also in the urban cluster of

<sup>13</sup> There is no obligation to provide information on the deployment of infrastructure in the private sector.

Verviers. A total of 67 municipalities are covered, though generally the supply is specific or targeted (shopping centres).

WALLONIE : ARRONDISSEMENTS

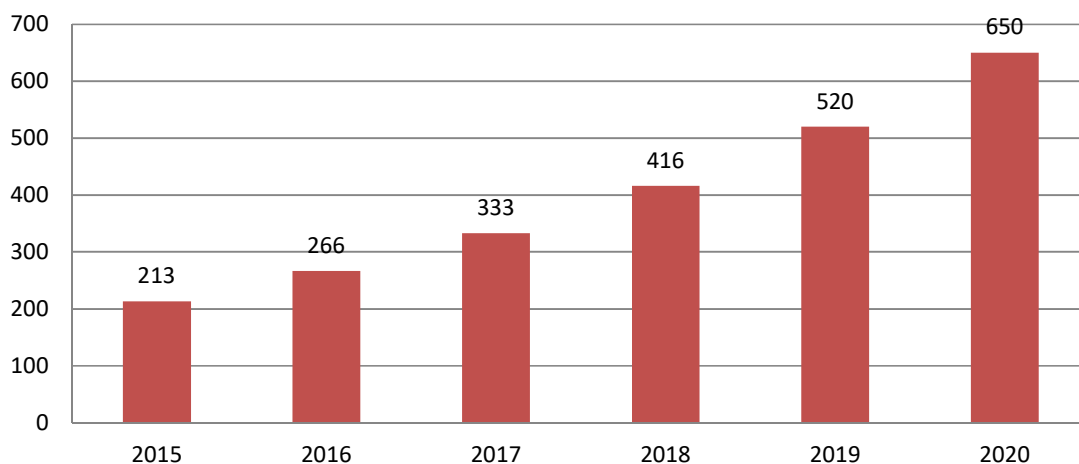


It is likely that natural growth of around 25%/year will be reached eventually. This limited growth is caused by two factors:

- Cost of the equipment and lack of profitability.
- Most of the equipment is to be found in the private sector, where access is restricted (and therefore not counted within the meaning of the Directive).

This deployment will remain extremely restricted and be based on targeted or special offers. Additionally, it will not be affected by requirements for geographical distribution in strictly defined areas (urban areas, heavily populated areas and networks to be defined).

## Number of recharging points (BAU)



In this scenario, the equipment in urban, peri-urban and heavily populated areas would develop naturally until, in our estimate, it eventually provided consistent and sufficient coverage of Wallonia.

In addition, roads with many transit vehicles would be specifically equipped as a priority (access roads listed in the Trans-European Transport Network and Wallonia's core network - cf. Chapter 6).

## 2.4 NATURAL GAS

**Table 37: Number of targeted natural gas refuelling stations in the Walloon Region**

NATURAL GAS	Refuelling Stations		
	2020	2025	2030
CNG refuelling stations (public)	30	Not assessed	Not assessed
CNG refuelling stations (private)	Not known	Not assessed	Not assessed
LNG refuelling stations for HD vehicles(public)	Not known	Not assessed	Not assessed
LNG refuelling stations for HD vehicles (private)	Not known	Not assessed	Not assessed
Sea Ports - LNG refuelling points	Not applicable	Not assessed	Not assessed
Inland Ports - LNG refuelling points	Not known	Not assessed	Not assessed

The sector has started to deploy some infrastructure (principally via DATS24 and ENORA). However, uncertainties remain as regards the future level of excise duties to be incorporated in the cost of fuel.

Whether or not there is a gas distribution network could limit deployment, in particular outside urban areas.

We estimate that a structured deployment will be possible by optimising the infrastructure deployed to meet the needs of the road transport sector. Nonetheless, we now consider that in many cases the market will be able to ensure a significant part of the deployment without any special aid. Six stations are currently active (Nivelles, Gosselies, Mouscron, Ollignies, Jemappes and Tournai), three are subject to a licence (Namur, Ghislenghien and Mont-sur-Marchienne) and 18 others are at a fairly advanced planning stage (Jemeppe-sur-Sambre, Soignies, Braine, Beyne-Heusay, Dour, Herve, Seraing, Herstal, Loncin, Couillet, Genappes, Rhisnes, Waremme, Pecq, Fleurus, Leuze and PÉruwelz).



Key "Stations CNG – ouvertes" = CNG stations – open; "Stations CNG – planifiées" = CNG stations - planned

As regards LNG in road and inland waterway transport, Wallonia will mainly rely on calls for tender within the framework of the Trans-European Transport Network's Connecting Europe Facility, since the deployment of infrastructure for alternative fuels has been defined as a priority in the upcoming 9th Corridors Forum (focusing on the Rhine-Alpine Corridor).



## 2.5 HYDROGEN

**Table 38: Number of targeted hydrogen refuelling stations in the Walloon Region**

HYDROGEN	Refuelling Stations		
	2020	2025	2030
Refuelling Stations – 350 bar (public)	2	Not assessed	Not assessed
Refuelling Stations – 350 bar (private)	Not known	Not assessed	Not assessed
Refuelling Stations – 700 bar (public) <sup>14</sup>	2	Not assessed	Not assessed
Refuelling Stations – 700 bar (private)	Not known	Not assessed	Not assessed

<sup>14</sup> Station interopérable en 350 bars et 700 bars.

## 3 MEASURES NECESSARY TO ENSURE TARGETS AND OBJECTIVES ARE REACHED

### 3.1 LEGAL MEASURES

As proposed in the Directive, Wallonia has decided not to impose an additional financial burden on public authorities in connection with its national policy framework. Likewise it has been decided not to place the burden of deploying infrastructure on the customers of electricity and gas networks. We estimate that the market is sufficiently mature to make it possible to deploy at least normal electric recharging and CNG refuelling infrastructures.

As regards electricity, we consider that the unilateral and massive deployment of infrastructure will have little impact on the deployment of vehicles without specific mobility habits besides in exceptional cases and for which the purchase price remains a major obstacle.

In order to promote and facilitate the deployment of infrastructure, Wallonia has checked that such deployment is not in breach of the legislation in force and adjusted certain provisions so as to simplify administrative procedures. At the same time, most of the DSOs are cooperating with potential investors and assisting them in their project as best they can, in compliance with the Electricity Decree and the Gas Decree and the network's security requirements.

Vehicle-related costs (purchase price and taxes) and therefore the number of vehicles on the road will remain the main driving force behind the deployment of a structured and adequate infrastructure supply.

### 3.2 POLICY MEASURES AND INVESTMENTS

#### 3.2.1 Deployment and Manufacturing Support

**Table 39: Investment Programme for Deployment and Manufacturing Support in the Walloon Region**

Name of Investment programme	Short Description	2015	2016	2020
--	--	-	-	-

As mentioned, Wallonia will not launch any direct investment programme under the Directive. As stated in the 15th preamble of the Directive: 'This Directive is not intended to place an additional financial burden on Member States or on regional and local authorities. It should be possible for Member States to implement this Directive by making use of a wide range of regulatory and non-regulatory incentives and measures, in close cooperation with private sector actors, who should play a key role

in supporting the development of alternative fuels infrastructure.’ Therefore we believe that when deploying these solutions there should be cooperation with stakeholders in defining clearly the direct needs related to alternative fuels and in informing the public of any related advantages and constraints.

However, in order to provide a framework for deployment, a more comprehensive call for proposals will be launched in order to improve the coverage of the recharging network.

### 3.2.2 Research, Technological Development and Demonstration (RTD&D)

**Table 40: Investment Programme for Research, Technological Development and Demonstration in the Brussels-Capital Region**

Name of Investment programme	Short Description	2015	2016	.....
Call for energy proposals	Call for proposals in the energy sector, including electric mobility		€ 1 million	

Wallonia mainly uses open calls for proposals within the framework of its research programmes and can, therefore, finance mobility projects. In 2015 and 2016 the Department of Energy and Sustainable Building focused some of its programmes on the challenges related to electric mobility. In this context, a project dealing directly with this problem was financed in 2016. It will concentrate on electric and hydrogen mobility and last until 2020.

### 3.3 OTHER MEASURES

As mentioned, Wallonia will not launch any direct investment programme under the Directive. As stated in the 15th preamble of the Directive: ‘This Directive is not intended to place an additional financial burden on Member States or on regional and local authorities. It should be possible for Member States to implement this Directive by making use of a wide range of regulatory and non-regulatory incentives and measures, in close cooperation with private sector actors, who should play a key role in supporting the development of alternative fuels infrastructure.’ Therefore we believe that when deploying these solutions there should be cooperation with stakeholders in defining clearly the direct needs related to alternative fuels and in informing the public of any related advantages and constraints.

The greening of public fleets: this action aims at motivating private investors to continue or speed up the deployment of infrastructures meeting Wallonia’s (and Europe’s) expectations. As part of the action, Wallonia undertakes to replace petrol- and diesel-fuelled vehicles with alternative-fuel vehicles (AFV) within the meaning of the Directive (CNG, hybrid, electric, hydrogen, LNG, synthetic and paraffinic fuels or LPG) as follows: 50% of the replaced vehicles will be AFVs as from 1 January 2017 and 100% will be AFVs as from 1 January 2030. However, an exemption is possible in

the first three years of the action (2017-2018-2019), during which time a maximum of 25% of vehicles generating real-world emissions below 95 g of CO<sub>2</sub>/km and 1 mg/km of fine particles and 60 mg/km of nitrogen oxides may be counted towards the 50%.

In this context, local authorities and bodies of public interest (BPI) will be encouraged to aim to replace 20% of their fleet with low-emission vehicles.

These renewals depend on:

- the existence of a sufficient network of CNG and electricity filling (plug-in) stations;
- in the case of public procurement campaigns organised by Wallonia, the existence of tenderers for batches of AFVs;
- the compatibility of the vehicles offered in the tenders with the tasks and needs of the units of the different directorates-general and the secretary-general of the Public Service of Wallonia (SPW).

These objectives should be assessed regularly.

As mentioned, Wallonia will not launch any direct infrastructure investment programme under the Directive. As stated in the 15th preamble of the Directive: 'This Directive is not intended to place an additional financial burden on Member States or on regional and local authorities. It should be possible for Member States to implement this Directive by making use of a wide range of regulatory and non-regulatory incentives and measures, in close cooperation with private sector actors, who should play a key role in supporting the development of alternative fuels infrastructure.' Therefore we believe that when deploying these solutions there should be cooperation with stakeholders in defining clearly the direct needs related to alternative fuels and in informing the public of any related advantages and constraints.

However, it could also be possible to participate in the projects of any entity, in cooperation with neighbouring Member States.

## **4 MEASURES THAT CAN PROMOTE THE DEPLOYMENT OF PRIVATE ALTERNATIVE FUELS INFRASTRUCTURE**

### **4.1 LEGAL MEASURES**

1. The Walloon Government Decree of 10 December 2015 determining the sectorial conditions applicable to service stations intended for fuelling motor vehicle tanks with alternative gaseous fuels, namely compressed natural gas, and amending the Walloon Government Decree of 4 July 2002 establishing the list of projects subject to an impact assessment and of classified installations and activities and the Walloon Government Decree of 4 July 2002 on the procedure and various implementing measures of the Decree of 11 March 1999 on environmental licences.
2. Draft Walloon Government Decree laying down comprehensive conditions applicable to fuelling units intended for fuelling one or more natural-gas-fuelled vehicle(s) with natural gas, at a maximum filling pressure of 30 MPa (300 bar), without the intermediate storage of high-pressure gas - adopted in the first reading and currently in the process of being notified to the Commission under Directive 98/34/EC.

### **4.2 POLICY MEASURES AND INVESTMENTS**

Below are a few measures aimed at boosting investments in refuelling stations or the purchase of clean vehicles:

1. Circular letter to local authorities concerning the introduction of aid to purchase clean vehicles or adapt vehicles to stricter environmental standards with a view to reducing their emissions of CO<sub>2</sub>, fine particles and other air pollutants.
2. Premium for equipment that reduces the energy consumption and noise emission of vehicles - Walloon Government Decree of 21 April 2016.
3. Decree of 11 March 2004 (within the budget limits), the Walloon Region grants an investment premium and an exemption from property tax as well as a guarantee for large enterprises carrying out an investment programme that contributes decisively to sustainable development.

## 5 MEASURES THAT CAN PROMOTE THE DEPLOYMENT OF ALTERNATIVE FUELS INFRASTRUCTURE IN PUBLIC TRANSPORT SERVICES

### 5.1 MEASURES FOR PUBLIC TRANSPORT SERVICES

The TEC Group has ordered 11 hybrid buses and 2 fast recharging stations from VOLVO Bus Benelux for a total amount of €5 285 200. These new vehicles will start being used in the urban network of Namur at the end of 2016.

As part of their global strategy, the SRWT and the TEC Group are planning to acquire 35 diesel/electric hybrid buses for the Namur area and 85 for the Charleroi area. The offer will be extended to 298 buses in 2018..

### 5.2 TARGETS AND OBJECTIVES FOR PUBLIC TRANSPORT

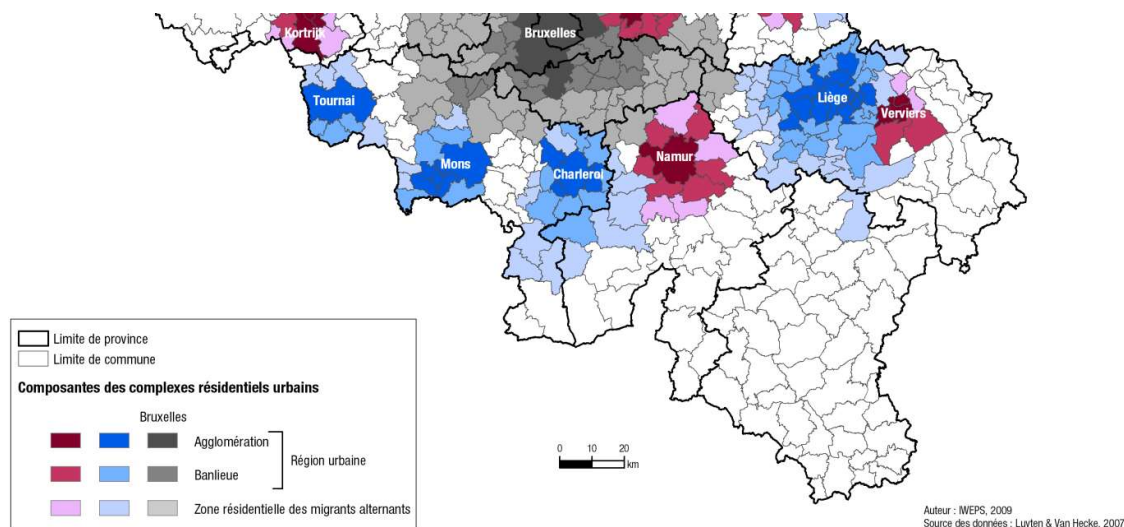
**Table 41: Number of AF Buses in the Walloon Region**

	Public			Private		
	2020	2025	2030	2020	2025	2030
<b>CNG</b>	0	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed
<b>LNG</b>	0	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed
<b>Electric</b>	<b>298</b>	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed
<b>Hydrogen</b>	0	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed
<b>Other</b>	0	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed
<b>Total</b>	298	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed

## 6 INSTALLATION IN URBAN/SUBURBAN AGGLOMERATIONS OR DENSELY POPULATED AREAS AND ALONG EXTRA-URBAN NETWORKS

### 6.1 URBAN/SUBURBAN AGGLOMERATIONS OR DENSELY POPULATED AREAS

In the monograph 'Noyaux d'habitat et Régions urbaines dans une Belgique urbanisée'<sup>15</sup>, based on a socio-economic study carried out in 2001, the authors use a methodology similar to that of the OECD (both are based on Eurostat's current terminology and a reference population density of 1 500 inhabitants per km<sup>2</sup>). The study highlights seven urban areas that are fully or partially integrated into the territory, i.e., from west to east: Tournai, Mons, Brussels, Charleroi, Namur, Liège and Verviers. The 'hinterlands' of the OECD Nomenclature have been extended to cover 'residential areas of commuters', which expands, in particular, the areas of influence of Mons, Charleroi, Liège and Brussels. In this new configuration, a single contiguous zone can be identified at the level of Mons, Charleroi, Namur, Liège, Verviers and Brussels. It consists of the urban areas along the Sambre and Meuse route and to the north of it. 'Residential areas of commuters', which are directly contiguous to hinterlands, reflect labour migration, as most of the population of these areas are established there because of their work.



Zones urbaines définies dans la monographie « Noyaux d'habitat et Régions urbaines dans une Belgique urbanisée ».

Author: IWEPS, 2009; Data Source: Luyten & Van Hecke, 2007

Key: "Limite de province" =

"Limite de commune" =

"Composantes des complexes résidentiels urbains" = Elements of urban residential complexes

"Bruxelles" = Brussels

"Agglomération" = Agglomeration

"Banlieue" = Suburb

"Région urbaine" = Urban region

"Zone résidentielle des migrants alternatifs" = Residential areas of commuters

<sup>15</sup> Van Hecke & al., 2009, SPF Economie, P.M.E., Classes moyennes et Energie

The different habitat clusters have also been defined in this monograph. These areas form the hearts of the various municipalities, where most of the population is located (more than 50% of the population of the entity, with a population density above 1 500 inhabitants per km<sup>2</sup>).

Such a definition identifies clear secondary poles of attraction, principally in rural and cross-border areas, by better allocating them spatially.

By classifying the different habitat clusters (and not the populations of municipalities), it is possible to offer a more detailed picture of the situation. The entities in the table below may be considered to meet the definition laid down in the Directive.

**Table 42: Overview clusters of habitats in the Walloon Region**

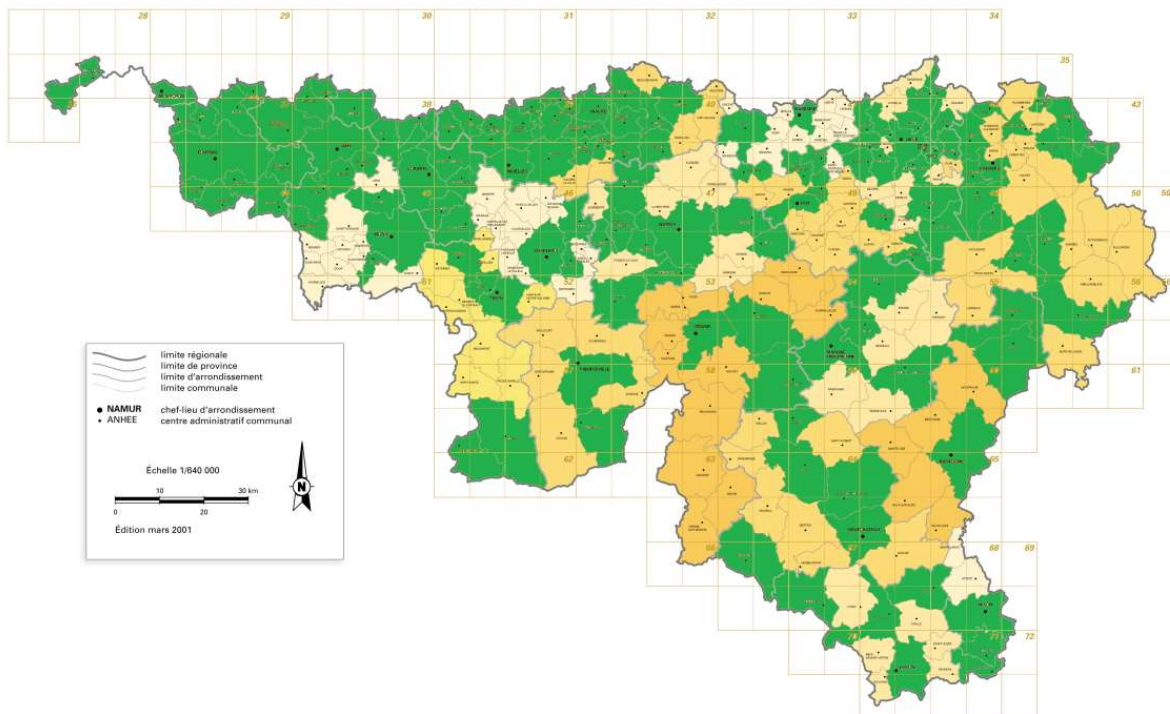
Province	Cluster	Population
<b>Brabant wallon</b>	Ottignies-Louvain-la-Neuve	30.233
	Wavre-Bierge	25.809
	Nivelles	21.998
	Tubize	12.029
	Mont-Saint-Guibert	5.362
<b>Hainaut</b>	Charleroi	282.974
	Mons	161.000
	La Louvière	101.974
	Mouscron	45.736
	Tournai	41.269
	Binche-Leval-Trahegnies	24.164
	Fontaine-l'Evêque-Piéton	14.901
	Ath	14.466
	Braine-le-Comte	12.029
	Soignies	11.985
	Anderlues	10.607
	Lessines	10.229
	Wanfercée-Baulet-Lambusart-Keumiée*	9.912
	Chapelle-lez-Herlaimont	9.862
	Baudour-Tertre	9.355
	Péruwelz-Bon-Secours	9.105
	Casteau-Bruyère	7.684
	Pont-à-Celles-Luttre	7.216
	Enghien	7.133
	Bernissart-Blaton	6.910
	Leuze	6.523
	Comines	6.498
Basècles-Quevaucamps	6.379	
Dottignies	5.829	
Fleurus	5.532	
Ecaussines-d'Enghien-Ecaussines-Lalaing	5.509	
Thuin	5.054	
<b>Liège</b>	Liège	441.117
	Verviers	68.008
	Huy-Wanze	23.469
	Eupen	14.788
	Beaufays-Chaufontaine-Tilff	12.227
	Spa	10.560
	Amay-Ampsin-Ombret-Flône	10.393
	Visé-Haccourt	9.997
	Waremme	9.916



	Welkenraedt	8.001
	La Calamine-Neu-Moresnet	6.925
	Herve-Battice	6.331
	Malmedy	5.893
	Awans-Bierset-Voroux-Goreux	5.326
	Esneux	5.298
<b>Luxembourg</b>	Arlon	17.598
	Athus-Aubange-Messancy	13.494
	Virton-Saint-Mard	6.838
	Bastogne	6.433
	Marche-en-Famenne	5.601
	Bertrix	5.076
<b>Namur</b>	Namur	78.149
	Auvelais-Jemeppes-Tamines	30.985
	Andenne	11.628
	Gembloux	8.128
	Dinant	7.445
	Ciney	7.177
	Malonne	5.467

The deployment of infrastructure will take place naturally in the above-mentioned urban clusters, which are the most likely to be equipped. We estimate that by 2020 there will be at least one recharging point in the following areas:

#### Wallonia: Districts



## 6.2 TEN-T CORE NETWORK

### 6.2.1 Recharging Points

**Table 43: Planned number of recharging points along the TEN-T Core Network**

NETWORK NAME		2020			2025			2030		
		Number	Max Distance	% of completion	Number	Max Distance	% of completion	Number	Max Distance	% of completion
<b>A4-E411</b>	High Power	6	58km	100						
	Normal Power									
<b>A3-E40</b>	High Power	6	36km	100						
	Normal Power									
<b>A7-E19/E42</b>	High Power	6	21km	100						
	Normal Power									

The equipment of roadside service areas and areas connected to the TEN-T will be guaranteed by the FAST-E, ULTRA-E and UNIT-E projects approved in connection with the calls for tender for the TEN-T's Connecting Europe Facility for 2014 and 2015. This 'fast charge'-only equipment will be operational in 2019 at the latest.

### 6.2.2 Natural Gas Refuelling Station

The development of this infrastructure will depend essentially on the TEN-T projects to be launched. SOFICO, which manages Wallonia's core road network, is currently encouraging such deployment.

### 6.2.3 Hydrogen refuelling Station

Not assessed.

## 6.3 TEN-T COMPREHENSIVE NETWORK

### 6.3.1 Recharging Points

**Table 44: Planned number of recharging points in the TEN-T Comprehensive Network**

ROAD NAME		2020			2025			2030		
		Number	Max Distance	% of completion	Number	Max Distance	% of completion	Number	Max Distance	% of completion
<b>A8-E429/E42</b>	Fast charge	2	40km	100						
	Normal charge									
<b>A15-E42</b>	Fast charge	4	50km	100						
	Normal charge									
<b>A25-A26-E25</b>	Fast charge	2	125km	100						
	Normal charge									
<b>A24-E42</b>	Fast charge	2	45km	100						
	Normal charge									

The equipment of roadside service areas and areas connected to the TEN-T will be guaranteed by the FAST-E, ULTRA-E and UNIT-E projects approved in connection with the calls for tender for the TEN-T's Connecting Europe Facility for 2014 and 2015. This 'fast charge'-only equipment will be operational in 2019 at the latest.

### 6.3.2 Natural Gas Refuelling Station

The development of these infrastructures will depend essentially on the TEN-T projects to be launched. SOFICO, which manages Wallonia's core road network, is currently encouraging such deployment.

### 6.3.3 Hydrogen Refuelling Station

Not assessed.

## 7 REFUELLING POINTS FOR LNG AT MARITIME AND INLAND PORTS INSIDE TEN-T CORE NETWORK

### 7.1 SEA PORTS INSIDE TEN-T CORE NETWORK

Not applicable.

### 7.2 INLAND PORTS INSIDE TEN-T CORE NETWORK

**Table 45: LNG Installation in Inland Ports (inside TEN-T Core Network) in the Walloon Region**

PORT NAME	2020	2025	2030
<b>Liège (PAL)</b>	Not assessed	Not assessed	Not assessed
<b>Namur (PAN)</b>	Not assessed	Not assessed	Not assessed

The development of these infrastructures will depend essentially on the TEN-T projects to be launched. The objectives are expected in 2025 for waterways LNG.

## **8 ASSESSMENT OF THE NEED FOR LNG REFUELLING POINTS AT MARITIME AND INLAND PORTS OUTSIDE THE TEN-T CORE NETWORK**

### **8.1 SEA PORTS OUTSIDE THE TEN-T CORE NETWORK**

Not applicable.

### **8.2 INLAND PORTS OUTSIDE THE TEN-T CORE NETWORK**

PORT	2020	2025	2030
<b>Charleroi (PAC)</b>			
<b>Centre et Ouest (PACO)</b>			

The development of these infrastructures will depend essentially on the TEN-T projects to be launched. The objectives are expected in 2025 for waterways LNG.

## **9 SHORE SIDE ELECTRICITY IN MARITIME AND INLAND PORTS**

### **9.1 SEA PORTS INSIDE THE TEN-T CORE NETWORK**

Not applicable.

### **9.2 SEA PORTS OUTSIDE THE TEN-T CORE NETWORK**

Not applicable.

### **9.3 INLAND PORTS INSIDE THE TEN-T CORE NETWORK**

Not investigated (not compulsory).

### **9.4 INLAND PORTS OUTSIDE THE CORE TEN-T NETWORK**

Not investigated (not compulsory).

## **10 ELECTRICITY SUPPLY AT AIRPORTS**

### **10.1 AIRPORTS INSIDE TEN-T CORE NETWORK**

Not investigated (not compulsory). The supply at Liège-Bierset currently seems sufficient.

### **10.2 AIRPORTS OUTSIDE THE CORE TEN-T NETWORK**

Not investigated (not compulsory). The supply at Charleroi-Gosselies currently seems sufficient.

## **11 OTHER ALTERNATIVE FUELS PLANS, MEASURES AND INFRASTRUCTURE**

At present there is no structured policy to provide financial support for alternative fuels. Since alternative fuels are still a niche market, we do not consider it necessary to enact legislation on significant and rapid deployment measures but prefer to prioritise healthy competition in the sector. At the same time, we have found that none of the legislation currently in force in Wallonia hinders the introduction and growth of mobility using alternative fuels.

However, we consider that it will be necessary to provide accurate information to users about such fuels to help them make a choice and to guide future needs for legislation.

A reform of the environmental taxation of vehicles is under preparation. At present, electric vehicles are subject to a minimum guaranteed entry-into-service tax of € 61.50. In future, taxation will have to take account of the environmental requirements of the mobility sector without becoming an obstacle.

As regards establishment issues, a call for proposals will be launched in 2017 and may be renewed depending on the outcome. It will target groups promoting balanced partnerships between the public and the private sector and will aim at coordinating the establishment of new recharging points for alternative fuels by territorial area in order to ensure sufficient coverage for users. The technologies targeted by Horizon 2020 will be a priority. New recharging points would be established in structures belonging to public, regional or local authorities and places freely accessible to the public. Special attention will be paid to carpool parking (ComOn network), in particular carpool parking in partnership with large retailers and local authorities. Another target will be service areas along expressways, tourist attractions, etc.



# **Part IV**

# **Brussels Policy Framework**

The Brussels Capital Region (BCR) is facing important challenges in improving local air quality. Especially with regard to nitrogen oxides and fine particulates, the Region intends to carry out structural regularisation of its situation in the light of the European standards, since the concentration of these emissions is still problematic, in spite of a slight improvement in recent years. Motorised transport, and especially the large numbers of diesel vehicles driving round the Region, make a significant contribution to this pollution.

There is strong economic activity in the Brussels Region, so each day it has to process a large number of commuters from the other Regions. Moreover, Brussels is regularly at the top of the list of cities with the most congestion. This congestion not only causes considerable environmental pollution, but also creates very large economic losses, as a result of which a growing number of businesses are considering leaving the Region. It is therefore clear that transport constitutes a decisive problem in the context of the regional objectives in the field of air quality and greenhouse gas emissions.

The regional mobility plan IRIS 2, which was adopted in 2010, defines the measures which must be taken to reduce the level of traffic by 20% by 2018, compared to 2001. To achieve this target, the Brussels Region must, on the one hand, be able to control and rationalise the demand for mobility. On the other hand, public transport, bicycles and walking must be developed further as a priority in the mobility policy.

However, in order to achieve the regional targets regarding air quality and climate, additional actions are necessary. These are included in the Air-Climate-Energy (ACE) plan, which was approved by the Government on 2 June 2016. In addition to rationalising transport and encouraging a modal shift, the plan includes various measures to improve the environmental performance of vehicles. The introduction of a low emission zone throughout the BCR is one of the most important measures of this plan. From 2018, the BCR wishes to exclude the most polluting vehicles.

In addition, the BCR also wishes to encourage the use of alternative fuels, and especially electricity. Battery electric vehicles (BEV) seem to offer a good solution to reduce part of the pollution caused by vehicles with internal combustion engines, since they have no exhaust pipe emissions, are very quiet at low speeds and are more energy-efficient. However, how a BEV pans out over the entire life cycle depends very much on how the electricity consumed is generated and on the construction of the batteries. Also compressed natural gas (CNG) vehicles offer an attractive advantage compared to the vehicles with diesel or petrol internal combustion engines. The NOx and fine particulate emissions are also reduced considerably and they are also less noisy in traffic. The BCR does not however wish to lose sight of the fact that the replacement of vehicles by electric or CNG vehicles is not a solution to the other nuisance they cause, such as congestion, occupation of space, traffic accidents, etc.

To encourage the transition to electric transport, the BCR has already taken a number of measures, especially with regard to the exemplary role of the Brussels public authorities with regard to transport, financial support for businesses for the purchase of hybrid and electric vehicles, licences for electric taxis, etc.

In view of the growing demand for public electric vehicle charging points, the Brussels authorities will also embark on the roll-out of a public recharging infrastructure network in 2017.

From the context described above, and as specified in the ACE plan, the BCR consequently wishes to define an umbrella strategy in 2017 for the policy on the

promotion of electric and other alternative vehicles. This strategy must be able to make a real contribution to the challenges in the field of air quality, energy and mobility in the Brussels Region.

## 1 ASSESSMENT OF THE CURRENT STATE OF ALTERNATIVE FUELS IN THE TRANSPORT SECTOR

### 1.1 PERCENTAGE OF CURRENT USE OF DIFFERENT FUELS FOR TRANSPORT

In this respect, we refer to the joint part 1 of the Belgian 'NPF'.

### 1.2 NUMBER OF CURRENT ALTERNATIVE FUEL VEHICLES

**Table 46: Number of current AFVs in the Brussels-Capital Region**

ALTERNATIVE FUEL VEHICLES	NUMBER OF VEHICLES
	d.d. 31/12/2015
Electric Cars	519
Electric Light Duty Vehicles	116
Electric Heavy Duty Vehicles	3
Electric Buses	1
Electric Motorbike	137
<b>Electric Vehicles Total</b>	<b>776</b>
CNG Cars	158
CNG Light Duty Vehicles	42
CNG Heavy Duty Vehicles	5
CNG Buses	3
<b>CNG Vehicles Total</b>	<b>208</b>
LNG Light Duty	Included in CNG
LNG Heavy Duty	Included in CNG
LNG Buses	Included in CNG
Hydrogen Car	4
Hydrogen Light Duty	0
Hydrogen Heavy Duty	0
Hydrogen Buses	0
Petrol PHEV <sup>16</sup> cars	318
Diesel PHEV cars	24

<sup>16</sup> Plug-in Hybrid Electric Vehicle (PHEV)

### 1.3 ELECTRICITY

**Table 47: Number of current recharging points in the Brussels-Capital Region**

ELECTRICITY	Recharging Points
	31/12/2015
Normal power recharging points (Public)	59 (indicative numbers)
High power recharging points (Public)	11
Normal power recharging points (Private)	82 (indicative numbers)
High power recharging points (Private)	0
Shore-side electricity supply in maritime and inland ports (Terminals)	0

**Comment:**

The technical regulations for operation of the electricity distribution grid in the Brussels Capital Region and access to the grid provide for a registration requirement with the distribution grid operator (SIBELGA) on installing a recharging point for an electric vehicle. However, in practice, it has been found that operators and users of electric vehicles are often insufficiently aware of this requirement and this information consequently does not reach SIBELGA systematically. Because of this, the figures in the table above must be considered more as indicative figures, since the official, complete data are not available. The figures above are based on information collected in the context of a research project.

## 1.4 NATURAL GAS

**Table 48: Number of current natural gas refuelling stations in the Brussels-Capital Region**

NATURAL GAS	Natural Gas refuelling stations	
	31/12/2015	
CNG refuelling stations (public)	1	
CNG refuelling stations (private)	0	
LNG refuelling stations for HD vehicles (public)	0	
LNG refuelling stations for HD vehicles (private)	0	
Sea Ports - LNG refuelling points	Not applicable	
Inland Ports - LNG refuelling points	0	

## 1.5 HYDROGEN

**Table 49: Number of current hydrogen refuelling stations in the Brussels-Capital Region**

HYDROGEN	Hydrogen Refuelling stations (31/12/2015)	
	350 bar	700 bar
Refuelling Stations (public)	0	0
Refuelling Stations (private)	0	0

## 2 TARGETS AND OBJECTIVES

### 2.1 PERCENTAGE OF TARGETED USE OF DIFFERENT FUELS FOR TRANSPORT

In this respect, we refer to the joint part 1 of the Belgian 'NPF'.

## 2.2 ALTERNATIVE FUEL VEHICLES TARGETS

**Table 50: Number of targeted AFVs in the Brussels Capital Region**

ALTERNATIVE FUEL VEHICLES	Number of Vehicles		
	2020	2025	2030
Electric Cars	2000	4000	6000
Electric Light Duty Vehicles	600	1000	1600
Electric Heavy Duty Vehicles	-	-	-
Electric Buses	~38	To be confirmed	To be confirmed
Electric Motorbike	-	-	-
CNG Cars	200	200	200
CNG Light Duty Vehicles	40	40	40
CNG Heavy Duty Vehicles	-	-	-
CNG Buses	0	0	0
LNG Light Duty	0	-	-
LNG Heavy Duty	0	-	-
LNG Buses	0	0	0
Hydrogen Car	-	-	-
Hydrogen Light Duty	-	-	-
Hydrogen Heavy Duty	-	-	-
Hydrogen Buses	0	0	0
Other (if any)	-	-	-

### Comment:

The Brussels public transport company (STIB - MIVB) has announced that, from 2030, fully electric buses only are to be purchased. However, the extent to which the transition to electric buses will occur depends on the evaluation of the pilot project involving 3 electric bus lines which is starting from 2018.

The Government of the Brussels Capital Region will support RFIs (requests for information) for vehicle tests which are part of the policy and programmes drawn up by the European Commission to promote hydrogen.

## 2.3 ELECTRICITY

**Table 51: Number of targeted recharging points in the Brussels-Capital Region**

ELECTRICITY	Recharging Points		
	2020	2025	2030
Normal power recharging points (Public)	200	400	600

ELECTRICITY	Recharging Points		
	2020	2025	2030
High power recharging points (Public)	Included in Normal power recharging points	Included in Normal power recharging points	Included in Normal power recharging points
Normal power recharging points (Private)	-	-	-
High power recharging points (Private)	-	-	-
Shore-side electricity supply in maritime and inland ports (Terminals)	3	6	6
Electricity supply for stationary airplanes	Not applicable	Not applicable	Not applicable

## 2.4 NATURAL GAS

**Table 52: Number of targeted natural gas refuelling stations in the Brussels-Capital Region**

NATURAL GAS	Refuelling Stations		
	2020	2025	2030
CNG refuelling stations (public)	3	3	3
CNG refuelling stations (private)	-	-	-
LNG refuelling stations for HD vehicles(public)	-	-	-
LNG refuelling stations for HD vehicles (private)	-	-	-
Sea Ports - LNG refuelling points	Not applicable	Not applicable	Not applicable
Inland Ports - LNG refuelling points	0	0/1	1

### Comment:

The Brussels Capital Region only has a very limited part of the TEN-T network within its territory. The Ring (R0) around Brussels, which is part of the TEN-T network, is largely in the territory of the Flemish and Walloon Regions. Only 5.5 km of the Ring comes within the competence of the Brussels road authority. Because of the limited competence for the Brussels Ring and the risks entailed in the provision of LNG refuelling installations, no targets have been drawn up for the time being concerning the provision of LNG refuelling infrastructure for the Brussels Region.

## 2.5 HYDROGEN

For the time being, no targets have yet been drawn up for the provision of hydrogen refuelling infrastructure for the Brussels Region.

**Table 53: Number of targeted hydrogen refuelling stations in the Brussels-Capital Region**

HYDROGEN	Refuelling Stations		
	2020	2025	2030
Refuelling Stations – 350 bar (public)	-	-	-
Refuelling Stations – 350 bar (private)	-	-	-
Refuelling Stations – 700 bar (public)	-	-	-
Refuelling Stations – 700 bar (private)	-	-	-



## 3 MEASURES NECESSARY TO ENSURE TARGETS AND OBJECTIVES ARE REACHED

### 3.1 LEGAL MEASURES

#### 1) Quotas of electric vehicles for the Brussels public authorities via the mobility plan

The Brussels Government Decree of 15 May 2014<sup>17</sup> provides that the Brussels local and regional authorities required to draw up a mobility plan (i.e. they employ more than 100 people at the same site) must integrate in their plan an analysis of the composition and use of their vehicle fleet, as well as targets to improve the environmental performance of the vehicle fleet and measures to achieve this. This includes that, from 1 January 2015, they are obliged to reduce their passenger car fleet or to switch it in part to electric vehicles. The regional authorities must ensure that they integrate at least 25% electric vehicles in their fleet per 3-year period; for local government authorities (municipalities, CPAS<sup>18</sup> and intermunicipal associations), this figure is 15%. From 2020, these quotas will be increased to 40% and 25% respectively. Each passenger car less in the fleet (after 1 January 2013) can also be counted as one electric vehicle. Electric vehicles must also use 100% green electricity.

#### 2) Decree on 'exemplary conduct concerning transport' for the Brussels authorities

The Brussels Government Decree of 15 May 2014<sup>17</sup> concerning the 'exemplary conduct' of the Brussels authorities has the aim of encouraging Brussels regional and local government institutions (municipalities, CPAS, intermunicipal associations and regional institutions) to set a good example in matters of transport. This Decree states that all government institutions concerned, when purchasing or leasing new vehicles, must meet certain requirements with regard to environmental performance. This refers more specifically to:

- respecting minimum Ecoscores<sup>19</sup> for the purchase or leasing of passenger cars and MPVs (multi-purpose vehicles), with the Ecoscore increasing by 1 point each year;
- a ban on the purchase of diesel vehicles (for passenger cars and MPVs);
- inclusion of environmental performance requirements in the award criteria of the specifications for the purchasing or leasing of new vehicles with a proportion of at least 30%;
- the requirement to include the Ecoscore (min. 70%) among the environmental performance requirements for the purchasing/leasing of passenger cars, MPVs and minibuses, as well as the unladen mass of the vehicle and the equipment of the vehicle with a regenerative braking system (in the case of hybrid and battery electric vehicles - BEV);

<sup>17</sup> Brussels Capital Region Government Decree on the exemplary conduct of the authorities concerning transport and amending the Brussels Capital Region Government Decree of 7 April 2011 concerning mobility plans (*Besluit van de Regering van het Brussels Hoofdstedelijk Gewest betreffende het voorbeeldgedrag van de overheden inzake vervoer en ter wijziging van het besluit van de Regering van het Brussels Hoofdstedelijk Gewest van 7 april 2011 betreffende de bedrijfsvervoerplannen*) – 15 May 2014.

<sup>18</sup> Public social assistance centres (CPAS/OCMW).

<sup>19</sup> Further information on the 'Ecoscore' environmental score for vehicles can be found at [www.ecoscore.be](http://www.ecoscore.be).

- • the requirement among the environmental performance requirements for the purchase of trucks and vans to respect at least the present Euro standard, as well as to give preference to vehicles that are lighter and equipped with a regenerative braking system (hybrid and BEV).

Since the application of the 'Exemplary conduct concerning transport' Decree, the number of electric vehicles (passenger cars, utility vehicles, motorcycles, etc.) at the Brussels government institutions has increased by 25% in the space of one year. In the case of passenger cars, there are nearly three times as many electric cars in 2015 compared to one year previously, but the absolute figures are naturally still limited. The proportion of electric passenger cars of the Brussels government authorities is 2% within that vehicle category.

In this context, mention can be made of the fact that Agence Bruxelles-Propreté/ Agentschap Net Brussel (ANB), which is responsible for refuse collection in the Brussels Capital Region, wishes to purchase 15 fully electric refuse collection lorries at the end of 2016, if the market can meet the requirements.

### 3) Environmental criteria for car-sharing

The recent Brussels Capital Region Government Decree of 28 April 2016 amending the Brussels Capital Region Government Decree of 21 March 2013 laying down the conditions for the use of reserved parking spaces for operators of shared motor vehicles (*Besluit van de Brusselse Hoofdstedelijke Regering van 28 april 2016 tot wijziging van het besluit van de Brusselse Hoofdstedelijke Regering van 21 maart 2013 houdende de voorwaarden voor het gebruik van voorbehouden parkeerplaatsen aan operatoren van gedeelde motorvoertuigen*) substantially increased and therefore tightened up the Ecoscore threshold values required for bringing shared vehicles into service. Consequently, for city cars and the type of family cars of category M1, type AA, AB, AC, AD and AE, it is no longer possible to bring diesel cars into service, as a result of which the car-share operators are encouraged indirectly to opt for alternative fuels. The minimum Ecoscore for these vehicles was set at 72 and will rise to 75 in 2020.

## 3.2 POLICY MEASURES AND INVESTMENTS

### 1) Air-Climate-Energy Plan

On 2 June 2016, the Brussels Government adopted the Air-Climate-Energy (ACE) plan, which aims to reduce harmful emissions significantly and improve the quality of air and life for the population of Brussels. In this plan, it is proposed to reduce greenhouses gases by 30% by 2025. The plan sets out the following approach for the transport sector: (1) optimise the demand for mobility (fewer kilometres), (2) achieve a modal shift, (3) limit the impact of the vehicles to a minimum.

In order to achieve this last target, various measures are proposed, including improvement of the environmental performance of vehicles. This aim can be achieved either by improving the vehicle technology used or by using alternative fuels and technologies (natural gas or electricity).

The ACE plan proposes various actions concerning alternative vehicle technologies, and more specifically:

- • Studying the potential of electric vehicles and defining a strategy;

- Operating electric bus lines at the STIB - MIVB;
- Setting up pilot projects and incentives to promote the use of electric vehicles;
- Promoting the use of natural gas as fuel;
- Raising awareness of the environmental performance of vehicles;
- Improving environmental performance of vehicles for paid transport.

In order to improve the environmental performance of vehicles, the plan also proposes to introduce a low emission zone (LEZ) and to reform vehicle taxation on the basis of environmental criteria.

## **2) Drawing up a strategy concerning alternative vehicles and recharging/refuelling infrastructure**

In the course of 2015-2016, various studies were launched on behalf of the Brussels public authorities with regard to electric (and natural gas) vehicles and their recharging/refuelling infrastructure. These studies serve as important input for defining a Brussels strategy concerning this vehicle technology and the necessary infrastructure.

- A first study aimed to map the various impacts of electric and natural gas vehicles in the fields of environment, energy, mobility, infrastructure and socio-economic aspects. The focus here is on the Brussels urban context.
- Then a technical-economic study was conducted in which the possible locations for public recharging infrastructure was mapped, as well as a cost-benefit analysis of different business models.

On the basis of the results of these studies, a start was made on drawing up a strategic policy framework concerning the promotion of electric vehicles and other alternative fuels and vehicle technologies.

This policy framework will take account of different types of users (private individuals, companies, car-sharing, taxis, city distribution, etc.) and different categories of policy measures, such as:

- tax advantages, premiums or other forms of (financial) incentives;
- information, communication, raising awareness;
- parking advantages;
- environmental and planning permits;
- the public authorities as 'launching customer'.

On the basis of the consultation with the stakeholders concerned and civil society, the administration will draw up a strategy for the BCR, after which the measures will be translated into implementation decrees and concrete actions.

## **3) Concession for public recharging infrastructure**

The Brussels public authorities are planning to launch a concession for the installation of public recharging infrastructure throughout the territory of the Brussels Region before the beginning of 2017. The charging stations can then be installed in the course of 2017, with the recharging points considered as places for charging and not as preferential parking spaces for electric vehicles. For this reason, the preference is to opt for time-limited charging rather than per kwh and semi-fast charging stations must be chosen (11-42 kwh). Various criteria will be laid down in the concession, such as use of 100% green electricity and the guarantee of interoperability. The aim is for a system which is compatible with the 'mobib' card and where an ad hoc recharging possibility also exists for visitors.

#### **4) Licences for electric taxis**

The Brussels Capital Region Government Decree of 21 June 2012 on electric taxis (Besluit van de Brusselse Hoofdstedelijke Regering van 21 juni 2012 betreffende de elektrische taxi's) provides for special conditions for operators of an electric taxi service, more specifically with regard to replacement or reserve vehicles.

On 25 June 2013, a call for operators of a taxi service or candidate operators of a taxi service was published in the *Moniteur Belge/Belgisch Staatsblad* for the delivery of 50 licences for the operation of an electric taxi service.

The Government Decree of 12 December 2013<sup>20</sup> led to the issue of 50 permits to operate a taxi service with electric vehicles. These permits were distributed between 19 operators with a maximum of 7 vehicles per operator. Since one of the operators selected relinquished its permit, 49 of the 50 vehicles have been brought into service since September 2014.

#### **5) Low Emission Zone from 2018**

The Brussels Government decided on 2 June 2016 to proceed to introduce a low emission zone (LEZ), which will be applicable permanently throughout the territory of the region. This measure will be implemented progressively by tightening up the access criteria for the zone. The preliminary draft Decree specifies that the access conditions for the LEZ will be applicable by 2018, with tightening up of the criteria by 2025. The Euro standard of a vehicle, depending on fuel type, determines whether or not it is allowed in the LEZ. The access conditions are stricter for diesel vehicles, since they emit more pollutants. For the control, the Region will equip itself with a camera-based recognition system. A deployment study has been launched.

#### **6) Reform of taxation**

Under the present vehicle taxation, the road tax (VB) and the vehicle registration tax (BIV) are based exclusively on engine power, which means that no environmental factors are taken into consideration.

On 2 June 2016, the Brussels Government established the principle to change the tax burden on diesel vehicles from 2017 by reviewing the VB and BIV. These vehicles are those which are most responsible for the harmful emissions adversely affecting air quality.

This new environmental taxation should be more lenient for the more environmentally friendly vehicles, such as electric vehicles, hybrid vehicles, hydrogen vehicles and natural gas vehicles or for small city cars.

It was also decided to carry out a more far-reaching reform of the VB and BIV by 2020 to reduce the burden on the most environmentally friendly vehicles and to increase it for the most heavily polluting. This will take place by adding further environmental, but also social criteria.

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<sup>20</sup> Brussels Capital Region Government Decree awarding permits for the operation of a taxi service with electric vehicles or to expand permits previously granted for the operation of a taxi service with a number of electric vehicles (*Besluit van de Brusselse Hoofdstedelijke Regering tot toekenning van de vergunningen voor het exploiteren van een taxidienst met elektrische voertuigen of tot uitbreiding van de vroeger toegekende vergunningen voor het exploiteren van een taxidienst met een aantal elektrische voertuigen*) - 12 DECEMBER 2013.

## **7) Tax incentives for the purchase of electric vehicles and bicycles**

The Air-Climate-Energy plan provides that, in the context of the overall reform of regional taxation, consideration will be given to the introduction of tax incentives for the purchase of electric vehicles, whether bicycles or cars, and the equipment associated with this.

In addition, the plan provides that, as far as electric bicycles are concerned, financial incentives will be offered to undertakings which make these bicycles available to their employees for work-related travel. In addition, in the context of the Bruxell'air premium, a specific financial or tax incentive will be offered<sup>21</sup> for the purchase of an electric bicycle for private individuals, which can be calculated depending on income.

## **8) Subsidies for SMEs for the purchase of electric, fuel cell or hybrid electric vehicles**

At present, small or medium-sized enterprises (SMEs) established in the Brussels Region can apply for a subsidy for environmentally friendly investments, including for the 'acquisition of electric or hybrid road and commercial vehicles or fuel cell vehicles, or bicycles, as well as the adaptations entailed in this'. The investment must amount to a minimum of EUR 7 500 (excl. VAT and tax). Investments in bicycles (including the equipment) however must amount to at least EUR 5 000. The support granted is dependent on the size of the enterprise (micro, small, medium-sized or large). It comprises basic support, where appropriate increased by supplementary support of 5% if the enterprise holds the EMAS, ISO 14000 certificate or the 'eco-dynamic enterprise' label of the Brussels Capital Region. Enterprises belonging to the priority sectors (metalworking and metal-coating; newspapers and other printing works; activities relating to vehicle maintenance and repair, activities of laundries and launderettes for private individuals; collection, treatment and disposal of waste, recycling) can also receive supplementary support of 10% for investments directed towards meeting (or doing better than) European standards, or the achievement of better environmental performance in cases where no standards exist.

The basic support amounts to 40% for micro and small enterprises, 30% for medium-sized and 20% for large enterprises. There is a ceiling of EUR 5 000 for company vehicles (including adaptations) and for other vehicles 20% of the investment made, with a ceiling of EUR 3 000. Only one grant can be applied for per calendar year.

## **9) Subsidies for the purchase of electric bicycles by private individuals**

The City of Brussels and the municipality of Uccle grant a subsidy for the purchase of an electric bicycle by private individuals. In Uccle, a premium can be applied for amounting to 20% of the purchase price (incl. VAT) with a ceiling of EUR 250. Each family can receive at most 2 premiums for 3 years. The City of Brussels has been granting a premium since 2011 for the purchase of an electric bicycle or electrical adaptation kit for a bicycle to the inhabitants of the City of Brussels. This amounts to 25% of the purchase amount, with a maximum depending on the family income of the applicant. Only people who have been living in Brussels for at least one year can avail themselves of this premium. However, it is not certain whether this premium will be continued in 2016.

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<sup>21</sup> A municipal premium has already been proposed in certain municipalities.

## **10) Electric bicycles**

In accordance with the 2014-2019 Coalition Agreement, electric bicycles will be developed. This includes examining the possibility to promote shared electric bicycles and long-term hiring. Companies will be encouraged to offer electric bicycles to their employees who already have a company car.

## **11) Electric car-sharing**

Electric car-sharing is currently offered only by 'Zen Car' and this organisation is expanding slowly but surely throughout the Brussels Capital Region and offers the traditional 'A-A' car-sharing. 'Freefloating' was launched in June 2016: in this system, users can take the car from point A to point B and are therefore not tied to a single parking place. As soon as the public recharging infrastructure is in place, operators can opt to include electric cars in their fleet and 'freefloating' can in the future also become fully electric.

## **12) Electric scooter-sharing**

After the Villo! system for bicycle-sharing in the BCR, in 2016-2017 electric scooters are also offered by a new private start-up, Scooty. Users can choose between a subscription or hiring a scooter per trip. The location, hiring and starting of the scooter takes place by means of a mobile application. In a first phase, the service is offered in the city centre (between the Central Station, Avenue Louise and the European quarter), after which this zone will gradually be extended to the entire Brussels Region.

## **13) Open data platform for recharging infrastructure BCR**

Since the beginning of 2016, the Brussels Region has been making the data relating to the current publicly and semi-publicly accessible recharging points within the region available via the open data platform of Brussels Mobility (<http://data-mobility.irisnet.be/catalogus/dataset/elektrische-oplaadpunten>). These data can be shown on a map, on which the services offered can also be indicated. This platform allows private individuals and organisations to have their own recharging infrastructure included in the database and as such to share it with the public.

## **14) Awareness raising**

With a view to raising the awareness of Brussels companies and government institutions concerning the acceptance of alternative vehicle technologies and more sustainable mobility and fleet management, the Brussels public authorities regularly organise training, workshops and information sessions on the subject.

For instance, Leefmilieu Brussel, among others, has each year (since 2015) been organising an 'EV Roadshow', in which various types of electric vehicles (motorcycles, tricycles and quadricycles, utility vehicles, passenger cars, etc.) are demonstrated and tested, as well as the recharging infrastructure for these vehicles.

### 3.2.1 Deployment and Manufacturing Support

**Table 54: Investment Programme for Deployment and Manufacturing Support in the Brussels-Capital Region**

Name of Investment programme	Short Description	2015	2016	2020
<b>Pilot Project Electric Buses (MIVB-STIB)</b>	Pilot project with electric buses: ~10 standard buses with overnight charging, ~20 articulated buses with opportunity charging and ~8 minibuses with overnight charging.	-	-	<b>29.7 M€</b>

### 3.2.2 Research, Technological Development and Demonstration (RTD&D)

**Table 55: Investment Programme for Research, Technological Development and Demonstration in the Brussels-Capital Region**

Name of Investment programme	Short Description	2015	2016	.....
<b>Eliptic</b>	The ELIPTIC project's main objective is to show how costs and energy can be saved by electrifying public transport and optimising the use of existing infrastructure and rolling stock	Investment made by E.U.		

## 3.3 COOPERATION WITH NEIGHBOURING MEMBER STATES

The Port of Brussels has submitted a project proposal for the INTERREG NEW VB programme. The aim of this project is to develop an alternative fuel infrastructure network, consisting of multi-energy parks which are responsible for the production, storage and supply of alternative fuels (LNG, CNG, electricity, biofuels and hydrogen) to the user. In the case of approval (decision expected by the end of 2016), the project will be carried out with the following Member States: France, the Netherlands and Germany. It has not yet been decided which Member State will supply which alternative fuel; this will be determined by means of a study carried out on behalf of the Port.

## 4 MEASURES THAT CAN PROMOTE THE DEPLOYMENT OF PRIVATE ALTERNATIVE FUELS INFRASTRUCTURE

### 4.1 LEGAL MEASURES

#### 1) Tax exemption for parking spaces for companies

Companies located in the City of Brussels have to pay two municipal taxes per parking space: the parking tax and the tax on parking spaces. Since 1 January 2014, the City of Brussels has been granting an exemption from the annual tax on parking spaces (EUR 5 per m<sup>2</sup>) for companies and liberal professions, on condition that they equip this parking place with a recharging point for electric vehicles.

#### 2) Verplichting laadinfrastructuur in parkings (publiek & privé)

The Brussels Capital Region Government Decree of 18 July 2013 containing the regulatory aspect of the Regional Parking Policy Plan (*Besluit van de Brusselse Hoofdstedelijke Regering van 18/07/2013 houdende het reglementaire luik van het Gewestelijk Parkeerbeleidsplan*) provides that public car parks, as far as possible, must provide recharging infrastructure.<sup>22</sup>

It will be examined whether it is necessary to impose a similar obligation for other private car parks.

### 4.2 POLICY MEASURES AND INVESTMENTS

#### Drawing up a strategy on alternative vehicles and recharging/refuelling infrastructure

A strategic action plan for electric vehicles and their recharging infrastructure will be drawn up, in which various measures for the promotion of the use of alternative fuels and their recharging/reloading infrastructure are studied and proposed. In this respect, policy measures will be examined which focus on different types of users, namely private individuals, companies, taxis, car-sharing, city distribution, etc. More information is provided on this subject in section 3.2.

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<sup>22</sup> Article 50. Installations where electric vehicles can recharge shall be installed preferably not on the public road. Public car parks shall, as far as possible, provide such a facility.



## 5 MEASURES THAT CAN PROMOTE THE DEPLOYMENT OF ALTERNATIVE FUELS INFRASTRUCTURE IN PUBLIC TRANSPORT SERVICES

### 5.1 MEASURES FOR PUBLIC TRANSPORT SERVICES

#### Electric buses at STIB - MIVB

According to the Brussels Government decision of 24 April 2016, STIB-MIVB<sup>23</sup> as quickly as possible will proceed to operate at least 3 electric bus lines:

- A short line with electric standard buses with overnight charging technology (about 8 buses for a new city bus line with high visibility, the route and operation of which are adapted to the requirements of this type of bus);
- A longer bus line with articulated electric buses with overnight charging technology (about 20 buses);
- A medium length bus line with electric standard buses and overnight charging (about 10 buses).

These 3 lines will be started up in the course of 2018-2019. On the basis of the results of the tests and the evaluation of the operation of these lines, it will be evaluated from 2019/2020 to what extent to proceed to further conversion to electric buses, with the target of a fully electric fleet in 2030.

In the meantime, however, an increase in the transport capacity is necessary, for which hybrid electric buses will be purchased, the first of which can be brought into service at the earliest from the first quarter of 2018.

### 5.2 TARGETS AND OBJECTIVES FOR PUBLIC TRANSPORT

**Table 56: Number of AF Buses in the Brussels-Capital Region**

	Public			Private		
	2020	2025	2030	2020	2025	2030
<b>CNG</b>	0	0	0	-	-	-
<b>LNG</b>	0	0	0	-	-	-
<b>Electric</b>	~38	To be confirmed	To be confirmed	-	-	-
<b>Hydrogen</b>	0	0	0	-	-	-
<b>Other</b>	0	0	0	-	-	-
<b>Total</b>	~38	0	0	-	-	-

<sup>23</sup> Société des Transports Intercommunaux de Bruxelles/Maatschappij voor het Intercommunale Vervoer te Brussel (Brussels public transport company).

**Comment:**

Between 2018 and 2020, 3 lines with electric buses will be started up by STIB-MIVB, during which different types of buses (standard and articulated), different recharging technologies ('overnight' and 'opportunity charging') and different journey types will be tested and evaluated. On the basis of the results of this pilot phase, it will then be decided to what extent new electric buses will be used for public transport in the Brussels Region.

## **6 INSTALLATION IN URBAN/SUBURBAN AGGLOMERATIONS OR DENSELY POPULATED AREAS AND ALONG EXTRA-URBAN NETWORKS**

The Brussels Capital Region (BCR) is an urban region which can be considered as a single agglomeration. On 1 January 2016, the total number of inhabitants came to 1 187 890 for the region as a whole. The estimated numbers of inhabitants for 2020/2025/2030 are 1 228 775, 1 258 085 and 1 273 328 respectively.

For the other information, reference can be made to sections 2.3 to 2.5 of the Brussels policy framework.

## 7 REFUELLING POINTS FOR LNG AT MARITIME AND INLAND PORTS INSIDE TEN-T CORE NETWORK

The Brussels Capital Region has one port. This is an inland port which is part of the TEN-T core network. The port is located along the Antwerp-Brussels-Charleroi Canal, of which 14 km crosses the Brussels Region.

### 7.1 SEA PORTS INSIDE TEN-T CORE NETWORK

Not applicable for the Brussels Capital Region.

### 7.2 INLAND PORTS INSIDE TEN-T CORE NETWORK

**Table 57: LNG Installation in Inland Ports (inside TEN-T Core Network) in the Brussels-Capital Region**

PORT NAME	2020	2025	2030
Port of Brussels	0	0/1	1

At present, the use of alternative fuels or energy sources for inland navigation in the BCR is still non-existent. Both seagoing ships and inland waterway vessels passing the port area of Brussels still run on diesel. It is expected that this situation will change in the coming years.

Since the Port of Brussels is in a highly built-up area and the storage of LNG entails certain safety risks, the port is cautious about the deployment of LNG infrastructure. The port does provide shore-side electricity supply points in the passenger terminal, which normally will be ready in mid-2017.

## **8 ASSESSMENT OF THE NEED FOR LNG REFUELLING POINTS AT MARITIME AND INLAND PORTS OUTSIDE THE TEN-T CORE NETWORK**

The Port of Brussels is an inland port which is part of the TEN-T core network. There are no other ports in the Brussels Capital Region.

### **8.1 SEA PORTS OUTSIDE THE TEN-T CORE NETWORK**

Not applicable for the Brussels Capital Region.

### **8.2 INLAND PORTS OUTSIDE THE TEN-T CORE NETWORK**

Not applicable for the Brussels Capital Region.

## 9 SHORE SIDE ELECTRICITY IN MARITIME AND INLAND PORTS

The Port of Brussels is an inland port which is part of the TEN-T core network. There are no other ports in the Brussels Capital Region.

### 9.1 SEA PORTS INSIDE THE TEN-T CORE NETWORK

Not applicable for the Brussels Capital Region.

### 9.2 SEA PORTS OUTSIDE THE TEN-T CORE NETWORK

Not applicable for the Brussels Capital Region.

### 9.3 INLAND PORTS INSIDE THE TEN-T CORE NETWORK

**Table 58: Shore side electricity installation in inland ports (inside TEN-T Core Network) in the Brussels-Capital Region**

PORT NAME	Terminal NAME	2020	2025	2030
Port of Brussels	Cruise Terminal	3	3	3
Port of Brussels	Container Terminal	-	1	1
Port of Brussels	Waiting Zone	-	1	1
Port of Brussels	Harbour Master's office	-	1	1

### 9.4 INLAND PORTS OUTSIDE THE CORE TEN-T NETWORK

Not applicable for the Brussels Capital Region.

## **10 ELECTRICITY SUPPLY AT AIRPORTS**

Not applicable. There are no airports within the territory of the Brussels Capital Region.

# Part V

# Federal Policy Framework



# 1 FEDERAL MEASURES REGARDING ALTERNATIVE FUELS/VEHICLES/INFRASTRUCTURE

As described in the introductory part 1 of this national policy framework, the most direct competences with regard to Directive 2014/94 lie with the federated entities of Belgium, namely the Flemish Region (part 2 of the national policy framework), the Walloon Region (part 3) and the Brussels Capital Region (part 4).

This federal part will describe the most important federal policy measures which are directly or indirectly connected with alternative fuels/vehicles/infrastructure (i.e. with a wider scope than Directive 2014/94):

- Federal taxation
- Economy & employment
- Mobility & Transport
- Energy & Environment
- Federal government fleet
- Standardisation
- Safety

The following federal public services/institutions in Belgium are directly or indirectly involved in this:

- FPS Economy (<http://economie.fgov.be/nl/>)
- FPS Mobility & Transport (<http://mobilit.belgium.be/nl>)
- FPS Finance (<http://financien.belgium.be/nl/>)
- FPS Environment (<http://www.health.belgium.be/eportal/index.htm?fodnlang=nl>)
- FPS Personnel & Organisation ([http://www.fedweb.belgium.be/nl/fod\\_p-o](http://www.fedweb.belgium.be/nl/fod_p-o))
- FPS Home Affairs (<http://www.ibz.be/news/nl/default.shtml>)
- National Bureau for Standardisation (NBN<sup>24</sup> (<http://www.nbn.be/nl>))

Finally, a brief description will also be given of the related support actions in which the federal government plays a role, namely

- Coordination of a national policy framework
- Bringing together national stakeholders
- European & regional cooperation
- Communication & awareness raising

## 1.1 FEDERAL FISCAL MEASURES

Effective tax/financial incentives are essential to create the market which can ensure promotion of the use of the various types of sustainable vehicles (such as electric and CNG vehicles) by businesses and private individuals.

The regions have been competent for tax incentives for private individuals since 1 January 2013 (also see the regional policy frameworks). The road tax and vehicle registration tax (BIV) are determined by the regional authorities.

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<sup>24</sup> The NBN is a public interest body supervised by the Federal Minister responsible for the economy.

However, it is possible, via **federal** fiscal measures, to encourage for example the purchase of sustainable company cars. This is not without importance because the development of sustainable company car fleets can speed up general introduction significantly.

One of the possible measures is stated in the Federal Coalition Agreement<sup>25</sup> of 9 October 2014, namely: *'In order to encourage enterprises to invest in environmentally friendly vehicles, it is being examined whether the minimum amount concerning 'benefit in kind' can be abolished.'*

This chapter provides an overview of existing federal fiscal measures concerning alternative fuels/vehicles/infrastructure.

### Overview of federal fiscal measures

Four federal fiscal fields are considered in this overview, namely:

- Tax reduction for electric vehicles (see 1.1.1)
- Deductibility of clean company cars (see 1.1.2)
- System 'benefit in kind' (see 1.1.3)
- Excise duties (see 1.1.4).

#### **1.1.1 Tax reduction for electric vehicles**

Since the tax year 2014 (income 2013), **no tax reduction** is granted any more for the purchase of an electric passenger car, a dual purpose car or minibus, or for the installation of a recharging station.

The tax reduction remains applicable for motorcycles, tricycles and quadricycles.

##### *a) Under which conditions does a tax reduction apply?*

The electric vehicle must be **'in new state'**: it is registered with the DIV (Vehicle Registration Department of FPS Mobility) and had not been registered (in Belgium or abroad) before the date appearing on the invoice.

##### *b) What type of electric vehicles are involved?*

It must be a **motorcycle**, a **tricycle** or a **quadricycle**:

- which is powered exclusively by an electric engine (hybrid vehicles are therefore excluded);
- which can transport at least two people;
- for which a valid Belgian (category A or B), a European or other equivalent driving licence is required.

From the legal point of view, and by way of analogy with vehicles equipped with a combustion engine, the following definitions apply:

- A **motorcycle** is a two-wheeled vehicle with or without sidecar, equipped with an engine and/or achieves a maximum speed of more than 45 km per hour.

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<sup>25</sup> Federal Coalition Agreement of 9 October 2014, p. 84  
([http://www.premier.be/sites/default/files/articles/Accord\\_de\\_Gouvernement\\_-\\_Regeerakkoord.pdf](http://www.premier.be/sites/default/files/articles/Accord_de_Gouvernement_-_Regeerakkoord.pdf))

- A **tricycle** is a symmetric three-wheeled vehicle, equipped with an engine and/or achieves a maximum speed of more than 45 km per hour.
- A **quadricycle** is a four-wheeled vehicle, which when empty weighs 400 kg or less (550 kg for vehicles used for goods transport) not including the weight of the batteries.

c) *How much does the tax reduction amount to?*

For a **motorcycle** and a **tricycle**, the tax reduction amounts to:

- 15% of the purchase value of the electric vehicle
- maximum EUR 3 010 for tax year 2017 (income 2016)

For a **quadricycle**, the tax reduction amounts to:

- 15% of the purchase value of the electric vehicle
- maximum EUR 4 940 for tax year 2017 (income 2016)

The annual indexation of the amounts has been frozen up to and including the tax year 2018.

### 1.1.2 Deductibility of clean company cars

From 1 January 2010, new scales apply in company taxation for the tax deduction of business expenses for vehicles depending on CO<sub>2</sub> emissions. The vehicles envisaged are those other than passenger cars used exclusively for paid transport of persons, dual purpose cars and minibuses, as described in the regulations on the registration of motor vehicles, including light-duty vehicles referred to in Article 4, § 3, of the Code on taxes equated to income taxes. These scales are not applicable to fuel costs.

a) *Diesel vehicles*

For vehicles with a diesel engine, the existing limits are retained, with the exception of two adaptations:

- the deduction is further limited for vehicles with an emission exceeding 195 grams and for vehicles for which the CO<sub>2</sub> emissions are not known. The deduction limit of 60% is reduced to 50%.
- the deduction of 70% continues to apply only for the tranche from 146 g/km CO<sub>2</sub> to 170 g/km CO<sub>2</sub>. Previously this limit was 175 g/km CO<sub>2</sub>.

b) *Petrol vehicles*

For vehicles with a petrol engine, all scales have been adapted and tightened up.

c) *Vehicles without CO<sub>2</sub> emissions*

Vehicles without CO<sub>2</sub> emissions (this means in practice 100% electrically propelled vehicles) have benefitted since 1 January 2010 from increased tax deductibility of **120%**.

d) Vehicles with CO<sub>2</sub> emissions of maximum 60 g/km CO<sub>2</sub>

Both petrol and diesel vehicles with an emission of maximum 60 g/km benefit since 1 January 2010 from tax deductibility of **100%**. At present, such vehicles are no longer obtainable on the market. In future, plug-in hybrids and very clean diesel vehicles probably can meet these standards.

**Table 59: Overview fiscal deductibility (into force from January 1, 2010)**

CO <sub>2</sub> emissions diesel	CO <sub>2</sub> emissions petrol, LPG, CNG	100 % electric	Fiscal deductibility
		0 gram	<b>120 %</b>
<b>0 - 60 gr</b>	0 - 60 gr		<b>100 %</b>
<b>61 -105 gr</b>	61 - 105 gr		90 %
<b>106 -115 gr</b>	106 - 125 gr		80 %
<b>116 -145 gr</b>	126 - 155 gr		75 %
<b>146 -170 gr</b>	156 - 180 gr		70 %
<b>171 - 195 gr</b>	181 - 205 gr		60 %
<b>&gt;195 gr</b>	> 205 gr		50 %

**1.1.3 System “Benefit in kind” for company cars**

On 1 January 2012, a new system (formula) was introduced to calculate the **benefit in kind** for employees and managers who have been given a car by their employer and may also use this car for private purposes.

The new formula no longer takes any account of the distance between home and work for the employee (5000/7500km), but from now on is adapted to the CO<sub>2</sub> emissions and the list price of the vehicle. In addition, the age of the vehicle is also taken into account. Finally, a multiplication is made using the factor 6/7.

**Table 60: Formula calculation “Benefit in kind”(2015)**

	<b>Formula to calculate annual benefit in kind (2015)</b>
<b>Diesel</b>	$[5,5\% + (\text{CO}_2 - 91) \times 0,1\%] \times \text{list price} \times \text{age} \times 6/7$
<b>Petrol</b>	$[5,5\% + (\text{CO}_2 - 110) \times 0,1\%] \times \text{list price} \times \text{age} \times 6/7$
<b>Electric</b>	<b>4%</b> x list price x 6/7

Various parameters therefore play a role in determining/calculating the benefit in kind.

**a) List price**

The list price is the list price of the vehicle in a new state on sale to a private individual, including options and VAT in fact paid. No account is taken of discounts,

deductions, rebates or refunds. In the calculation formula, **6/7** of the list value is taken into account.

### **b) CO<sub>2</sub> percentage**

The CO<sub>2</sub> basic percentage amounts to **5,5%**.

- for reference CO<sub>2</sub> emissions of 112 g/km (for the calendar year 2014) or 110 g/km (for the calendar year 2015) for vehicles with a petrol, LPG or natural gas engine
- for reference CO<sub>2</sub> emissions of 93 g/km (for the calendar year 2014) or 91 g/km (for the calendar year 2015) for vehicles with a diesel engine

If the emissions of the company car are higher than the reference emissions, the basic percentage is increased by 0.1% per gram of CO<sub>2</sub> to a **maximum of 18%**. If the emission of the company car is below the reference emission, the basic percentage is reduced by 0.1% per gram of CO<sub>2</sub> to a **minimum of 4%**.

For a company car driven exclusively by an electric engine and consequently with an emission of 0 gram CO<sub>2</sub> per kilometre, a CO<sub>2</sub> percentage of 4% is applied to determine the taxable benefit in kind, which is the minimum basic percentage applicable.

### **c) Age of the car**

Since May 2012, the age of the car is also taken into account.<sup>26</sup> From the second year, the list price may therefore be reduced by 6% (per year) to a maximum reduction of 30% after five years. The list price therefore must always be a minimum of 70% of the actual list price.

**Table 61: Impact age of the car on the "Benefit in kind"**

<b>Period since the first registration of the vehicle (a month started counts as a full month)</b>	<b>% list value to be used in 'Benefit in kind' formula</b>
0 to 12 months	100 %
13 to 24 months	94 %
25 to 36 months	88 %
37 to 48 months	82 %
49 to 60 months	76 %
+ 5 years	70 %

=> **Specific provisions for the employer:**

#### **a) Additional expenses not allowed payable by the employer (company taxation)**

Any benefit in kind on the car will lead to additional expenses not allowed payable by the employer. The underlying reason for this is that it is wished to impose part of the increased taxation on company cars on the employer.

<sup>26</sup> Programmawet goedgekeurd door de Kamer op 22 maart 2012 (van toepassing vanaf 1 mei 2012).

The additional expenses not allowed must be added to the expenses not allowed arising from the ceiling for the deduction of car expenses (deduction ceiling of 60% to 120% depending on the CO<sub>2</sub> emissions of the vehicle).

The additional expenses not allowed amount to 17% of the benefit in kind.

### **b) CO<sub>2</sub> levy**

Where an employer allows an employee a company car which may be used for private purposes, the employer must pay an employer contribution to the National Office for Social Security (ONSS - RSZ).

The contribution is a lump sum and is based on the fuel type and on the CO<sub>2</sub> emissions of the cars.

For a number of cars, the CO<sub>2</sub> emissions are unknown. Therefore the CO<sub>2</sub> emission level is set at 182 g/km for petrol engines and at 165 g/km for diesel engines.

**Table 62: Formula yearly contribution of the employer (since January 1, 2015)**

<b>Petrol</b>	<ul style="list-style-type: none"> <li>• known CO<sub>2</sub> emissions: <math>(((\text{CO}_2 \text{ emissions in g/km} \times 9 \text{ EUR}) - 768^*) : 12) \times 1.2051</math> with a minimum of EUR 25.10 per month</li> <li>• unknown CO<sub>2</sub> emissions: <math>(((182 \times 9 \text{ EUR}) - 768^*) : 12) \times 1.2051 = 87.37 \text{ EUR}</math></li> <li>• <math>(((\text{CO}_2 \text{ emissions in g/km} \times 9 \text{ EUR}) - 990^*) : 12) \times 1.2051</math> with a minimum of EUR 25.10 per month</li> </ul>
<b>Diesel</b>	<ul style="list-style-type: none"> <li>• known CO<sub>2</sub> emissions: <math>(((\text{CO}_2 \text{ emissions in g/km} \times 9 \text{ EUR}) - 600^*) : 12) \times 1.2051</math> with a minimum of EUR 25.10 per month</li> <li>• unknown CO<sub>2</sub> emissions: <math>(((165 \times 9 \text{ EUR}) - 600^*) : 12) \times 1.2051 = 88.88 \text{ EUR}</math></li> </ul>
<b>CNG</b>	$(((\text{CO}_2 \text{ emissions in g/km} \times 9 \text{ EUR}) - 990^*) : 12) \times 1.2051$ with a minimum of EUR 25.10 per month
<b>LPG</b>	$(((\text{CO}_2 \text{ emissions in g/km} \times 9 \text{ EUR}) - 990^*) : 12) \times 1.2051$ with a minimum of EUR 25.10 per month
<b>Electric vehicles</b>	EUR 25.10 per month

\* The amounts deducted, i.e. 768, 600 and 990 depending on the fuel, are exemptions.

### 1.1.4 Excise duties

#### a) Diesel en petrol

On 1 January 2015, the excise duties & energy levy amount to 0.4288 EUR/l for diesel and 0.6152 EUR/l for petrol. The excise duties on diesel not for business use rise for the period from 1 November 2015 to 31 December 2016 by a maximum amount of EUR 33.29 per 1000 litres, for the period from 1 January 2017 to 31 December 2017 by a maximum amount of EUR 34.60 per 1000 litres and for the period from 1 January 2018 to 31 December 2018 by a maximum amount of EUR 50.00 according to a ratchet system.<sup>27</sup> The excise duties on diesel for business use are not affected as a result of these increases. In parallel, a reverse ratchet system has been introduced to reduce the excise duties on petrol. No excise duties are levied on LPG

#### b) Electricity

There is no separate tariff for electricity used as motor fuel. The tariffs are as follows:

- business use, supplied to an end user connected to the transmission or distribution grid with a rated voltage exceeding 1 kV: EUR 0 per MWh;
- business use, supplied to an end user connected to the transmission or distribution grid with a rated voltage equal to or less than 1 kV: EUR 1.9140 per MWh;
- non-business use: EUR 1.9140 per MWh.

#### c) Natural gas (CNG/LNG)

Both CNG and LNG come under the provisions for natural gas. The tariff for use as motor fuel amounts to EUR 0 per MWh. However, conditions are attached to the application of this zero tariff. The supplier can only deliver at the zero tariff to customers who have a permit for energy products and electricity of the type 'end user' or of the type 'pump holder'.

## 1.2 ECONOMY & EMPLOYMENT

### 1.2.1 Policy opportunities regarding the economy & employment

The breakthrough of alternative fuels should in all probability have a positive impact on the Belgian economy. Reduced dependence on oil imports can have a positive impact on our balance of trade and contribute to higher GDP. In addition, car manufacturers worldwide are rapidly stepping up the development and production of alternative technologies & fuels and preparations are being made for large-scale production. Belgium is home to a substantial car assembly industry, has a large number of suppliers and also a number of research and development institutes. The alternative & innovative technologies hold out new prospects for these parties and also opportunities for new players in the automotive industry. But there will also be possibilities for other industries with the accompanying employment. For instance, demand will be created for people to construct recharging and refuelling infrastructure, to develop production units, to manufacture vehicles, to give training, to develop specific skills for the certification of vehicles and supply facilities, to

<sup>27</sup> Act amending the Programme Act of 27 December 2004 (*Wet tot wijziging van de programmawet van 27 december 2004*), promulgated on 30 October 2015.

promote partnerships between businesses and universities in the field of research and development, etc. It may therefore strengthen the Belgian economy, create new employment and is favourable for the international competitive position.

### **1.2.2 Audi Forest/Vorst**

Audi Brussels will be manufacturing 100% electric SUVs from 2018 in a plant in Belgium (Forest/Vorst). The plant will also manufacture the batteries for the electric cars. Audi Brussels is consequently becoming 'a key plant for electric mobility' in the Volkswagen group.

The car to be manufactured in Forest/Vorst from 2018 is Audi's first fully electric SUV and currently bears the name 'E-tron Quattro'. The model has three electric engines with total output of up to 370 kW, allowing a sprint from a standstill to 100 km per hour in 4.6 seconds. The battery's capacity of 95 kWh enables a driving range of more than 500 km. The technical concept study looks ahead to a future series model of the brand, which is to appear on the market in 2018. The Audi combines all functions of piloted driving, such as autonomous driving in traffic jams and remotely controlled parking.

The Federal Government has worked out a support package to the value of EUR 100 million to bring Audi's new electric model<sup>28</sup> to the plant in Forest. According to the Federal Minister for Finance, 8 000 jobs are involved in the investment (2000 direct jobs and a further 6000 indirect jobs).

The lion's share of the federal support package consists of measures from the 'federal tax shift', such as the reduced employer contribution and the indexation. Also the existing tax benefit systems for shift work are contained in the package. In addition, there are specific measures for Audi Brussels. For instance, Audi could benefit from a tax credit for research and development and a patent allowance if the car manufacturer decides to relocate additional research efforts to Belgium. Both federal support measures would be in addition to the specially developed tax credit for investments in high technology.

The Federal Government support package is nearly three times as large as that of the regional governments together, which would amount to approximately EUR 35 million.

Audi itself will also invest heavily in making the plant ready to manufacture the new technology. Apparently an investment of EUR 600 million is involved, although this amount has not yet been confirmed.

A sustainable investment in the Forest/Vorst plant will be worthwhile for Belgium in the long term. Once the prototype has been developed in Forest and the battery is produced there, this opens up vast perspectives for the development of further knowhow & potential spin-offs.

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<sup>28</sup> Fully electric SUV Audi Q6 E-tron.



## 1.3 MOBILITY & TRANSPORT

### 1.3.1 Policy opportunities regarding mobility & transport

In the field of Mobility & Transport too, important policy opportunities have been identified at federal level:

- **Have transport run via multimodal, integrated and intelligent networks.** FPS Mobility and Transport wishes to promote the development of various forms of travel and transport and to encourage the use of the most suitable modes of transport to make multimodal mobility safer, more sustainable and smoother and hereby provide full support for the competitiveness of the Belgian economy. Alternative fuels can enhance the attractiveness of inland navigation and solve the problem of the last mile for the delivery of goods through appropriate road transport. In passenger transport, the electric bicycle and motor cycle provide an important opportunity to bring about multimodal transport, *inter alia* to allow greater combination of train and bicycle.<sup>29</sup>
- **Catalyst for new mobility concepts.** Because sustainable vehicles are (for the time being) a bit more expensive to purchase but cheaper to use, the high purchase cost may act as a stimulus to introduce new mobility concepts, for example based on leasing, hiring or car-sharing. These concepts should shift the emphasis from the need for car ownership to the meeting of mobility needs.
- **Limit the impact of the different modes of transport on the environment** by reducing pollutants and gases and noise. Each of the alternative fuels are also more sustainable fuels than using traditional combustion engines; they are 'clean fuels' to a greater or lesser extent. In 2050, greenhouse gas emissions must be 80% to 95% lower than in 1990. Transport accounts for about a quarter of these emissions, of which 60% is passenger transport (see Transport White Paper)<sup>30</sup>.

### 1.3.2 Related competences/levers FPS Mobility and Transport

The Federal Public Service (FPS) Mobility & Transport has certain competences and/or levers with regard to:

- Expressing its opinion in international consultative bodies (European Union, UN-ECE) when regulations are drawn up on vehicle standards (provisions on test procedures, CO<sub>2</sub> emissions, Euro standards, etc.) and alternative fuels (at the level of vehicle technology) and when establishing European minimum levels for taxes depending on the environmental values of the fuels (Energy Taxation Directive) and the European framework for the internalisation of external costs of transport (Eurovignette Directive);
- Registration of vehicle data in the Crossroads Bank for Vehicles and *inter alia* on the basis of the registration of vehicles with allocation of registration plates (which can be used for the introduction of low emission zones, for example); with statistics deriving from this (such as number of vehicles according to fuel) and studies
- Possible incentives in the traffic regulations

<sup>29</sup> In accordance with the Federal Coalition Agreement (9 October 2014), p. 139.

<sup>30</sup> White Paper: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system. Brussels, European Commission, 28 March 2011.

### 1.3.3 Possible actions/measures regarding mobility & transport

- The traffic regulations can be adapted with a view to encouraging sustainable vehicles. Possibilities are available in the field of specific parking facilities (with recharging possibilities for EVs), reserving or opening sections of public roads for these vehicles, etc. These measures can eliminate barriers and encourage the purchase of sustainable vehicles. These measures are also perceptible in the everyday life of the user of a sustainable vehicle and useful to win over doubting consumers and to create visibility.
- Attention must also be paid to the lane infrastructure which may be necessary for the other types of vehicles: e-tricycles, E-bicycles, etc. and to the combination of sustainable vehicles with public transport.
- FPS Mobility & Transport has drafted adapted regulations in favour of electric bicycles. On 1 October 2016, the Royal Decree on electronic bicycles entered into force. The Royal Decree adds a new category of motorbikes, namely the 'speed pedelec'. This is a two-wheeled vehicle with pedals and with an electric auxiliary drive, with the main aim of power assistance, with the driving force interrupted at a vehicle speed of maximum of 45 km/hour. To encourage their use, road authorities can allow speed pedelecs where other motorbikes are prohibited. In addition, a cycle helmet suffices instead of a crash helmet. Electric bicycles up to 25 km/hour and maximum power rating of 1 kW henceforth come under the category of 'motorised bicycles'. Here the rules for cyclists are applicable, although with a minimum age of 16 years. Also locomotive appliances such as mono-wheels, which are also gaining rapidly in popularity thanks to electric propulsion, are regulated in this Royal Decree.
- In response to the introduction of hydrogen vehicles on the Belgian market, new fields will be created in the Crossroad Bank Vehicles.

## 1.4 ENERGY & ENVIRONMENT

### 1.4.1 Policy opportunities regarding energy and/or environment

The main policy opportunities with regard to energy & environment are the following:

- The **reduction of our energy dependence on oil & diversification of transport fuels**. More than 95% of the car fleet in Belgium runs on petrol or diesel. Greater use of alternative fuels would make us less dependent on the oil market. Moreover, we do not need always to import all the necessary transport fuels, but we can produce them partially in Belgium, such as biogas, sustainable biofuels, renewable electricity, etc. Diversification of our energy supply, including in transport, contributes to strengthening our energy position in relation to oil producers (often politically unstable countries).
- The **integration of renewable energy sources in the transport sector**. The transport sector is currently still almost entirely dependent on petroleum products. In 2020, 10% of the energy consumption of the transport sector must come from renewable energy sources, as specified in the Energy-Climate package. Electric transport (based on sustainably generated electricity), sustainable biofuels and biogas can contribute to this.
- **Improvement of air and noise quality**. Natural gas vehicles emit almost no fine particulate. Also the emission of nitrogen oxides (NO<sub>x</sub>) and hydrocarbons is some 50% to 60% lower than in the case of petrol or diesel. Electric & hydrogen vehicles emit no harmful substances in places where they are driven (NO<sub>x</sub>, fine particulates, etc.). In the short term, acute problems can be further resolved, such as improvement of air quality, not only in busy city centres, but

- **Countering climate change.**
  - Driving on natural gas leads to a reduction of about 27% in CO<sub>2</sub> emissions compared to petrol and about 12% less compared to diesel. Because biogas is a renewable fuel, it also offers enormous advantages regarding the CO<sub>2</sub> emissions from the entire production and consumption chain. Depending on the production process, the CO<sub>2</sub> reduction may amount to 80%.
  - Pure electric vehicles produce no direct CO<sub>2</sub> emissions at the place where they are driven. This is a major difference from conventional vehicles. In the case of electric mobility, however, it is necessary to examine how the electricity is generated. At present, electricity comes to the grid largely from nuclear power plants (50%) and from natural gas. As a result, an electric car used in Belgium emits about 40% to 60% less CO<sub>2</sub> than a comparable conventional car.
- **Integration with smart electricity grids (specifically for electric mobility).** Charging an electric vehicle represents a significant new burden for the electricity grids. By controlling the timing of this charging cycle in an intelligent way, it is possible to make maximum use of renewable energy and to increase the number of electric vehicles which can be connected to the grid. In the future, consideration could be given to returning energy from the battery to the grid. However, additional research is needed for this.

#### 1.4.2 Related competences/levers of FPS Economy & DG Energy

The Federal Public Service Economy (Directorate-General Energy) has some related (indirect) competences:

- National energy policy concerning petroleum, natural gas and electricity, inter alia
- Security of the energy supply & diversification of energy mix
- Production & transmission of energy
- Economic potential & sectoral policy
- GRIE - AREI: Règlement Général pour les Installations Electriques/Algemeen Reglement Elektrische Installaties (General regulations for electrical installations)
- Standardisation policy
- Management of the Programme Agreement & calculation of the maximum pump prices for energy products
- Price indication of energy products & law on market practices
- Price observatory
- Supervision of price indication by the Economic Inspectorate
- FAPETRO - Fonds voor de Analyse van Aardolieproducten aan de pomp (Fund for the analysis of petroleum products at the pump).

#### 1.4.3 Possible actions/measures regarding energy & environment

- **Prospective studies electricity/natural gas** & long-term energy policy. It is of importance that, for example, electric mobility will have to be taken into account in the long-term planning of Belgium's electricity supply. The order of magnitude of the necessary additional energy production will depend on the speed of introduction of electric vehicles. In the initial phase, certainly when the number of electric vehicles is still limited, normally speaking no extra production capacity will be necessary to charge electric vehicles. It is also necessary to ensure an efficient distribution grid. Any local weaknesses in the grid must be remedied.

- Achieving the **10% transport target by 2020**. In 2020, 10% of energy consumption of the transport sector must come from renewable sources of energy, as specified in the 2020 Energy-Climate Package. The share of electricity is currently still very limited but will increase considerably in the coming years.
- In addition to CNG & LNG, **biogas** must also be researched as a possible alternative transport fuel.

## 1.5 FEDERAL GOVERNMENT FLEET

The federal government and autonomous public enterprises must fulfil an exemplary role. The ambition to improve environmental performance and emissions of harmful substances (such as CO<sub>2</sub>, NO<sub>x</sub>, fine particulate, etc.) of the vehicle fleet of the public authorities can be achieved through a gradual switch to sustainable vehicles.

In this way, the government can also play a role as launching customer, by itself including sustainable vehicles in its car fleet and in this way boost the market.

This is also stated in the Federal Coalition Agreement<sup>31</sup> of 9 October 2014: *'It is crucial for our car fleet to become drastically greener in the coming years. For this reason, the Government gives preference to new service vehicles of all federal public services and institutions being electric, hybrid or CNG.'*

At federal level, the following matters can be mentioned at present:

- Work is currently being carried out on a revision of circular 307 quinquies. This circular regulates vehicle purchase by the federal government. A revision of circular 307 *quinquies* should ideally be based on the following aspects:
  - Introduction of quantitative targets/quotas for sustainable vehicles in the federal vehicle fleet.
  - Higher % for award criteria 'environmental aspects'
  - Include full component for sustainable vehicles
  - Place emphasis not only on purchase price, but also pay more attention to total cost of ownership (TCO).
- Organisation of pilot projects. FPS Economy and FPS Mobility organised a pilot project which ran between 1 April and 28 May 2014. This pilot project was found to be a good instrument to test the potential for electric, plug-in hybrid and natural gas vehicles in our government fleet. A repeat and/or extension of the pilot project is possible.
- Attention may also be paid to the development of recharging infrastructure at (federal) government buildings.

## 1.6 NORMALISATION

The European Commission issued a standardisation request to CEN (European Committee for Standardisation) for the development of standards in the context of Directive 2014/94. These activities were assigned, among others, to CEN/TC 441 (fuel labelling under Article 7), CEN/TC 268 and CEN/Sector Forum Gas infrastructure.

<sup>31</sup> Federal Coalition Agreement (9 October 2014), p. 141.

The NBN (National Bureau for Standardisation) is naturally involved here. The NBN is a public interest body supervised by the Federal Minister responsible for the economy.

## 1.7 SECURITY

There is a great deal of uncertainty concerning the safety of CNG vehicles in underground car parks. In reply to a parliamentary question in the Federal Lower House

(<http://www.dekamer.be/kvvcr/showpage.cfm?section=qrva&language=nl&cfm=qrvaXml.cfm?legislat=53&dossierID=53-b056-665-0268-2011201207139.xml>), the Federal Minister for Home Affairs stated that the High Council for Protection against Fire and Explosion (Conseil supérieur de la sécurité contre l'incendie et l'explosion/Hoge Raad voor de beveiliging tegen brand en ontploffing) would examine the regulations on multi-storey car parks in general.

The High Council for Protection against Fire and Explosion has in the meantime set up a 'Multi-storey Car Park Working Group'. The legal text is currently being drawn up. The working group has agreed that **CNG vehicles** do not present a greater fire risk than diesel or petrol vehicles. The legal text will be drawn up along the lines that CNG vehicles are allowed in multi-storey car parks. **LPG vehicles** are not covered by this legislation. The Royal Decree of 17 May 2007 (establishing the measures for the prevention of fire and explosion which multi-storey car parks must comply with to park LPG vehicles) therefore remains in force unchanged.

In ideal circumstances, the legal text will be published in 2017 at the earliest. The adapted provisions for multi-storey car parks are part of a larger package of changes and various parties involved must first give their approval. The publication date may be adapted depending on these external factors.

The Federal Public Service Home Affairs is arranging for a communication to all stakeholders when publication takes place.

## 2 SUPPORT ACTIONS FEDERAL GOVERNMENT

This chapter provides a description of the related support actions in which the federal government plays a role, namely:

- Coordination of a national policy framework
- Bringing together stakeholders
- Europe and regional cooperation
- Communication and awareness raising

### 2.1 COORDINATION NATIONAL POLICY FRAMEWORK

The drawing up and implementation of a national policy framework of this kind in Belgium must respect the various policy-making levels (federal, regional and local) and their respective areas of competence (such as economy, energy, mobility, environment, finance, etc.) in our country. Coordination of these activities is consequently necessary. The federal level is prepared to assume this coordination in Belgium.

The cooperation between the regions and the federal level takes place via the joint Enover Transport Working Group. This group was set up by FPS Economy (DG Energy) in May 2013 in the context of the 'Clean Power for Transport' Directive. In this working group, the energy and transport sectors are represented by the regions (LNE/MOW of the Flemish Region; DGO2/DGO4 of the Walloon Region; IBGE/Bruxelles Mobilité of the Brussels Capital Region) and the federal level (FPS Economy/FPS Mobility).

### 2.2 BRING TOGETHER STAKEHOLDERS

#### *a) National Steering Group*

In the past, FPS Economy already once set up a national Electric Vehicles Steering Group (EV Steering Group).<sup>32</sup> The mandate of this Steering Group was to bring together the sector stakeholders and governmental actors in Belgium in order to make recommendations concerning the introduction of electric mobility (Master Plan). The key actors identified with seats on the national Electric Vehicles Steering Group were:

- **FPS Economy (Directorate-General Energy),**
- **FPS Mobility and Transport,**
- **FPS Finance,**
- **Flemish Region (Energy + Mobility),**
- **Walloon Region (Energy + Mobility),**
- **Brussels Region (Energy + Mobility),**
- **Associations of cities & municipalities,**
- **VBO** – Verbond van Belgische Ondernemingen (Federation of Enterprises in Belgium),
- **Agoria** - Federatie van de technologische industrie (Federation of the Technology Industry),
- **FEBIAC** – Federation of car manufacturers, importers & suppliers in Belgium

<sup>32</sup> This Steering Group met 3 times between November 2011 and January 2012.

- **TRAXIO** & the e-mobility companies grouped in Traxio electric mobility group – Belgian confederation for the motor trade and repairs,
- **FEBEG** – Federation of Belgian electricity and gas companies,
- **SNCB / NMBS** – National Belgian railway company,
- **SYNERGRID** - Federation of electricity and natural gas grid operators in Belgium,
- **ELIA** – Belgian high-voltage grid operator,
- **VUB** – Free University of Brussels
- **BBL** - Bond Beter Leefmilieu (umbrella organisation of environmental groups)
- **ASBE** – The Belgian section of the AVERE network for manufacturers, suppliers, importers and distributors of electric vehicles,
- **VITO** – Programme Office Living Labs Flanders,

The last meeting of this Steering Group took place on 26 January 2012. At present, this Steering Group is therefore not active. However, various similar stakeholders meetings have been organised recently by the regions in the context of the specific elaboration of their regional policy frameworks.

### ***b) Organisation 'Belgian Platform Alternative Fuels'***

The object of the 'Belgian Platform on Alternative Fuels' is to inform, consult and bring together all stakeholders so that they can regularly express their views on precise topics (recharging infrastructure, batteries, the role of the public authorities, etc.) with regard to alternative fuels / sustainable mobility in Belgium.

The Belgian Platform was set up by FPS Economy (DG Energy) in 2010. Since then, the Belgian Platform has been organised eight times, on the following dates:

- 29 October 2010 (consumer & recharging infrastructure)
- 17 January 2011 (lifecycle & vehicle fleets)
- 31 March 2011 (batteries & role of public authorities)
- 13 December 2011 (Master Plan)
- 27 September 2012 (role of public authorities as launching customer)
- 31 January 2013 (energy aspects linked to electro-mobility)
- 13 June 2013 (Alternative Fuels CPT Directive)
- 7 May 2014 (vehicle manufacturers & pilot project FPS Economy)

A following Belgium Platform may be organised – together with the Regions – after the submission of this Belgian policy framework at the end of 2016.

## **2.3 EUROPEAN & REGIONAL COOPERATION**

Via benchmarking, it is possible to learn from foreign best practices. For example, the Netherlands has far wider implementation and experience with electric mobility. Cooperation within Benelux and with the other neighbouring countries is therefore appropriate, especially as the planning of recharging and refuelling infrastructure necessitates a cross-border exercise.

The federal government plays a coordinating role within Belgium with regard to cooperation with other policy levels:

- **Benelux:** Benelux working group and recommendation (see part 1)

- **EU:** Sustainable Transport Forum, etc.
- **IEA:** Implementing Agreement Hybrid & Electric Vehicles, etc:

## 2.4 COMMUNICATION

Unfamiliarity breeds suspicion. It has been found in various studies that the consumer has insufficient knowledge of electric vehicles and natural gas vehicles. Efforts are necessary if we wish to be able to convince the consumer to abandon his traditional choice in favour of petrol and/or diesel vehicles.

A targeted communication strategy with a view to the provision of key information and the achievement of a change of consumer mentality is important.

The most important way seems to us to launch objective websites, with attention to disseminating accurate & full information on all aspects of the sustainable modes of mobility, such as the financial and tax aspects, the supply of vehicles, the technical aspect (such as home charging, inspection, approval and registration of vehicles), safety, climate context (CO2 emissions), air quality, legal/regulatory aspects, foreign best practices, etc.

The Flemish Region has its own Flemish website concerning the policy on alternative fuels, namely <http://milieuvriendelijkevoertuigen.be> (see Flemish policy framework – part 2).

If the Regions so wish, the federal government could play a coordinating role in creating a 'national website'.



### 3 MEASURES PUBLIC TRANSPORT (FEDERAL)

This chapter is devoted to the federal policy framework in the context of Chapter 5 'measures that can promote the deployment of alternative fuels infrastructure in public transport services' in the European Commission's original template.

The regions are competent for the following public transport companies:

- **De Lijn** (see part 2: Flemish Region)
- **TEC** (see part 3: Walloon Region)
- **MIVB/STIB** (see part 4: Brussels Capital Region)

The federal level is competent for the **NMBS/SNCB**, the Belgian national railway agency.

#### 3.1 NATIONAL RAILWAY AGENCY (NMBS / SNCB<sup>33</sup>)

The inventory of recharging stations for electric vehicles installed on the sites of the SNCB-NMBS group and Infrabel:

a) Recharging stations for electric vehicles have been installed in the car parks of the following 7 stations:

- Bruges
- Ghent Sint-Pieters
- Antwerp Central
- Leuven
- Hasselt
- Namur
- Ottignies

b) Each station is equipped with:

- 3 recharging stations for 6 cars
- 3 recharging stations for 6 motorbikes or mopeds
- 3 recharging stations for 6 electric bicycles

c) Infrabel has also installed recharging stations for service vehicles in a car park for railway personnel (not accessible to the public) in Brussels. Some municipalities have also applied for permission to install recharging stations in car parks owned by SNCB-NMBS. An inventory of these still has to be drawn up.

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<sup>33</sup> NMBS/SNCB comes under the supervision of the Federal Minister for Mobility & Transport.

## 4 BRUSSELS AIRPORT

This chapter is added to the federal policy framework in the context of Chapter 10 'electricity supply at airports' in the European Commission's original template.

The regional airports come under the competence of the regions (see parts 2-4 of the national policy framework). The national airport 'Brussels Airport' comes under federal government competence, however.

**Table 63: Electricity supply at airports (TEN-T Core Network)**

AIRPORT NAME	Type	2016	2020	2025	2030
<b>Brussels Airport</b>	400Hz	In use*	-	-	-
<b>Brussels Airport</b>	Diesel GPUs	In use	-	-	-

\* No specific number indicated