



**DIRECTIVE 2014/94/EU OF THE EUROPEAN PARLIAMENT
AND OF THE COUNCIL**

of 22 October 2014

on the deployment of alternative fuels infrastructure

(Text with EEA relevance)

Article 1

Subject matter

This Directive establishes a common framework of measures for the deployment of alternative fuels infrastructure in the Union in order to minimise dependence on oil and to mitigate the environmental impact of transport. This Directive sets out minimum requirements for the building-up of alternative fuels infrastructure, including recharging points for electric vehicles and refuelling points for natural gas (LNG and CNG) and hydrogen, to be implemented by means of Member States' national policy frameworks, as well as common technical specifications for such recharging and refuelling points, and user information requirements.

Article 2

Definitions

For the purpose of this Directive, the following definitions apply:

- (1) 'alternative fuels' means fuels or power sources which serve, at least partly, as a substitute for fossil oil sources in the energy supply to transport and which have the potential to contribute to its decarbonisation and enhance the environmental performance of the transport sector. They include, inter alia:
 - electricity,
 - hydrogen,
 - biofuels as defined in point (i) of Article 2 of Directive 2009/28/EC,
 - synthetic and paraffinic fuels,
 - natural gas, including biomethane, in gaseous form (compressed natural gas (CNG)) and liquefied form (liquefied natural gas (LNG)), and
 - liquefied petroleum gas (LPG);
- (2) 'electric vehicle' means a motor vehicle equipped with a powertrain containing at least one non-peripheral electric machine as energy converter with an electric rechargeable energy storage system, which can be recharged externally;
- (3) 'recharging point' means an interface that is capable of charging one electric vehicle at a time or exchanging a battery of one electric vehicle at a time;

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- (4) ‘normal power recharging point’ means a recharging point that allows for a transfer of electricity to an electric vehicle with a power less than or equal to 22 kW, excluding devices with a power less than or equal to 3,7 kW, which are installed in private households or the primary purpose of which is not recharging electric vehicles, and which are not accessible to the public;
- (5) ‘high power recharging point’ means a recharging point that allows for a transfer of electricity to an electric vehicle with a power of more than 22 kW;
- (6) ‘shore-side electricity supply’ means the provision of shore-side electrical power through a standardised interface to seagoing ships or inland waterway vessels at berth;
- (7) ‘recharging or refuelling point accessible to the public’ means a recharging or refuelling point to supply an alternative fuel which provides Union-wide non-discriminatory access to users. Non-discriminatory access may include different terms of authentication, use and payment;
- (8) ‘refuelling point’ means a refuelling facility for the provision of any fuel with the exception of LNG, through a fixed or a mobile installation;
- (9) ‘refuelling point for LNG’ means a refuelling facility for the provision of LNG, consisting of either a fixed or mobile facility, offshore facility, or other system.

*Article 3***National policy frameworks**

1. Each Member State shall adopt a national policy framework for the development of the market as regards alternative fuels in the transport sector and the deployment of the relevant infrastructure. It shall contain at least the following elements:

- an assessment of the current state and future development of the market as regards alternative fuels in the transport sector, including in light of their possible simultaneous and combined use, and of the development of alternative fuels infrastructure, considering, where relevant, cross-border continuity,
- national targets and objectives, pursuant to Articles 4(1), 4(3), 4(5), 6(1), 6(2), 6(3), 6(4), 6(6), 6(7), 6(8) and, where applicable, Article 5(1), for the deployment of alternative fuels infrastructure. Those national targets and objectives shall be established and may be revised on the basis of an assessment of national, regional or Union-wide demand, while ensuring compliance with the minimum infrastructure requirements set out in this Directive,
- measures necessary to ensure that the national targets and the objectives contained in the national policy framework are reached,
- measures that can promote the deployment of alternative fuels infrastructure in public transport services,

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- designation of the urban/suburban agglomerations, of other densely populated areas and of networks which, subject to market needs, are to be equipped with recharging points accessible to the public in accordance with Article 4(1),
 - designation of the urban/suburban agglomerations, of other densely populated areas and of networks which, subject to market needs, are to be equipped with CNG refuelling points in accordance with Article 6(7),
 - an assessment of the need to install refuelling points for LNG in ports outside the TEN-T Core Network,
 - consideration of the need to install electricity supply at airports for use by stationary airplanes.
2. Member States shall ensure that national policy frameworks take into account the needs of the different transport modes existing on their territory, including those for which limited alternatives to fossil fuels are available.
3. National policy frameworks shall take into account, as appropriate, the interests of regional and local authorities, as well as those of the stakeholders concerned.
4. Where necessary, Member States shall cooperate, by means of consultations or joint policy frameworks, to ensure that the measures required to achieve the objectives of this Directive are coherent and coordinated.
5. Support measures for alternative fuels infrastructure shall be implemented in compliance with the State aid rules contained in the TFEU.
6. National policy frameworks shall be in line with the Union's environmental and climate-protection legislation in force.
7. Member States shall notify their national policy frameworks to the Commission by 18 November 2016.
8. Based on the national policy frameworks, the Commission shall publish and regularly update information on the national targets and the objectives submitted by each Member State regarding:
- the number of recharging points accessible to the public,
 - refuelling points for LNG at maritime and inland ports,
 - refuelling points for LNG accessible to the public for motor vehicles,
 - CNG refuelling points accessible to the public for motor vehicles.

Where applicable, information regarding the following shall also be published:

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- hydrogen refuelling points accessible to the public,

- infrastructure for shore-side electricity supply in maritime and inland ports,

- infrastructure for electricity supply for stationary airplanes.

9. The Commission shall assist Member States in the reporting on the national policy frameworks by means of the guidelines referred to in Article 10(4), shall assess the coherence of the national policy frameworks at Union level and shall assist Member States in the co-operation process provided for in paragraph 4 of this Article.

*Article 4***Electricity supply for transport**

1. Member States shall ensure, by means of their national policy frameworks, that an appropriate number of recharging points accessible to the public are put in place by 31 December 2020, in order to ensure that electric vehicles can circulate at least in urban/suburban agglomerations and other densely populated areas, and, where appropriate, within networks determined by the Member States. The number of such recharging points shall be established taking into consideration, inter alia, the number of electric vehicles estimated to be registered by the end of 2020, as indicated in their national policy frameworks, as well as best practices and recommendations issued by the Commission. Particular needs related to the installation of recharging points accessible to the public at public transport stations shall be taken into account, where appropriate.

2. The Commission shall assess the application of the requirements in paragraph 1 and, as appropriate, submit a proposal to amend this Directive, taking into account the development of the market for electric vehicles, in order to ensure that an additional number of recharging points accessible to the public are put in place in each Member State by 31 December 2025, at least on the TEN-T Core Network, in urban/suburban agglomerations and other densely populated areas.

3. Member States shall also take measures within their national policy frameworks to encourage and facilitate the deployment of recharging points not accessible to the public.

4. Member States shall ensure that normal power recharging points for electric vehicles, excluding wireless or inductive units, deployed or renewed as from 18 November 2017, comply at least with the technical specifications set out in point 1.1 of Annex II and with specific safety requirements in force at national level.

Member States shall ensure that high power recharging points for electric vehicles, excluding wireless or inductive units, deployed or renewed as from 18 November 2017, comply at least with the technical specifications set out in point 1.2 of Annex II.

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5. Member States shall ensure that the need for shore-side electricity supply for inland waterway vessels and seagoing ships in maritime and inland ports is assessed in their national policy frameworks. Such shore-side electricity supply shall be installed as a priority in ports of the TEN-T Core Network, and in other ports, by 31 December 2025, unless there is no demand and the costs are disproportionate to the benefits, including environmental benefits.
6. Member States shall ensure that shore-side electricity supply installations for maritime transport, deployed or renewed as from 18 November 2017, comply with the technical specifications set out in point 1.7 of Annex II.
7. The recharging of electric vehicles at recharging points accessible to the public shall, if technically feasible and economically reasonable, make use of intelligent metering systems as defined in point (28) of Article 2 of Directive 2012/27/EU and shall comply with the requirements laid down in Article 9(2) of that Directive.
8. Member States shall ensure that operators of recharging points accessible to the public are free to purchase electricity from any Union electricity supplier, subject to the supplier's agreement. The operators of recharging points shall be allowed to provide electric vehicle recharging services to customers on a contractual basis, including in the name and on behalf of other service providers.
9. All recharging points accessible to the public shall also provide for the possibility for electric vehicle users to recharge on an ad hoc basis without entering into a contract with the electricity supplier or operator concerned.
10. Member States shall ensure that prices charged by the operators of recharging points accessible to the public are reasonable, easily and clearly comparable, transparent and non-discriminatory.
11. Member States shall ensure that distribution system operators cooperate on a non-discriminatory basis with any person establishing or operating recharging points accessible to the public.
12. Member States shall ensure that the legal framework permits the electricity supply for a recharging point to be the subject of a contract with a supplier other than the entity supplying electricity to the household or premises where such a recharging point is located.
13. Without prejudice to Regulation (EU) No 1025/2012, the Union shall pursue the development by the appropriate standardisation organisations of European standards containing detailed technical specifications for wireless recharging points and battery swapping for motor vehicles, and for recharging points for L-category motor vehicles and electric buses.

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14. The Commission shall be empowered to adopt delegated acts in accordance with Article 8 to:

- (a) supplement this Article and points 1.3, 1.4, 1.5, 1.6 and 1.8 of Annex II in order to require compliance of the infrastructures to be deployed or renewed with the technical specifications contained in the European standards to be developed pursuant to paragraph 13 of this Article, where the relevant ESOs have recommended only one technical solution with technical specifications as described in a relevant European standard;
- (b) update the references to the standards referred to in the technical specifications set out in point 1 of Annex II where those standards are replaced by new versions thereof adopted by the relevant standardisation organisations.

It is of particular importance that the Commission follow its usual practice and carry out consultations with experts, including Member States' experts, before adopting those delegated acts.

Those delegated acts shall provide for transitional periods of at least 24 months before the technical specifications contained therein, or amendments thereof, become binding on the infrastructure to be deployed or renewed.

Article 5

Hydrogen supply for road transport

1. Member States which decide to include hydrogen refuelling points accessible to the public in their national policy frameworks shall ensure that, by 31 December 2025, an appropriate number of such points are available, to ensure the circulation of hydrogen-powered motor vehicles, including fuel cell vehicles, within networks determined by those Member States, including, where appropriate, cross-border links.

2. Member States shall ensure that hydrogen refuelling points accessible to the public deployed or renewed as from 18 November 2017 comply with the technical specifications set out in point 2 of Annex II.

3. The Commission shall be empowered to adopt delegated acts in accordance with Article 8 to update the references to the standards referred to in the technical specifications set out in point 2 of Annex II where those standards are replaced by new versions thereof adopted by the relevant standardisation organisations.

It is of particular importance that the Commission follow its usual practice and carry out consultations with experts, including Member States' experts, before adopting those delegated acts.

Those delegated acts shall provide for transitional periods of at least 24 months before the technical specifications contained therein, or amendments thereof, become binding on the infrastructure to be deployed or renewed.

*Article 6***Natural gas supply for transport**

1. Member States shall ensure, by means of their national policy frameworks, that an appropriate number of refuelling points for LNG are put in place at maritime ports, to enable LNG inland waterway vessels or seagoing ships to circulate throughout the TEN-T Core Network by 31 December 2025. Member States shall cooperate with neighbouring Member States where necessary to ensure adequate coverage of the TEN-T Core Network.

2. Member States shall ensure, by means of their national policy frameworks, that an appropriate number of refuelling points for LNG are put in place at inland ports, to enable LNG inland waterway vessels or seagoing ships to circulate throughout the TEN-T Core Network by 31 December 2030. Member States shall cooperate with neighbouring Member States where necessary to ensure adequate coverage of the TEN-T Core Network.

3. Member States shall designate in their national policy frameworks the maritime and inland ports that are to provide access to the refuelling points for LNG referred to in paragraphs 1 and 2, also taking into consideration actual market needs.

4. Member States shall ensure, by means of their national policy frameworks, that an appropriate number of refuelling points for LNG accessible to the public are put in place by 31 December 2025, at least along the existing TEN-T Core Network, in order to ensure that LNG heavy-duty motor vehicles can circulate throughout the Union, where there is demand, unless the costs are disproportionate to the benefits, including environmental benefits.

5. The Commission shall assess the application of the requirement in paragraph 4 and, as appropriate, submit a proposal to amend this Directive by 31 December 2027, taking into account the LNG heavy-duty motor vehicles market, in order to ensure that an appropriate number of refuelling points for LNG accessible to the public are put in place in each Member State.

6. Member States shall ensure that an appropriate LNG distribution system is available in their territory, including loading facilities for LNG tank vehicles, in order to supply the refuelling points referred to in paragraphs 1, 2 and 4. By way of derogation, neighbouring Member States may, in the context of their national policy frameworks, form a pool for the purposes of fulfilling this requirement. Pooling agreements shall be the subject of the reporting obligations of the Member States under this Directive.

7. Member States shall ensure, by means of their national policy frameworks, that an appropriate number of CNG refuelling points accessible to the public are put in place by 31 December 2020, in order to ensure, in line with the sixth indent of Article 3(1), that CNG motor vehicles can circulate in urban/suburban agglomerations and other densely populated areas, and, where appropriate, within networks determined by the Member States.

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8. Member States shall ensure, by means of their national policy frameworks, that an appropriate number of CNG refuelling points accessible to the public are put in place by 31 December 2025, at least along the existing TEN-T Core Network, to ensure that CNG motor vehicles can circulate throughout the Union.

9. Member States shall ensure that CNG refuelling points for motor vehicles deployed or renewed as from 18 November 2017 comply with the technical specifications set out in point 3.4 of Annex II.

10. Without prejudice to Regulation (EU) No 1025/2012, the Union shall pursue the development by the relevant European or international standardisation organisations of standards, including detailed technical specifications, for:

- (a) refuelling points for LNG for maritime and inland waterway transport;
- (b) refuelling points for LNG and CNG motor vehicles.

11. The Commission shall be empowered to adopt delegated acts in accordance with Article 8 to:

- (a) supplement this Article and points 3.1, 3.2 and 3.4 of Annex II, in order to require compliance of the infrastructures to be deployed or renewed with the technical specifications contained in the standards to be developed pursuant to points (a) and (b) of paragraph 10 of this Article, where the relevant ESOs have recommended only one technical solution with technical specifications as described in a relevant European standard compatible with the relevant international standards, where applicable;
- (b) update the references to the standards referred to in the technical specifications set out or to be set out in point 3 of Annex II where those standards are replaced by new versions thereof adopted by the relevant European or international standardisation organisations.

It is of particular importance that the Commission follow its usual practice and carry out consultations with experts, including Member States' experts, before adopting those delegated acts.

Those delegated acts shall provide for transitional periods of at least 24 months before the technical specifications contained therein, or amendments thereof, become binding on the infrastructure to be deployed or renewed.

12. In the absence of a standard containing detailed technical specifications for refuelling points for LNG for maritime and inland waterway transport, referred to in point (a) of paragraph 10, and in particular in the absence of those specifications relating to bunkering of LNG, the Commission, taking into account the work ongoing within

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the IMO, the CCNR, the Danube Commission and other relevant international fora, shall be empowered to adopt delegated acts in accordance with Article 8 to lay down:

- requirements for interfaces of bunker transfer of LNG in maritime and inland waterway transport,
- requirements related to safety aspects of the onshore storage and bunkering procedure of LNG in maritime and inland waterway transport.

It is of particular importance that the Commission follow its usual practice and carry out consultations with relevant groups of experts on maritime transport and on inland waterway transport, including experts from national maritime or inland navigation authorities, before adopting those delegated acts.

*Article 7***User information**

1. Without prejudice to Directive 2009/30/EC, Member States shall ensure that relevant, consistent and clear information is made available as regards those motor vehicles which can be regularly fuelled with individual fuels placed on the market, or recharged by recharging points. Such information shall be made available in motor vehicle manuals, at refuelling and recharging points, on motor vehicles and in motor vehicle dealerships in their territory. This requirement shall apply to all motor vehicles, and their motor vehicle manuals, placed on the market after 18 November 2016.

2. The supply of information referred to in paragraph 1 shall be based on the labelling provisions regarding fuel compliance under standards of the ESOs setting the technical specifications of fuels. Where such standards refer to a graphical expression, including a colour coding scheme, the graphical expression shall be simple and easy to understand, and it shall be placed in a clearly visible manner:

- (a) on corresponding pumps and their nozzles at all refuelling points, as from the date on which fuels are placed on the market;
- (b) on or in the immediate proximity of all fuel tanks' filling caps of motor vehicles recommended and compatible with that fuel and in motor vehicle manuals, when such motor vehicles are placed on the market after 18 November 2016.

3. Where appropriate, and in particular for natural gas and hydrogen, when fuel prices are displayed at a fuel station, a comparison between the relevant unit prices shall be displayed for information purposes. The display of this information shall not mislead or confuse the user.

In order to increase consumer awareness and provide for fuel price transparency in a consistent way across the Union, the Commission shall be empowered to adopt, by means of implementing acts, a common methodology for alternative fuels unit price comparison.

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4. Where ESO standards setting technical specifications of a fuel do not include labelling provisions for compliance with the standards in question, where the labelling provisions do not refer to a graphical expression including colour coding schemes, or where the labelling provisions are not suitable for attaining the objectives of this Directive, the Commission may, for the purposes of the uniform implementation of paragraphs 1 and 2, mandate ESOs to develop compatibility labelling specifications, or may adopt implementing acts determining the graphical expression, including a colour coding scheme, of compatibility for fuels introduced in the Union market which reach the level of 1 % of the total volume of sales, in the assessment of the Commission, in more than one Member State.

5. If labelling provisions of the respective ESO standards are updated, if implementing acts regarding the labelling are adopted or if new ESO standards for alternative fuels are developed as necessary, the corresponding labelling requirements shall apply to all refuelling and recharging points and motor vehicles registered on the territory of the Member States as of 24 months after their respective updating or adoption.

6. The implementing acts referred to in this Article shall be adopted in accordance with the examination procedure referred to in Article 9(2).

7. Member States shall ensure that, when available, the data indicating the geographic location of the refuelling and recharging points accessible to the public of alternative fuels covered by this Directive are accessible on an open and non-discriminatory basis to all users. For recharging points, such data, when available, may include information on real-time accessibility as well as historical and real-time charging information.

*Article 8***Exercise of the delegation**

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2. The power to adopt delegated acts referred to in Articles 4, 5 and 6 shall be conferred on the Commission for a period of five years from 17 November 2014. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.

3. The delegation of power referred in Articles 4, 5 and 6 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

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5. A delegated act adopted pursuant to Articles 4, 5 and 6 shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by three months at the initiative of the European Parliament or of the Council.

*Article 9***Committee procedure**

1. The Commission shall be assisted by a committee. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.
2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply. Where the committee delivers no opinion, the Commission shall not adopt the draft implementing act and the third subparagraph of Article 5(4) of Regulation (EU) No 182/2011 shall apply.
3. Where the opinion of the committee is to be obtained by written procedure, that procedure shall be terminated without result when, within the time limit for delivery of the opinion, the chair of the committee so decides or a simple majority of committee members so request.

*Article 10***Reporting and review**

1. Each Member State shall submit to the Commission a report on the implementation of its national policy framework by 18 November 2019, and every three years thereafter. Those reports shall cover the information listed in Annex I and shall, where appropriate, include a relevant justification regarding the level of attainment of the national targets and objectives referred to in Article 3(1).
2. By 18 November 2017, the Commission shall submit to the European Parliament and to the Council a report on the assessment of the national policy frameworks and their coherence at Union level, including an evaluation of the level of attainment of the national targets and objectives referred to in Article 3(1).
3. The Commission shall submit a report on the application of this Directive to the European Parliament and to the Council every three years with effect from 18 November 2020.

The Commission report shall contain the following elements:

- an assessment of the actions taken by Member States,
- an assessment of the effects of this Directive on the development of the market as regards alternative fuels infrastructure and its contribution to the market of alternative fuels for transport, as well as its impact on the economy and the environment,
- information on technical progress and the development of the market as regards alternative fuels in the transport sector and of the relevant infrastructure covered by this Directive and of any other alternative fuel.

The Commission may outline examples of best practices and make appropriate recommendations.

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The Commission report shall also assess the requirements and the dates set out in this Directive in respect of the infrastructure build-up and implementation of specifications, taking into account the technical, economic and market developments of the respective alternative fuels, accompanied if appropriate by a legislative proposal.

4. The Commission shall adopt guidelines concerning the reporting by the Member States of the elements listed in Annex I.

5. By 31 December 2020, the Commission shall review the implementation of this Directive, and, as appropriate, submit a proposal to amend it by laying down new common technical specifications for alternative fuels infrastructure within the scope of this Directive.

6. By 31 December 2018, the Commission shall, if it considers it appropriate, adopt an Action Plan for the implementation of the strategy set out in the Communication entitled ‘Clean Power for Transport: A European alternative fuels strategy’ in order to achieve the broadest possible use of alternative fuels for transport, while ensuring technological neutrality, and to promote sustainable electric mobility throughout the Union. To that end, it may take into account individual market needs and developments in the Member States.

*Article 11***Transposition**

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 18 November 2016. They shall forthwith inform the Commission thereof.

2. When Member States adopt those provisions, they shall contain a reference to this Directive, or be accompanied by such a reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.

3. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

*Article 12***Entry into force**

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

*Article 13***Addressees**

This Directive is addressed to the Member States.

▼B*ANNEX I***REPORT**

The report shall contain a description of the measures taken in a Member State in support of alternative fuels infrastructure build-up. The report shall include at least the following elements:

1. Legal measures

Information on legal measures, which may consist of legislative, regulatory or administrative measures to support the build-up of alternative fuels infrastructure, such as building permits, parking lot permits, certification of the environmental performance of businesses and fuel stations concessions.

2. Policy measures supporting the implementation of the national policy framework

Information on those measures shall include the following elements:

- direct incentives for the purchase of means of transport using alternative fuels or for building the infrastructure,
- availability of tax incentives to promote means of transport using alternative fuels and the relevant infrastructure,
- use of public procurement in support of alternative fuels, including joint procurement,
- demand-side non-financial incentives, for example preferential access to restricted areas, parking policy and dedicated lanes,
- consideration of the need for renewable jet fuel refuelling points in airports within the TEN-T Core Network,
- technical and administrative procedures and legislation with regard to the authorisation of alternative fuels supply, in order to facilitate the authorisation process.

3. Deployment and manufacturing support

Annual public budget allocated for alternative fuels infrastructure deployment, broken down by alternative fuel and by transport mode (road, rail, water and air).

Annual public budget allocated to support manufacturing plants for alternative fuels technologies, broken down by alternative fuel and by transport mode.

Consideration of any particular needs during the initial phase of the deployment of alternative fuels infrastructures.

4. Research, technological development and demonstration (RTD&D)

Annual public budget allocated to support alternative fuels RTD&D, broken down by fuel and by transport mode.

▼B**5. Targets and objectives**

- estimation of the number of alternative fuel vehicles expected by 2020, 2025 and 2030,
- level of achievement of the national objectives for the deployment of alternative fuels in the different transport modes (road, rail, water and air),
- level of achievement of the national targets, year by year, for the deployment of alternative fuels infrastructure in the different transport modes,
- information on the methodology applied to take account of the charging efficiency of high power recharging points.

6. Alternative fuels infrastructure developments

Changes in supply (additional infrastructure capacity) and demand (capacity actually used).

▼B*ANNEX II***TECHNICAL SPECIFICATIONS****1. Technical specifications for recharging points**

1.1. Normal power recharging points for motor vehicles

Alternating current (AC) normal power recharging points for electric vehicles shall be equipped, for interoperability purposes, at least with socket outlets or vehicle connectors of Type 2 as described in standard EN 62196-2. While maintaining the Type 2 compatibility, those socket outlets may be equipped with features such as mechanical shutters.

1.2. High power recharging points for motor vehicles

Alternating current (AC) high power recharging points for electric vehicles shall be equipped, for interoperability purposes, at least with connectors of Type 2 as described in standard EN 62196-2.

Direct current (DC) high power recharging points for electric vehicles shall be equipped, for interoperability purposes, at least with connectors of the combined charging system ‘Combo 2’ as described in standard EN 62196-3.

1.3. Wireless recharging points for motor vehicles

1.4. Battery swapping for motor vehicles

1.5. Recharging points for L-category motor vehicles

1.6. Recharging points for electric buses

1.7. Shore-side electricity supply for seagoing ships

Shore-side electricity supply for seagoing ships, including the design, installation and testing of the systems, shall comply with the technical specifications of the IEC/ISO/IEEE 80005-1 standard.

1.8. Shore-side electricity supply for inland waterway vessels

2. Technical specifications for hydrogen refuelling points for motor vehicles

2.1. Outdoor hydrogen refuelling points dispensing gaseous hydrogen used as fuel on board motor vehicles shall comply with the technical specifications of the ISO/TS 20100 Gaseous Hydrogen Fuelling specification.

2.2. The hydrogen purity dispensed by hydrogen refuelling points shall comply with the technical specifications included in the ISO 14687-2 standard.

2.3. Hydrogen refuelling points shall employ fuelling algorithms and equipment complying with the ISO/TS 20100 Gaseous Hydrogen Fuelling specification.

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2.4. Connectors for motor vehicles for the refuelling of gaseous hydrogen shall comply with standard EN ISO 17268 ‘Gaseous hydrogen land vehicle refuelling connection devices’.

▼B**3. Technical specifications for natural gas refuelling points**

3.1. Technical specifications for refuelling points for LNG for inland waterway vessels or sea-going ships

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3.2. Technical specifications for refuelling points for LNG for motor vehicles

3.3. Technical specifications for CNG connectors/receptacles

CNG connectors/receptacles shall comply with UNECE Regulation No 110 (referring to ISO 14469, parts I and II).

3.4. Technical specifications for CNG refuelling points for motor vehicles