

General assessment of the Directive's relevance and scope (questions related to the evaluation)

The Alternative Fuels Infrastructure Directive aims at a coordinated approach for the roll out of alternative fuels infrastructure in Member States by means of setting obligatory requirements for the development of national policy frameworks. Member States had to outline national targets, objectives and supporting actions for the deployment of such infrastructure that should be coordinated and coherent at EU level. Common technical specifications adopted under that Directive should support this approach.

1. In your view, how relevant is a policy on alternative fuels infrastructure at EU level as established by the Alternative Fuel Infrastructure Directive to support the uptake of alternative fuels?

- Very relevant
- Relevant
- Less relevant
- Not relevant
- No opinion

2. Currently, the Directive covers electricity, hydrogen, biofuels, synthetic and parafinic fuels, compressed natural gas (CNG), liquefied natural gas (LNG) and liquefied petroleum gas (LPG) as main alternative transport fuels. In your view, is this scope still appropriate in the context of the long-term objective of the European Green Deal to reduce transport emissions by 90% by 2050?

- It is fully appropriate
- It is appropriate
- It is rather not appropriate
- It is not appropriate
- No opinion

In case you answered "It is rather not appropriate" or "It is not appropriate", can you please indicate why?

- Some fuels are missing (please specify)
- Some fuels are not relevant anymore (please specify)
- Other (please specify)

Please specify "Some fuels are missing":

Biogas even if infrastructures will be the same than for CNG or LNG

Please specify "Some fuels are not relevant anymore":

LPG

Please specify "Other":

3. Currently the Alternative Fuel Infrastructure Directive covers alternative fuels infrastructure for road and shipping. In your view, is this appropriate?

- the Directive should also cover rail infrastructure
- the Directive should also cover airport infrastructure for ground movements (e.g. vehicles for transport of passenger or for supporting taxiing of aircraft etc.)
- Other (please specify)
- the Directive already covers all relevant transport modes
- No opinion

Please specify (box only opens when we mark “other”):

Rail and airports are such very specific sectors that a EU-based approach is not required

4. The Alternative Fuels Infrastructure Directive currently requires from Member States to establish “National Policy Frameworks” (NPFs). Within this framework, Member States have to develop targets and objectives for the deployment of alternative fuels infrastructure, based on an assessment by the Member States of national, regional or EU-wide demand. In your view, are the NPFs the right instrument to ensure the development of a coherent infrastructure network throughout the EU?

- They are the right policy instrument
- They are the right instrument but the provisions in the directive are not prescriptive enough to avoid diverging interpretation and application by Member States. The provisions in the directive should therefore be strengthened.
- They are only partly sufficient. Additional/complementary instruments would be needed to avoid diverging interpretation and application by Member States
- They are not the right instrument because they are not sufficiently stringent. Therefore they should be replaced by alternative, more stringent instruments

- They are not the right instrument and should be abandoned without being replaced by alternative instruments.
- No opinion

Please explain briefly your answer in particular what additional/complementary /alternative instruments you would suggest.

500 character(s) maximum

The approaches are very different between Member states and the current NPF are insufficient to build up the coherent and strong approach which is necessary to develop confidence in the market. Tools like fiscal incentives, coherent investment policies including subsidies, supported by a concrete and firm European Union commitment, are necessary effective measures, in particular for long haul applications.

5. Currently the Alternative Fuel Infrastructure Directive addresses publicly accessible fuels infrastructure only. Should it also address infrastructure not accessible to the public?

- It should cover all infrastructure, publicly accessible and not publicly accessible
- It should cover publicly accessible infrastructure only, with distinction required between public infrastructure on public grounds and publicly accessible infrastructure on private grounds ("Semi public" infrastructure)
- The current scope (publicly accessible fuels infrastructure only) is fine
- Other (please specify)
- No opinion

Please specify

our answer only applies to re-charging infrastructure and not to other alternative fuels. Care must be taken not to overlap with existing regulations, and in particular Directive 2018/844.

6. The Alternative Fuels Infrastructure Directive currently requires from Member States to ensure that relevant, consistent and clear information is made available to consumers/users as regards those motor vehicles which are fueled with alternative fuels. Such information has to be made available in motor vehicle manuals, at refueling and recharging points, on motor vehicles and in motor vehicle dealerships in their territory (Article 7). In your view, are the current provisions in AFID effective in ensuring that consumers/users receive relevant, consistent and clear information on the compatibility of their vehicle engine/model with the alternative fuels /recharging options available at each refueling/recharging point?

- These provisions in the directive are effective
- These provisions in the directive are only partly or not at all effective and additional/complementary provisions are needed
- The directive is not the right instrument and corresponding provisions should be replaced by more effective instrument(s)
- The directive is not the right instrument and corresponding provisions should be abandoned without being replaced by alternative instruments
- No opinion

Please explain briefly your answer.

500 character(s) maximum

Main problems

1. A rapid uptake of alternatively fuelled vehicles and vessels is expected in the next decade. For example, the European Green Deal considers it likely that by 2025 around 13 million zero and low emission vehicles will circulate on roads. In your view, are the National Policy Frameworks the adequate instrument to ensure that a sufficient number of publicly accessible infrastructure will be deployed over the next decade?

	Fully adequate	Adequate	Rather not adequate	Not adequate	I don't know
Electric rechargers for cars and light duty vehicles in urban/suburban agglomerations	X				
Electric rechargers for cars and light duty vehicles along the main highways			X		
Electric rechargers for trucks / heavy duty vehicles in urban/suburban agglomerations	X				
Electric rechargers for trucks / heavy duty vehicles along the main highways			X		
Electric rechargers for busses	X				
CNG refuelling stations in urban /suburban agglomerations	X				
CNG refuelling stations along the main highways			X		
LNG refuelling stations at maritime ports			X		
LNG refuelling stations at inland ports			X		
LNG refuelling stations along the main highways			X		

Hydrogen refuelling stations in urban /suburban agglomerations		X			
Hydrogen refuelling stations along the main highways			X		
On Shore Power Supply in inland waterway ports					
On Shore Power Supply in maritime ports					

2. In your opinion, do users of electric vehicles face problems when it comes to payments when charging their vehicles at re-charging points operated by an entity with which the user does not have a contract?

- Yes, frequently
- Sometimes
- Seldom
- Never
- I don't know

3. In your view and experience, is the information that is currently provided on location, availability, etc. of re-charging and re-fuelling points sufficient to cover the needs of the user?

- Information to users is fully sufficient
- Information to users is largely sufficient
- Information to users is rather insufficient
- Information to users is insufficient for re-charging
- I don't know

4. The Commission assessment of the national policy frameworks developed under the Directive shows a variety of approaches to setting targets, objectives and supportive actions. Please indicate to what extent do you agree with the following observations?

	Fully agree	Largely agree	Rather disagree	Completely disagree	No opinion
"There is uneven and insufficient deployment of alternative fuels infrastructure within a Member State because the Directive does not specify in sufficient detail the requirements for the roll out of alternative fuels infrastructure, with respect to the required number and technical requirements."		X			
"There is uneven and insufficient deployment of alternative fuels infrastructure across Member States"		X			

because the Directive does not ensure that Member States cooperate with stakeholders and with other Member States to deliver a sufficiently dense and interoperable network throughout the EU."					
"Users cannot easily recharge or refuel their vehicles/vessels throughout the EU because the directive does not ensure a uniform approach towards the use of alternative fuel infrastructure and subsequent payments."			X		

5. In your view, are there other causes of the limited impact of the Directive?
Please explain.

1000 character(s) maximum

6. Are there other aspects you would like to underline regarding the functioning and /or impact of Directive 2014/94/EU? Are there issues that could be simplified?

1000 character(s) maximum

As NGV and H2 applications are increasingly focusing on long-haul applications, an even more aligned trans-European methodology would help in insuring appropriate station coverage

Policies

This section aims at identifying potential policy measures to overcome identified problems related to the uptake of alternative fuels.

1. In your opinion, how important is it to revise the following parts of the Alternative Fuels Infrastructure Directive?

	Very important	Important	Less important	Not important	I don't know
Scope with respect to fuels addressed in the directive			X		
Scope with respect to transport modes addressed in the directive				X	
Provisions on ensuring an appropriate infrastructure coverage		X			
Provisions on monitoring and reporting			X		
Provisions on interoperability and user information		X			
Provisions on technical specifications		X			
Provisions on market access		X			

Provisions on interlinkages between the electric vehicles and their infrastructure and electricity markets		X			
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Targets to achieve a coherent network

2. Right now, Member States are obliged to establish targets for the roll out of alternative fuels infrastructure through their national policy frameworks. However, those national targets are being set without using a common methodology. In your view, how useful are mandatory deployment targets for Member States that are derived by using a common methodology to ensure a coherent minimum alternative fuels infrastructure roll out in the following areas:

	Very useful	Useful	Less useful	Not useful	No opinion
Electricity for cars & vans	X				
Electricity for heavy duty vehicles	X				
Electricity for busses				X	
Electricity for inland waterway		X			
Electricity for short-sea shipping		X			
Hydrogen for cars & vans	X				
Hydrogen for heavy duty vehicles	X				
Hydrogen for inland waterway		X			
Hydrogen for short-sea shipping		X			
CNG for cars & vans	X				
LNG for heavy duty vehicles	X				
LNG for inland navigation	X				
LNG for maritime vessels	X				
On shore power supply at inland waterway ports		X			
On shore power supply at maritime ports		X			
Hydrogen for rail		X			
Electricity for aviation ground movement				X	
Electricity for port service provisions (pilotage,towage, cargo handling equipment)				X	

Please explain your answer.

1000 character(s) maximum

The development of hydrogen powered heavy duty trucks is at a very early stage. In order to insure a smooth introduction, technical specifications for compressed H₂ should be decided. With respect to EV re-charging infrastructure, improved and harmonized technical specifications are required. In addition, a common methodology, based on expected market demand for the deployment of the infrastructure will certainly help.

Reply to questions 3-10 only in case you believe that mandatory deployment targets are useful for at least some of the above mentioned areas.

3. In your view, should such mandatory targets be applicable throughout the whole transport network or only for specific parts of it?

- Applicable to the TEN-T core network (including the most important transport connections and nodes in the EU represented by the core network corridors (railway lines, roads, inland waterways, maritime shipping routes, ports, airports and railroad terminals))
- Applicable to the TEN-T core and comprehensive network (covering important transport connections and notes in all EU regions)
- Applicable throughout the whole transport network
- Other (please specify)

Please specify

4. In your view, who should set mandatory deployment targets?

- Member States under national law but following a common European methodology set out in EU legislation
- European legislation to set binding targets for Member States following a common methodology
- Other (please specify)

Please specify

5. In your view, which power should be required in case of mandatory targets for publicly accessible recharging infrastructure for passenger cars and light duty vehicles along the TEN-T network?

- 50 kW
- 100 kW
- 150 kW
- 350 kW

- Other (please specify)

Please specify

6. In your view, which power should be required in case of mandatory targets for publicly accessible recharging infrastructure for heavy duty vehicles along the TENT network?

- 350 kW
- 1000 kW
- >1000 kW
- Other (please specify)

Please specify

7. In your view, which power should in case of mandatory requirements apply for onshore power supply in maritime ports of the TEN-T network?

- >100 kW
- >500 kW
- >1 MW
- Other (please specify)

>100 kW for what types of vessels?

>500 kW for what types of vessels?

>1 MW for what types of vessels?

Please specify

8. In your view, which alternative fuel should - in case of mandatory targets - port service providers (pilotage, towage, cargo handling equipment) have to offer in ports of the TEN-T network?

- Electricity
- Hydrogen
- LNG

- CNG
- LPG
- Other (please specify)
- Any of the above, chosen freely by the port service provider

Please specify

Biofuels, renewable and synthetic paraffinic fuels (under the scope of the current directive) also play a role. Port services are a very specific area for infrastructure. It is the responsibility of the service provider to supply the alternative fuel to suits the needs of its customers

9. In your view, which power should - in case of mandatory targets - be required for recharging infrastructure for inland waterways vessels along the TEN-T network?

- 350 kW
- 1000 kW
- >1000 kW
- Battery swapping technology
- Other (please specify)

Please specify

10. In your view, how could the compliance with mandatory targets be best monitored?

- Through reporting of public authorities in Member States to the EU
- Through direct monitoring of infrastructure roll out at EU level
- Other (please specify)

Please specify

Other deployment measures for publicly accessible and non publicly accessible recharging points

11. Do you believe that owners of an electric vehicle should be entitled to have a recharging point installed in their neighborhood?

- Yes

- No
- No opinion

12. How useful would you consider the following measures to facilitate and accelerate the development of recharging points not accessible to the public (such as private re-charging points in apartment buildings, offices, etc.)?

	Very useful	Useful	Less useful	Not useful	No opinion
Mandatory installation of recharging points in car parks of non-residential buildings (e.g. office buildings) that go beyond existing provisions in the Energy Efficiency for Buildings Directive	x				
Mandatory installation of recharging points in apartment buildings	x				
Right for individuals who rent an apartment/garage to install recharging points		x			
Right for individuals who own an apartment to install recharging points in apartment buildings		x			
other					x

Please comment

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Care must be taken not to create overlaps with directive 2018/844 on Energy performance of buildings. it seems difficult to give to owners of an EV the entitlement to have a charge point installed in their neighborhood; but it may be worthwhile to provide for the recording of individual demand on government sites so that relevant coverage can be obtained; and potentially indicate on a map the expected public charge points that will be deployed.

Interoperability

Technical Specifications

In order to ensure technical interoperability between vehicles/vessels and the infrastructure throughout Europe, the directive already sets certain technical specifications, e.g. with respect to socket outlets at recharging points, and enables the Commission to adopt secondary legislation with respect to technical specifications.

13. Do you believe that further mandatory technical requirements/standards are required to ensure full interoperability of infrastructure and services across Europe?

- Yes
- No
- No opinion

14. If "yes" to the previous question, in which areas would technical requirements/standards be needed?

- Physical interfaces between vehicles/vessels and the infrastructure
- Identification and authentication of electric vehicles
- E-roaming protocols
- Interface to energy networks and / or building management systems to enable electric vehicles to provide electricity back to the grid
- Communication security
- Others
- No opinion

Please explain briefly your answer

1000 character(s) maximum

The development of hydrogen powered heavy duty trucks is at a very early stage of development. Currently, two technologies are being considered: compressed and liquefied hydrogen. In order to achieve a smooth introduction, technical specifications for one or the other should be decided, taking into account the balance the infrastructure costs and range. For EV re-charging infrastructure, homemade and specific protocols are used by some ; we recommend to use open source protocols such as OCPP and OCPI, which facilitate interconnexions between actors (CPOs, eMSPs, roaming platforms).

User Information

15. In your view, should EU legislation ensure that certain information on alternative fuels infrastructure is made available to the user by digital means (e.g. through an app)?

- Yes
- No
- No opinion

16. If you replied yes to the previous question, which information should be provided?

- Location of re-charging/re-fueling points
- Operator of recharging/refueling points
- Opening hours Refueling / recharging prices
- Type of re-charging/re-fueling points (e.g. max. power of a recharging point, installed capacity of a recharging station, available connector type, e.g. CCS)
- Compatibility of re-charging/re-fueling points with the user's engine/car model
- Comparable (e.g. €/100km) refueling / recharging prices of different fuels
- Real Time Availability of recharging/refueling points
- Accessibility for persons with disabilities
- Other (please specify)

Please specify

The above information to be provided refers to re-charging only.

17. In your view, should the EU legislation ensure that certain information is made available to the user by physical means?

- Yes
- No
- No opinion

18. If you replied yes to the previous question, which physical means are you referring to?

- Road signs on highways
- Road signs on all streets
- Other (please specify)

Please specify

For EV recharge

19. In your view, how often are the prices charged at publicly accessible recharging points clearly identifiable?

- Always
- Sometimes
- Seldom
- Never
- I don't know

20. Currently many different concepts and price components exist to price electric recharging services, e.g. initial fee, time fee, kWh fee, possibly roaming fee. Should there be a harmonization of the display of recharging fees required at EU level?

- Yes
- No
- I don't know

21. In your view, where should information on the refueling/re-charging price be displayed?

- At the refueling/re-charging station
- In every app that provides information on charging infrastructure
- In every vehicle information system
- Other (please specify)

Please specify

Semi Public chargers

Currently the Directive only distinguishes between publicly accessible and non publicly accessible recharging infrastructure (private infrastructure located in apartment buildings or offices). However, some publicly accessible infrastructure is not located on public grounds along roads but on private property, e.g. chargers on supermarket parking lots, hotels or private car parks. It is being debated if such "semi public" infrastructure would need to be defined separately in a revision of the Directive. On that basis "semi public" infrastructure could be exempted from fulfilling some minimum requirements applicable to publicly accessible infrastructure.

22. On the possible exemption of recharging points from certain minimum requirements, to what extent, do you agree with the following statements?

	Strongly agree	Agree	Rather disagree	Strongly disagree	No opinion
Re-charging points that are located on private properties to which access can be restricted by the owner (such as charging points located on supermarket car parks, hotels, etc.) should be exempted from certain minimum requirements		x			
Recharging points where the recharging service is free of charge should be exempted from certain minimum requirements		x			
All publicly accessible recharging points should fulfil all minimum requirements		x			

Are there any other re-charging points that should be exempted from certain minimum requirements? Please explain.

500 character(s) maximum

23. In case you believe that some recharging points should be exempted from fulfilling some minimum requirements, which requirements should those be?

- Location and other static information
- Availability, and other dynamic information
- Information on re-charging prices
- Ad hoc payment functions
- Interoperability requirements with regards to the physical interface
- Interoperability requirements with regards to communication protocols
- Other (please specify)

Please specify

The minimum requirements exempted for private charge points, free charge points and publicly-accessible charge points must be specified depending on the use case.

Market Access (e-mobility markets)

24. In your view, are there currently problems that e-mobility service providers face when they want to offer their services on charging points that are operated by a third party?

- Yes
- No
- I don't know

If you answered yes, please explain.

500 character(s) maximum

25. In your view, should policy measures be introduced at the EU level to provide for the following as regards to market access for service providers?

- All e-mobility service providers should be allowed to offer their services at any charge-point free of charge
- All e-mobility service providers should be allowed to offer their services at any charge-point for a fee set by the legislator
- All e-mobility service providers should be allowed to offer their services at any charge-point at a non-discriminatory price set by the charge point operator
- Other measures (please specify)
- No additional regulation required at the EU level
- No opinion

Please specify

Integration of electro-mobility into the electricity system

26. In your view, which policy measures listed below are essential to ensure that the efficient integration of electro mobility into the electricity system is possible and fully aligned with the electricity market rules?

- Mandatory requirement for all publicly accessible recharging points (existing and new) to be equipped with smart metering systems
- Mandatory requirement for newly installed publicly accessible recharging points to be equipped with smart metering systems

- Mandatory requirement for newly installed publicly accessible recharging points to have smart charging functionalities, such as the ability to react to price and grid signals, respond to local renewable electricity generation and the ability to be controlled
- Mandatory requirements for charging points not accessible to the public to have smart charging functionalities
- Mandatory interoperability requirements for the communication between the electric vehicle and the recharging point to enable smart charging
- Mandatory interoperability requirements for the communication between the electric vehicle and the recharging point to enable vehicle to grid services
- Ensure that necessary battery data is available to authorized third parties for the provision of smart charging services and vehicle to grid services
- None
- Other (please specify)

Please specify

Impacts

The Inception Impact Assessment discusses possible impacts of potential measures for the review of this Directive. Those measures relate to a) expanding the scope of the directive to other transport modes, b) strengthening requirements on Member States to ensure the deployment of an adequate number of recharging and refuelling stations and c) ensuring user friendliness and interoperability. Please indicate your view on the impact of such measures aimed at accelerating the deployment of interoperable infrastructure and the uptake of alternative fuels in the following questions.

27. To what extent do you agree with the following statements on the likely economic impacts of measures outlined in the Inception Impact Assessment?

	Fully agree	Agree	Rather disagree	Completely disagree	No opinion
They will lead to growth and jobs in the production of vehicles/vessels and manufacturers of alternative fuels infrastructure					x
They will contribute to a bigger market in the EU for alternative fuels		x			
They will improve international competitiveness of European industry		x			
They will have a positive impact on research and innovation		x			
They will initially put a strain on investment budgets of citizens and transport operators due to higher purchase cost of alternatively fuelled vehicles		x			

They will reduce overall expenditures of citizens and transport operators due to low maintenance cost and over time reduced investment cost			X		
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28. To what extent do you agree to the following statements on environmental impacts of measures outlined in the Inception Impact Assessment?

	Fully agree	Agree	Rather disagree	Completely disagree	No opinion
They will lead to less emissions of CO ₂ from vehicle/vessel fleets		X			
They will lead to less emissions of air pollutants from vehicle/vessel fleets		X			
They will have positive effects on human health		X			

29. To what extent do you agree to the following statements on administrative burden and simplification?

	Fully agree	Agree	Rather disagree	Completely disagree	No opinion
Expanding the scope of the Directive will lead to an increased administrative burden			X		
Replacing the National Policy Frameworks with mandatory targets will increase administrative burden			X		
Introducing more detailed requirements on interoperability and user information will increase administrative burden			X		

30. Do you have any comment on other potential impacts (not mentioned above) of the possible policy measures?

1000 character(s) maximum

Relevance of other action at European level

31. To what extent do you agree with following statements?

	Fully agree	Agree	Rather disagree	Completely disagree	No opinion
The objectives of the revision of the Directive could be better accomplished through deployment of non-legislative tools based on guidance or recommendations by the Commission			X		

The objectives could be achieved better if policy measures discussed for the revision of the Directive were implemented through an Alternative Fuels Infrastructure Regulation that would replace the current Directive				X	
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Please explain your answer.

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Final remarks

32. Please indicate any reports or other sources of information that provide evidence to support your responses. Please provide the title, author and, if available, a hyperlink to the study/report.

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