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Global Forum for Road Traffic Safety

Group of Experts on Road Signs and Signals

Eighth Informal session

Geneva, 11 October 2022

Item 5 of the provisional agenda

Road signs for electric charging

Submitted by Belgium, Finland, and Sweden

This document contains a presentation of signs and symbols for electric charging, alternative fuels and preferential treatment and questions for discussion.

4a Finland and Sweden (Tuomas and Niclas)

4b Belgium (Karel)

F-Signs for







4. Electric or other alternative fuel vehicles

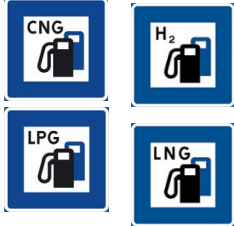






a. Filling stations/charging points




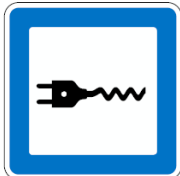
b. Preferential treatment electric vehicles









<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
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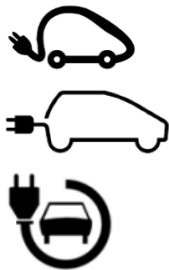





ALTERNATIVE FUEL SIGNS






F		Gas filling station	Belgium	
F		All fuels except electric charge	Denmark	All fuels except electric charge
F		Compressed nature gas	Finland	
		Hydrogen		
F		Drivstoff	Norway	
F		LPG Gas filling station	Poland	

<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
F		Gas for vehicle operation	Sweden	Signs from the Resolution on road signs and signals (R.E.2, rev.2) Used as road signage within directionsigns
F		Gas filling station	Ukraine	Gas is only expressed by the blue color of the symbol
F		Alternative fuel filling stations	USA	Also Diesel may be separately signed
F		Ethanol (E85)	?	
F		Alternative fuel filling station		Some CP:s use green alternative fuel symbol to show that the alternative fuels are more environmental friendly
F		Alternative fuel filling station. Different placing of text		Examples with text of the type of fuel. Something to consider when there are several alternative fuels at the same gasstation. Comparison according to the text on the sign can be made with the
				




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				design of the sign F14 Radio Station in the European agreement.
ELECTRIC VEHICLE CHARGING SIGNS				
F		Electric vehicle charging station	Austria	S. Egger, FSV: Proposed for the current update of traffic code (StVO). Indicates the distance, direction or position of a charging station. Not required as a position (place) sign, if sign (F) is applied.
F		Electric vehicle charging station	Austria	S. Egger, FSV: Public information symbol, Austrian standard Ö-NORM A 3011 (Austrian Standard Institute) since 2nd October 2020, and Recommended symbol in Guideline RVS 05.02.12, mandatory for use on road- and direction signs. The image content of this symbol is derived from symbols M006 of ISO Standard 7010, and 2616, 3602, 3606 of ISO Standard 7000, where the graphical figure 'plug' is used in this specific graphical rendering and meaning. Accordingly, this image content has already global distribution, respectively well known and understood. The symbol is also used as a road marking to indicate parking space with e-charging facilities.
F		All fuel and electric charging option for electric vehicle	Denmark	All fuel and electric charge
F		Electric charging option for electric vehicle	Denmark	Electric charge



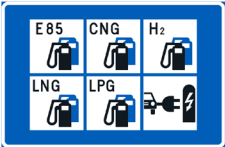


<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
F		Electric vehicle charging station	France	
				
F		Electric vehicle charging station	Italy	
F		Electric vehicle charging station	Luxembourg, Belgium	
F		Separate charging station	Slovakia	
F		Charging provided within another service	Slovakia	
F		Electric vehicle charging station	USA	
E		Direction sign for Electric vehicle charging point	USA	

<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
F		Electric vehicle charging station, alternative symbols	Many CP:s	
F		Charging station for electric vehicles	Finland	
F		Charging station The sign indicates a station for external charging with electrical energy for vehicle propulsion.	Sweden	Yes the lightning should have another colour according to the convention on road signs and signals Used as road signage within direction signs
F		Hurtiglading av motorvogn	Norway	https://lovdata.no/dokument/SF/forskrift/2005-10-07-1219?q=skilt
F	 <p><small>H13c--Posto de abastecimento de combustivel com servico a veiculos eletricos</small></p>	Electric vehicle charging station	Portugal	
F		Charging symbols for different types of vehicles	Slovakia	These symbols are probably used now only in additional panels but the same kind of symbols could be used to guide to vehicle specific charging points


<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
				
			?	
F		Charging of goods vehicles		Ideas for discussion
		Charging of busses		
		Charging of cars		



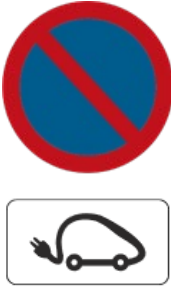
COMBINATION SIGNS FOR ALTERNATIVE FUELS AND/OR ELECTRIC VEHICLE CHARGING






F		Filling station	Finland	When there are many different alternative fuels / energy sources available, one way to sign multiple possibilities is to use the basic symbol and describe in some other way the variable available fuels.
F	 <small>H134-Posto de abastecimento de combustível com ... (tipo de combustível) e com serviço a veículos elétricos</small>	Filling station with type of fuel and service for electric vehicles	Portugal	
F		Combination signs of different alternative fuels and charging	France	



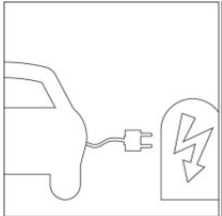
<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
				
				
F		Combination of alternative fuels and electric charging	idea for discussion	An example of how bad the readability / comprehension of the sign would be if all the possible symbols would be shown separately on one sign.
F		Multiple fuels	- (only an idea)	Also Ethanol (E85) is separately signed in some countries One possibility to combine several alternative fuels using only one symbol but several describing texts in the symbol box
F		Multiple fuels	- (one possible solution)	One good way to handle the problem of many different available fuels is to write the alternatives in the sign under the symbol or in an additional panel below it.




SIGNS ALLOWING PRERENTIAL TREATMENT OF ELECTRIC VEHICLES

C		No entry except electric vehicles	Slovakia	
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<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
C		<p>“Except during charging process”</p> <p>„Such an additional panel under the sign 'stopping and parking prohibited' indicates that the stopping and parking ban does not apply during the charging process of an externally chargeable motor vehicle with a powertrain that has at least one non-peripheral electric motor as an energy converter with an electrically chargeable energy storage system that is externally charged (electric vehicle).“</p>	Austria	
C		allows electric vehicles to park during the charging process	Switzerland	
C		Parking prohibited except electric vehicles	Luxemburg	

<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
E		Possibility to use the buslane	Slovakia	
E		Reserved parking	Slovakia	
E		Parking on charging station which is allowed only during charging is indicated by this additional panel (the words means „during charging“):	Slovakia	A distinction must be made between parking places reserved for electric vehicles in general and parking spaces reserved only for the time of the charging of the electric vehicle?
E		allows electric vehicles to park during the charging process	Switzerland	
E		“charging point” as a special case of parking. In practice the charging cable must be connected to separate this from just parking an electric vehicle. Time restrictions	Finland	

<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
		or payment may be defined by other additional panels.		
E		Reserved lane	France	If an additional panel would be introduced with the symbol of an electric vehicle this would have as a consequence that the signs of type E2 (reserved lanes) could be used with those additional panels or the symbols may be used on the sign itself.
H		“Electric vehicles” which, as described in Road Traffic Regulations, indicates that a parking place marked with the Parking sign applies to electric vehicles only and that charging is available in this place. So, as is it said in regulation, we use this additional sign related to Parking places only.	Latvia	
H		The additional sign indicates a location for external charging of electricity for vehicle propulsion. The sign is used below the sign E19, parking, and states that only vehicles with the possibility of external charging of electricity for the vehicle's	Sweden	

<i>Sign section</i>	<i>Sign image</i>	<i>Sign description</i>	<i>Countries using the sign</i>	<i>Experts observations</i>
		propulsion may park.		
H	  	<p>Low emission vehicle</p> <p>This sign combination allows all the vehicles that meet the requirement of CO2 emission below 80 g/km (WLTP) to drive in the bus lane. If the value of the requirement is zero, then this in practice means only full electric vehicles.</p>	Finland	<p>This applies to any vehicle that meets the requirement described in the sign and the emission requirement is defined as carbon dioxide emissions (g/km).</p> <ul style="list-style-type: none"> - This additional panel may be combined with a prohibitory or restrictive sign (C-sign in the Convention) or a special regulation sign (E-sign in the Convention). In Finland the color of this sign is yellow in combination with a C-sign and blue in combination with a E-sign. - In combination with a C-sign there may be added the text "Ei koske" (= Except) in the sign. - The blue version may be combined with e.g. the Parking Sign but also with the Bus lane –sign that in Finland is always above the Bus lane.

What to decide upon:

Which symbol to indicate an electric vehicle, as well as an exception = H-sign (additional panel);

Foresee that this symbol can be used on certain sign and foresee that these signs can be completed with the corresponding additional panel.

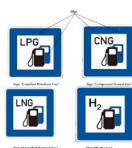
Is a distinction needed to be able to distinct a parking place reserved for electric vehicles in general and a parking place reserved for electric vehicles while charging?

Is preferential treatment of electric vehicles (for example on bus lanes) necessary?

Idea to discuss

Road sign to indicate fuelling stations selling alternative fuels

A filling station that provides alternative fuels other the gasoline and diesel (or what is the most common fuel in the country) are shown with the symbol of alternative fuels. One black fuel pump and one blue fuel pump As shown in the resolution



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If only one alternative is available English acronyms CNG, LPG, H2, LNG or the corresponding acronym or name in use in the language of the country in question in white lettering can be inserted in the white surface to indicate the different types of fuel available in the fuelling station. The acronyms can also be inserted below the symbol in the blue part of the sign or in an additional panel.

If one of the alternative fuels are electricity, it should be shown on an additional panel with the symbol of a plug (the electric connector?)

If electric charging is the only available option the symbol of a plug can be used inside the white surface



If there are several alternative fuels available at the same filling station the English acronyms CNG, LPG, H2, LNG or the corresponding acronym or name in use in the language of

the country in question in white lettering can be inserted below the white surface to indicate the different types of fuel available in the fuelling station. The acronyms may also be inserted in an additional panel.

If one of the alternative fuels is electricity, it should be shown on an additional panel with the symbol of a plug (the electric connector?)



SIGNS ALLOWING PRERENTIAL TREATMENT OF ELECTRIC VEHICLES

To guide to or to reserve a parking place or similar place equipped with a charging station for charging electric vehicles a new additional panel should be used showing the symbol of a plug (electric connector).

