Comments from China on the notification G/TBT/N/ EU /1133

Comments:

1 .Original article number: Annex 1 Figure I.2.3

1) Original text:

Figure I.2.3

Application of test and/or declaration requirements for type-approval and extensions

Vehicle category	Vehicles with positive ignition engines including hybrids								Vehicles with compression ignition engines including hybrids		Pure electric vehicles	Hydrogen fuel cell vehicles
	Mono fuel				Bi-fuel (3)			Flex-fuel (3)	Mono fuel			
Reference fuel	Petrol	LPG	NG/ Biome-thane	Hydro-gen (ICE)	Petrol / LPG	Petrol / NG/Biome-thane	Petrol / Hydrogen (ICE) (4)	Petrol / Ethanol (E85)	Diesel	Petrol	—	Hydrogen (Fuel Cell)
Type 1 test (7)	Yes	Yes (5)	Yes (5)	Yes (4)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes	Yes	—	—
ATCT test (1) (at 14 °C)	Yes	Yes	Yes	Yes (4)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes	Yes	—	—
RDE test, gaseous pollutants	Yes	Yes	Yes	Yes (4)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes	Yes	—	—
RDE test, PN	Yes	—	—	—	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (both fuels)	Yes	Yes	—	—
Vehicle category	Vehicles with positive ignition engines including hybrids								Vehicles with compression ignition engines including hybrids		Pure electric vehicles	Hydrogen fuel cell vehicles
	Mono fuel				Bi-fuel (3)			Flex-fuel (3)	Mono fuel			

Crankcase emissions (1) (Type 3 test)	Yes	Yes	Yes	—	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	—	—	—	—
Evaporative emissions (Type 4 test)	Yes	—	—	—	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	—	Yes	—	—
Durability (1) (Type 5 test)	Yes	Yes	Yes	Yes	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes	Yes	—	—
Low temperature emissions (Type 6 test)	Yes	—	—	—	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (both fuels)	—	—	—	—
In-service conformity	Yes	Yes	Yes	Yes	Yes (as at type-approval)	Yes (as at type-approval)	Yes (as at type-approval)	Yes (as at type-approval)	Yes	Yes	—	—
OBD (1)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	—	—
Engine power	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CO_2 emissions, fuel consumption, electric energy consumption and electric range	Yes	Yes	Yes	Yes (2)	Yes (both fuels)	Yes (both fuels)	Yes (petrol), Yes (2) (hydrogen)	Yes (both fuels)	Yes	Yes	Yes	Yes (8)
Vehicle category	Vehicles with positive ignition engines including hybrids (1) (7)								Vehicles with compression ignition engines including hybrids		Pure electric vehicles	Hydrogen fuel cell vehicles

	Mono fuel				Bi-fuel (3)			Flex-fuel (3)	Mono fuel			
OBFCM	Yes	—	—	—	—	—	—	Yes (both fuels)	Yes	Yes	—	—

(1) Declaration of compliance by the vehicle manufacturer at type-approval.
(2) Only fuel consumption shall be determined when the vehicle is running on hydrogen.
(3) When a bi-fuel vehicle is combined with a flex fuel vehicle, both test requirements are applicable.
(4) Only NO_x emissions shall be determined when the vehicle is running on hydrogen.
(5) Particulate mass and particle number limits and respective measurement procedures shall not apply.
(6) CO_2 emissions do not need to be measured.
(7) For applicability of measured components to fuels and vehicle technology and therefore measurement procedures, see the emission limits as defined in Table 1 of Annex I to Regulation (EU) 2024/1257.

2) Problem analysis:

1. For hydrogen fuel internal combustion engines

Per footnote (2) "Only fuel consumption shall be determined when the vehicle is running on hydrogen" in Figure I.2.3, does it mean that a Hydrogen fuel internal combustion engine (Hydrogen(ICE)) can be exempted from testing CO_2 emissions? We understand as follows:

(1) A hydrogen fuel internal combustion engine or a hybrid system formed by a hydrogen fuel internal combustion engine and a lithium battery can only consume hydrogen, and its carbon emissions can only come from the carbon dioxide mixed inside the hydrogen;

(2) Hydrogen has been clearly defined in the EU Renewable Energy Directive (RED III) for green hydrogen and grey hydrogen, and different entry thresholds and corresponding policies such as carbon taxes have been imposed, that is, strict control has been imposed on the carbon content of hydrogen;

(3) As a hydrogen-consuming vehicle, it is difficult to remeasure carbon dioxide and determine whether it comes from air or hydrogen fuel. The amount of carbon dioxide in the air is in a dynamic process, and it can vary with location and time, such as 400ppm in places with poor traffic and good greenery; In traffic-intensive areas, carbon dioxide is 500ppm; At the same time, the carbon dioxide concentration in the morning is lower than that in the evening, and if a trace amount of engine oil combustion is taken into account, the measurement results will be contaminated by changes in environmental carbon dioxide concentration.

2. Regarding the hybrid system including hydrogen fuel internal combustion engine + battery

This system helps reduce carbon emissions while reducing hydrogen fuel consumption, but is not covered in this draft regulation;

3. Regarding the hybrid system including hydrogen fuel cell + battery

This system helps reduce carbon emissions while reducing hydrogen fuel consumption, but it is

not covered in this draft regulation.

4. For the "pure electric vehicles" column, CO_2 emission tests cannot be conducted at present, so CO2 emission tests should be exempted.

3) Suggestions:

1. It is hoped that the EU will clarify whether hydrogen fuel internal combustion engine vehicles need to undergo CO_2 emission testing or grant an exemption for CO_2 testing for hydrogen fuel internal combustion engine vehicles.

2. Increase hydrogen-powered vehicle models: Increase the options of hydrogen fuel internal combustion engine + battery hybrid vehicle and hydrogen fuel cell + battery hybrid vehicle, and exempt the CO_2 test.

3. For the "pure electric vehicles" column and the "CO_2 emission, fuel consumption, electric energy consumption and electric range" row, it is recommended to label [6]- "CO_2 emissions do not need to be measured" for exemption from CO_2 emissions testing.