Japan position on the Low Temperature test procedure

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Scope

- ICE, NOVC-HEV, OVC-HEV and EV

Testing Temperature

- −7℃ to 38℃

(Justification)

- Considering environmental situation in Japan, the testing temperature should be set between −2℃ to 38℃.
- On the other hand, we understand that some CPs need the lower testing temperature because their average temperature is lower than Japan.
- For the harmonized testing procedure, it is preferred to cover the CP ‘s environmental situation as much as possible, and it is better to set the testing temperature from −7℃ to 38℃.
- Therefore, if each CP can agree the concept above and 38℃ for the high testing temperature, which Japan needs, then Japan can support −7℃ for the low testing temperature.

Testing Cycle

- L+M+H

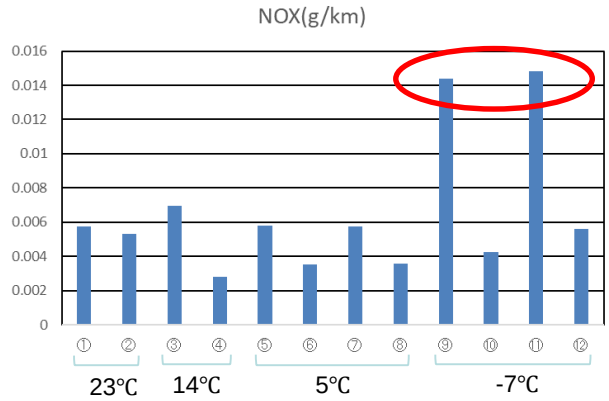
The value to be measured

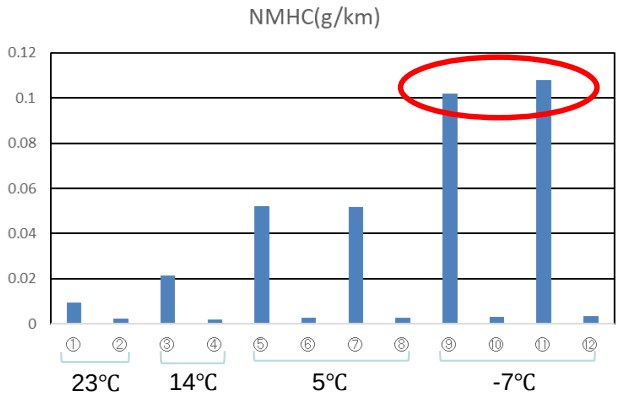
- CO, THC, NOx, PM, Fuel Consumption, Electric Energy Consumption and Range

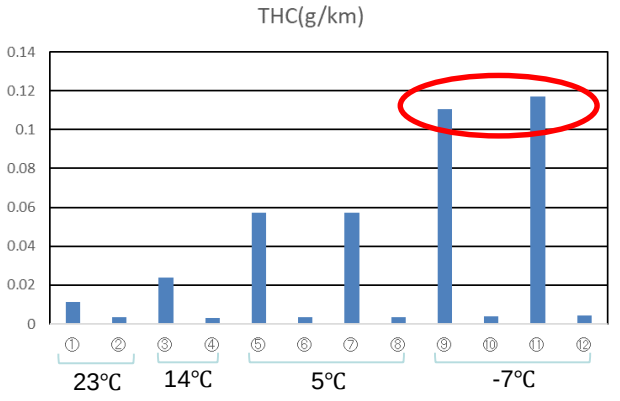
Purpose

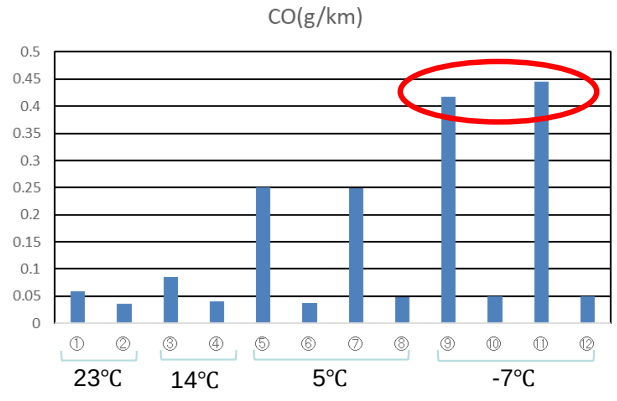
- To regulate the emission at Low Temperature and to use for Customer Information

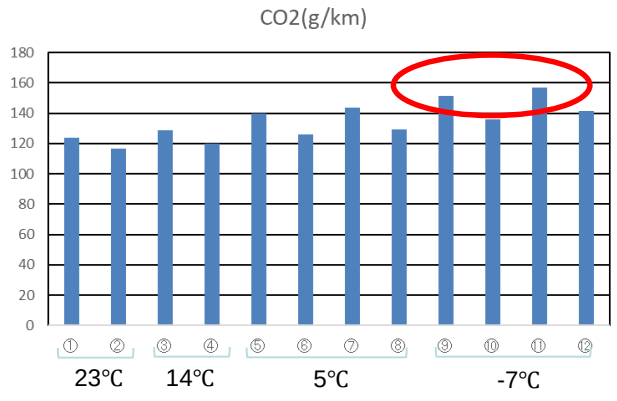
(ref.)Emission results at Low Temperature -4 Phase

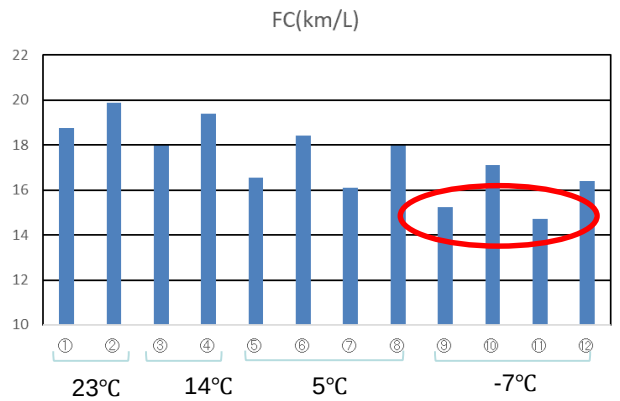










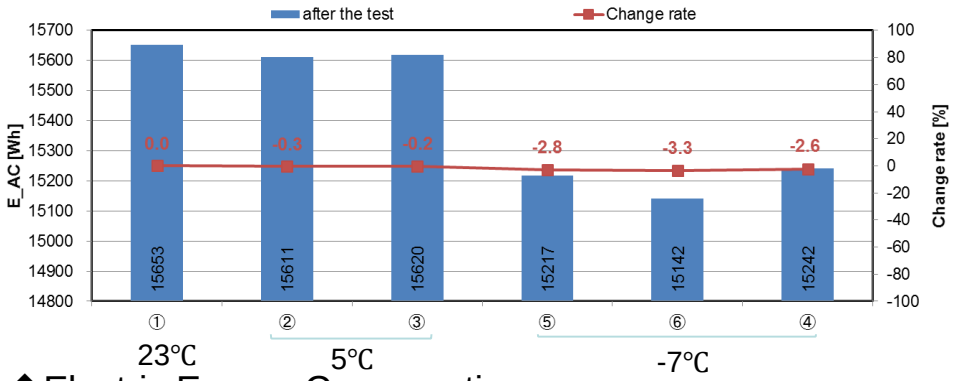


At low temperature, the emission results are almost 10 times (at maximum) higher compared to results at 23℃.

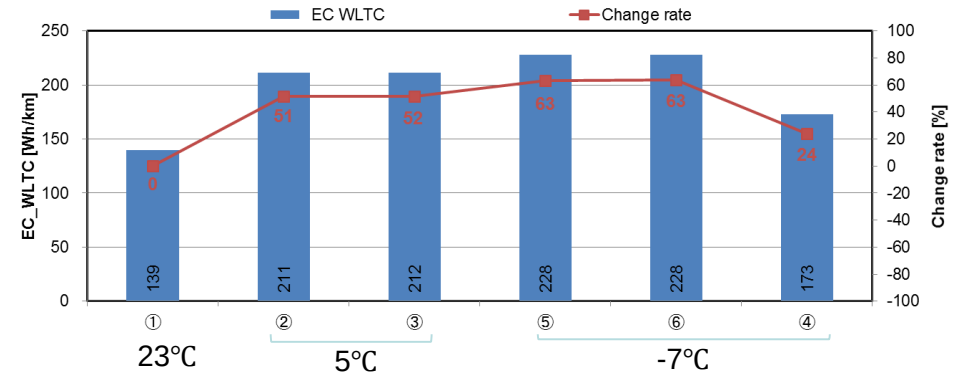
①23℃-A/C OFF-Cold	⑦5℃-A/C ON-Cold
②23℃-A/C OFF-Hot	⑧5℃-A/C ON-Hot
③14℃-A/C OFF-Cold	⑨**-7℃-A/C OFF-Cold**
④14℃-A/C OFF-Hot	⑩-7℃-A/C OFF-Hot
⑤5℃-A/C OFF-Cold	⑪**-7℃-A/C ON-Cold**
⑥5℃-A/C OFF-Hot	⑫-7℃-A/C ON-Hot

(ref.)Results of PEVs at Low Temperature

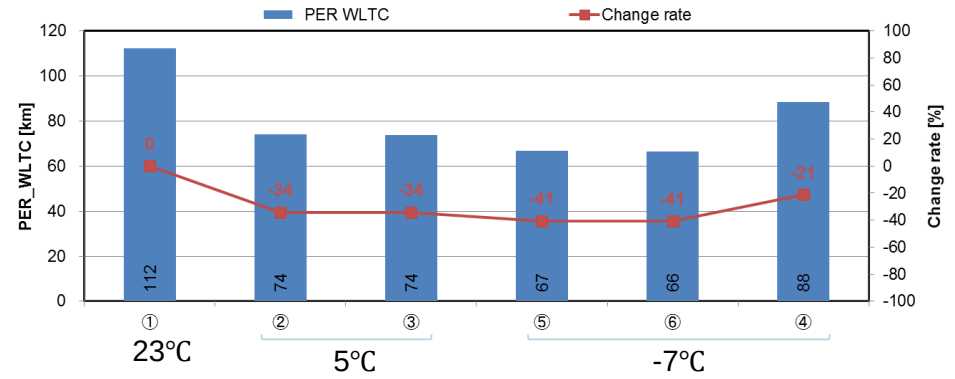
◆E_AC



◆Electric Energy Consumption



◆Range



The vehicle performance gets worse, compared to 23℃ testing.
e.g.) Range decreases to 60% of 23℃ result

①23℃-A/C OFF-without soaking
②5℃-A/C ON-without soaking
③5℃-A/C ON-with soaking
⑤-7℃-A/C ON-without soaking
⑥-7℃-A/C ON-with soaking
④-7℃-A/C OFF-with soaking