

Restricted

Informal document **GRB-54-14**
(54th GRB, 19-21 September 2011,
agenda item 3(b))

Proposal for subcategories of CVs (N2, N3, M2, M3)

JASIC

Subcategories for ECE R51

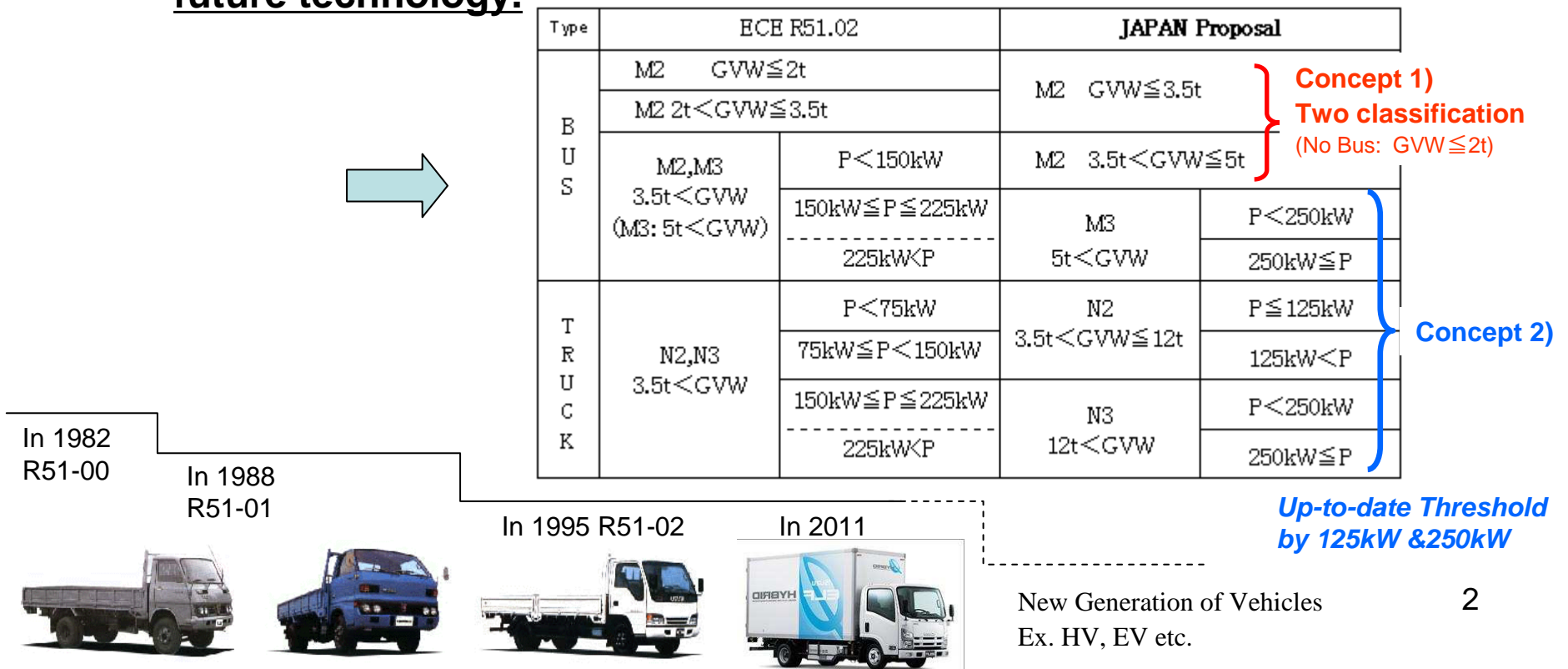
<Background>

30 years have passed since ECE R51-00 was established, and the test method has been modified. **It is time to consider the new subcategories for the new test method.**

<Concept of our proposal>

- 1) Main classification is based on weight as same as current classification.
- 2) Noted the change of power (KW) according to the changes of the times.

Japan proposes the simple and globally applicable classification based on the current technology and reflecting the applicable future technology.








JAPAN Proposal for subcategories of CVs (N2, N3, M2, M3)

Type	ECE R51.02		TNO Proposal		ACEA Proposal		JAPAN Proposal		
B U S	M2	GVW ≤ 2t	M2	GVW ≤ 2t	M2	GVW ≤ 2.5t	M2 GVW ≤ 3.5t		
	M2	2t < GVW ≤ 3.5t	M2	2t < GVW ≤ 3.5t	M2	2.5t < GVW ≤ 3.5t			
	M2, M3 3.5t < GVW (M3: 5t < GVW)	P < 150kW	M2 3.5t < GVW ≤ 5t	P < 150kW	M2 3.5t < GVW ≤ 5t	> 3000rpm	M2 3.5t < GVW ≤ 5t		
				150kW ≤ P		≤ 3000rpm			
		150kW ≤ P ≤ 225kW	M3 5t < GVW	P < 150kW	M3 5t < GVW	P < 180kW	M3 5t < GVW	P < 250kW	
				150kW ≤ P		180kW ≤ P < 250kW			
225kW < P				250kW ≤ P		250kW ≤ P			
T R U C K	N2, N3 3.5t < GVW	P < 75kW	N2 3.5t < GVW ≤ 12t	P < 75kW	N2 3.5t < GVW ≤ 12t	> 3000rpm	N2 3.5t < GVW ≤ 12t	P ≤ 125kW	
				75kW ≤ P < 150kW		75kW ≤ P < 150kW		≤ 3000rpm	125kW < P
				150kW ≤ P		150kW ≤ P			
	150kW ≤ P ≤ 225kW	N3 12t < GVW	75kW ≤ P < 150kW	N3 12t < GVW	P < 180kW	N3 12t < GVW	P < 250kW		
			150kW ≤ P		180kW ≤ P < 250kW		250kW ≤ P		
			225kW < P		250kW ≤ P		> 2 axles	250kW ≤ P	

In this proposal, Japan revises the current subcategories in R51.02 reflecting the current technology as well as considering subcategories proposed by TNO report and ACEA.

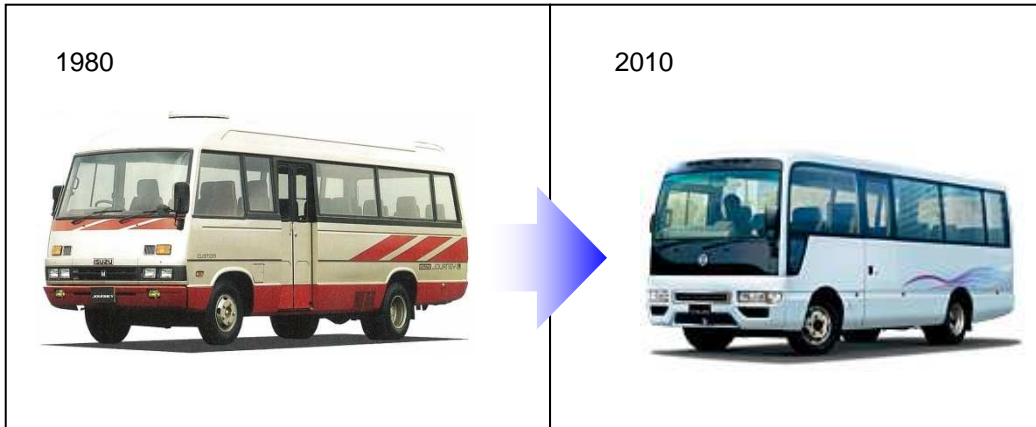
The outside view of each category concerning M

<p>M2 GVW≤3.5t</p>	<p>Mainly passengers of 15</p> 
<p>M2 3.5t<GVW≤5t</p>	<p>Mainly passengers of 27</p> 
<p>M3 5t<GVW</p>	<p>Driving urban area</p> <p>P<250kW</p>  
<p>250kW≤P</p>	<p>Mainly driving on motorway and/or in sightseeing areas</p>  

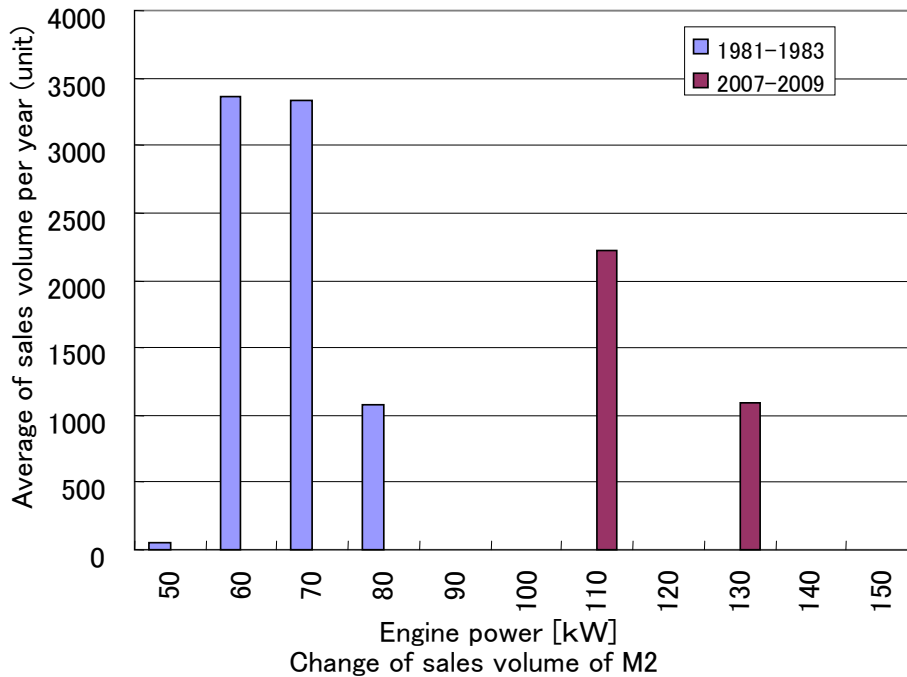
The outside view of each category concerning N

<p>N2 3.5t< GVW≤12t</p>	<p>$P \leq 125 \text{kW}$</p>	<p>For urban driving</p> 
	<p>$125 \text{kW} < P$</p>	<p>Not for urban driving</p> 
<p>N3 12t<GVW</p>	<p>$P < 250 \text{kW}$</p>	<p>For bulky load</p> 
	<p>$250 \text{kW} \leq P$</p>	<p>For heavy load ,tractor etc</p> 

1. Proposal for subcategory for M2 GVW ≤5t (passengers of 10 or more)



Mainly passengers of 27



Current Subcategory

ECE R51.02		JAPAN Regulation
GVW ≤ 2t		No threshold
2t < GVW ≤ 3.5t		
3.5t < GVW ≤ 5t	P < 150kW	P ≤ 150kW
	150kW ≤ P	150kW < P

- There is no vehicles over 150kW in these 30 years.

- Different test method is applied to the vehicles below 3.5t. (same test method as M1)

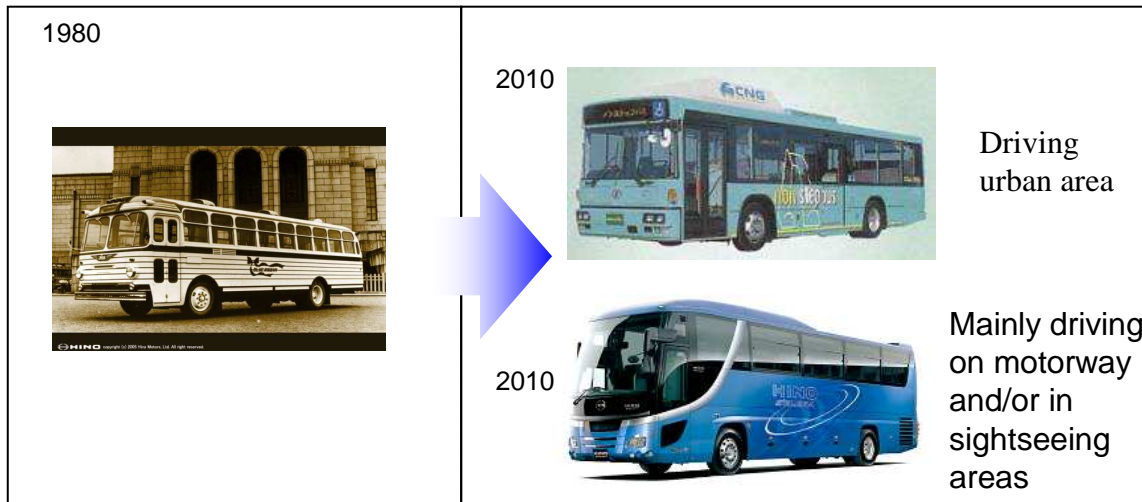
- There is no vehicle below 2t now.



JAPAN Proposal

ECE R51.02		JAPAN Proposal
GVW ≤ 2t		GVW ≤ 3.5t
2t < GVW ≤ 3.5t		
3.5t < GVW ≤ 5t	P < 150kW	3.5t < GVW ≤ 5t
	150kW ≤ P	

2. Proposal for subcategory for M3 5t < GVW

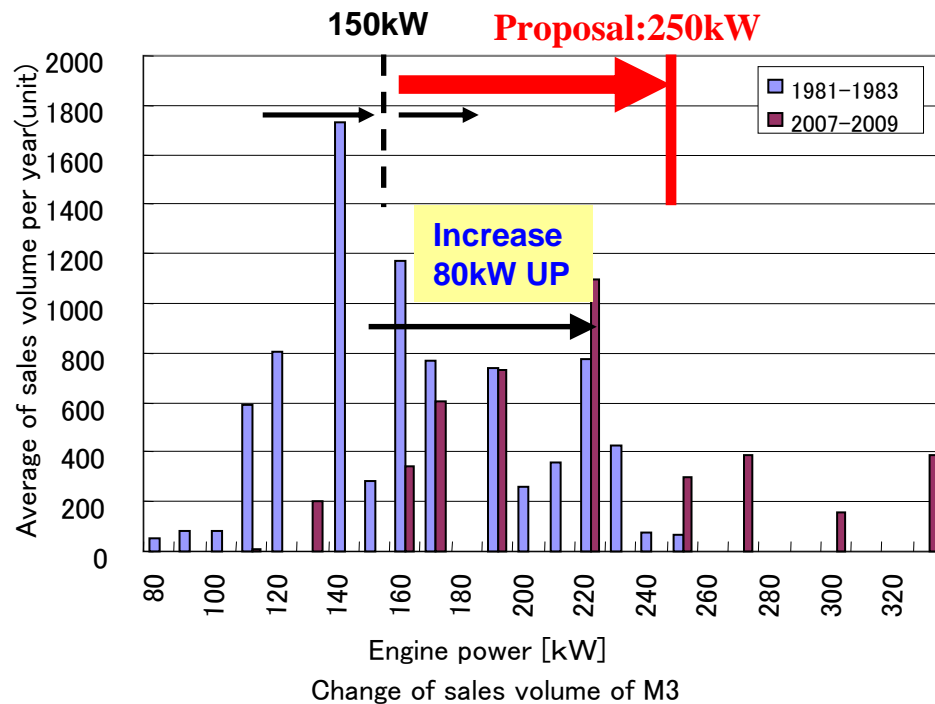


Current Subcategory

ECE R51.02	JAPAN Regulation
P < 150kW	P ≤ 150kW
150kW ≤ P	150kW < P

-Considering the alignment with the engines for trucks, the threshold could be changed to 250kW.

-Most of vehicles over 250kW are intercity and sightseeing buses.



JAPAN Proposal

ECE R51.02	JAPAN Proposal
P < 150kW	
150kW ≤ P	P < 250kW
	250kW ≤ P

M3 Driving urban area Bus pictures



瀬谷市 神奈川中央
(177kW)



荻窪市 関東バス
(177kW)

M3 Bus with over 180kW engine drives urban areas in Japan. These M3 Buses should be the same subcategory as M3 Buses with up to 180 kW engine.

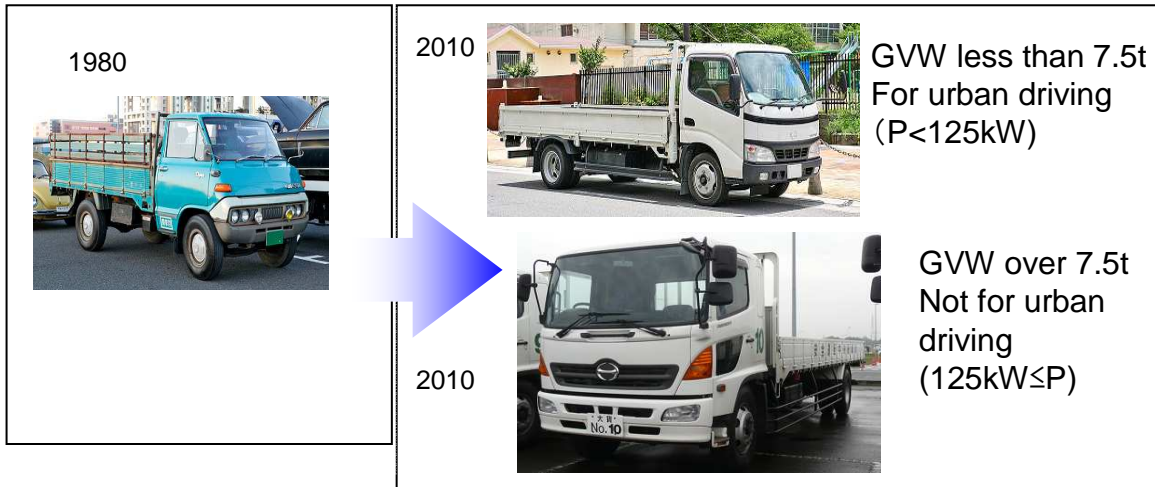


[長江通りにて離合\(おのみちバス・中国バス\)](http://ja.wikipedia.org/wiki/狭路線)
出展: <http://ja.wikipedia.org/wiki/狭路線> Onomichi bus and Chugoku Bus.JPG
(191kW)

江戸川区 都営バス
(191kW)



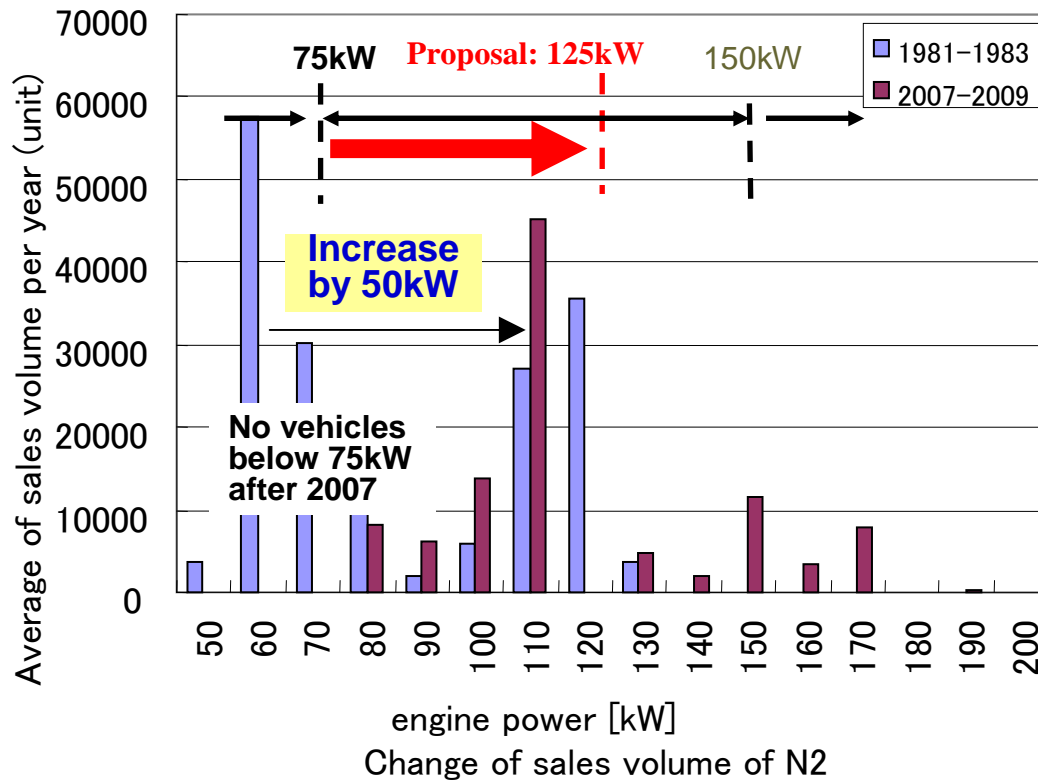
3. Proposal for subcategory for N2 (3.5t < GVW ≤ 12t)



Current Subcategory

ECE R51.02	JAPAN Regulation
P<75kW	P≤150kW
75kW≤P<150kW	
150kW≤P	150kW<P

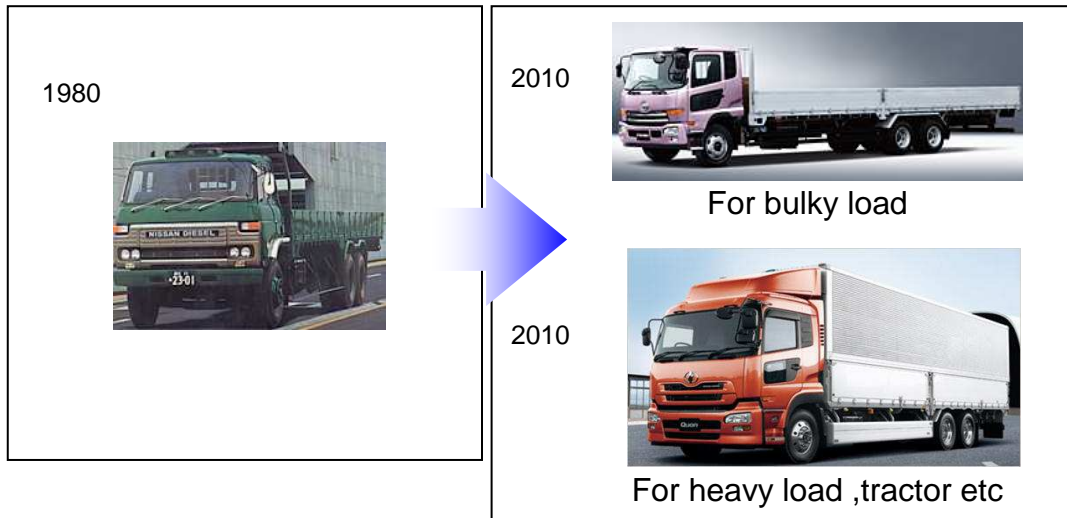
-There is no vehicle below 75kW
-The current threshold 75kW
could be shifted to 125kW



JAPAN Proposal

ECE R51.02	JAPAN Proposal
P<75kW	P<125kW
75kW≤P<150kW	
150kW≤P	125kW≤P

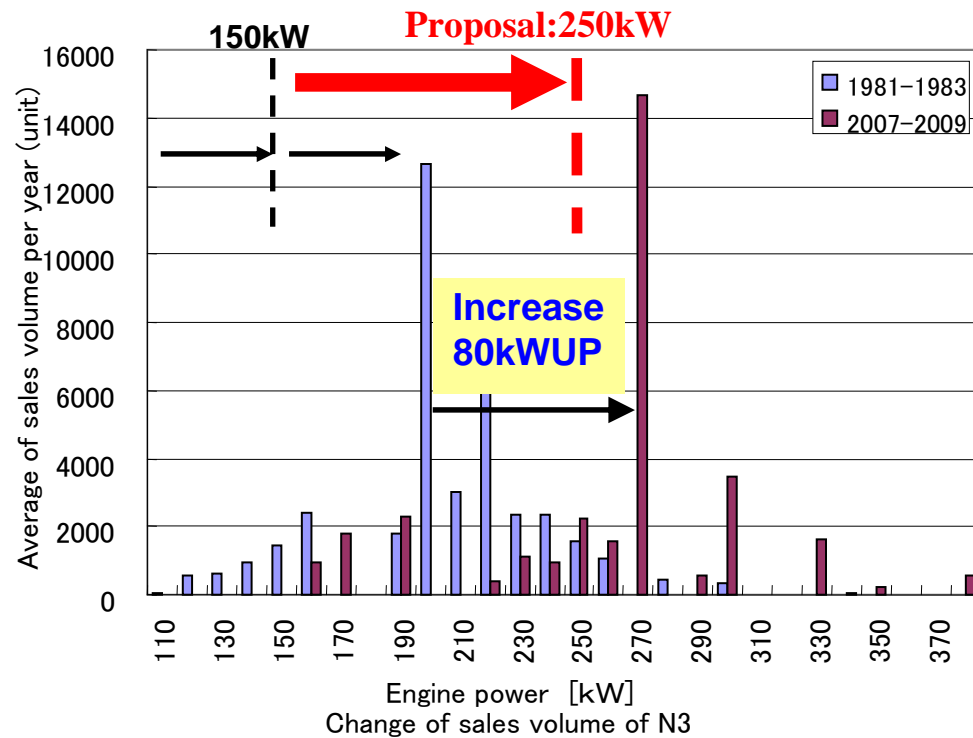
4. Proposal for subcategory for N3 (12t<GVW)



Current Subcategory

ECE R51.02	JAPAN Regulation
P<75kW	P≤150kW
75kW≤P<150kW	
150kW≤P	150kW<P

-There is no vehicle below 75kW
 -The current threshold 150kW could be shifted to 250 kW



JAPAN Proposal

ECE R51.02	JAPAN Proposal
P<75kW	
75kW≤P<150kW	
150kW≤P	P<250kW
	250kW≤P

Japan proposes the simple and globally applicable classification for the time being.

Type	ECE R51.02		JAPAN Proposal		
B U S	M2 GVW ≤ 2t		M2 GVW ≤ 3.5t		
	M2 2t < GVW ≤ 3.5t				
	M2, M3 3.5t < GVW (M3: 5t < GVW)	P < 150kW	M2 3.5t < GVW ≤ 5t	M3 5t < GVW	P < 250kW
		150kW ≤ P ≤ 225kW			250kW ≤ P
T R U C K	N2, N3 3.5t < GVW	P < 75kW	N2 3.5t < GVW ≤ 12t	P ≤ 125kW	
		75kW ≤ P < 150kW		125kW < P	
		150kW ≤ P ≤ 225kW	N3 12t < GVW	P < 250kW	
		225kW < P		250kW ≤ P	

Thank you

