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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

<u>future technology</u>.

-	Туре	ECE	R51.02	JAPAN	Propos	al]
	В	M2 GVW≦ M2 2t <gvw≦< td=""><td></td><td>M2 GVW≦3.5</td><td colspan="2"></td><td>t 1) ssification</td></gvw≦<>		M2 GVW≦3.5			t 1) ssification
	U S	M2,M3	P<150kW	M2 3.5t <gvw< td=""><td>/≦5t</td><td colspan="2">5t ∫ (No Bus: GVW≦2t)</td></gvw<>	/≦5t	5t ∫ (No Bus: GVW≦2t)	
	٥	3.5t < GVW (M3: 5t < GVW)	150kW≦P≦225kW	M3	P-	<250kW	
			225kW <p< td=""><td>5t<gvw< td=""><td>25</td><td>50kW≦P</td><td></td></gvw<></td></p<>	5t <gvw< td=""><td>25</td><td>50kW≦P</td><td></td></gvw<>	25	50kW≦P	
	Т	N2,N3	P<75kW	N2	P	≦125kW	Concept 2)
	R		·	12	25kW <p< td=""><td>Concept 2)</td></p<>	Concept 2)	
	C	3.5t <gvw< td=""><td>3.5t<gvw 150kw≦p≦225kw="" n3<="" td=""><td>N3</td><td colspan="2">P<250kW</td><td></td></gvw></td></gvw<>	3.5t <gvw 150kw≦p≦225kw="" n3<="" td=""><td>N3</td><td colspan="2">P<250kW</td><td></td></gvw>	N3	P<250kW		
	K		225kW <p< td=""><td>12t<gvw< td=""><td>25</td><td>50kW≦P</td><td></td></gvw<></td></p<>	12t <gvw< td=""><td>25</td><td>50kW≦P</td><td></td></gvw<>	25	50kW≦P	
_	1995 R51-02 In 2011 Up-to-date Threshold						

In 1982 R51-00 In 1988 R51-01

In 1995 R51-02

In 2011

Up-to-date Threshold by 125kW &250kW









New Generation of Vehicles Ex. HV, EV etc.

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

Туре		ECE R51.02	TI	TNO Proposal ACE		CEA Proposal	JAPA	N Proposal	
	M2	GVW≦2t	M2	GVW≦2t	M2	GVW≦2.5t	M2 GVW≦3.5t		
	M2	2t <gvw≦3.5t< td=""><td>M2 :</td><td>2t<gvw≦3.5t< td=""><td>M2 2</td><td colspan="2">M2 2.5t<gvw≦3.5t< td=""><td colspan="2"> </td></gvw≦3.5t<></td></gvw≦3.5t<></td></gvw≦3.5t<>	M2 :	2t <gvw≦3.5t< td=""><td>M2 2</td><td colspan="2">M2 2.5t<gvw≦3.5t< td=""><td colspan="2"> </td></gvw≦3.5t<></td></gvw≦3.5t<>	M2 2	M2 2.5t <gvw≦3.5t< td=""><td colspan="2"> </td></gvw≦3.5t<>			
B U	M2,M3 3.5t< G∨W	· 1 D/1501407	M2 P<150kW 3.5t<	M2 3.5t<	>3000rpm				
S			GVW≦5t	150kW≦P	3.5t GVW≦5t	≦3000rpm	M2 3.5t <gvw≦5t< td=""><td>ot < Gv w ≥ ot</td></gvw≦5t<>	ot < Gv w ≥ ot	
	(M3: 5t<	150kW≦P≦225kW	МЗ	P<150kW	мз	P<180kW	мз	P<250kW	
	GVW)	IJUKVV = P = 22JKVV	5t <gvw< td=""><td>150kW≦P</td><td>5t<g\ td="" vv<=""><td>180kW≦P<250kW</td><td>5t<gvw< td=""></gvw<></td></g\></td></gvw<>	150kW≦P	5t <g\ td="" vv<=""><td>180kW≦P<250kW</td><td>5t<gvw< td=""></gvw<></td></g\>	180kW≦P<250kW	5t <gvw< td=""></gvw<>		
		225KW <p< td=""><td></td><td></td><td></td><td>250kW≦P</td><td></td><td>250kW≦P</td></p<>				250kW≦P		250kW≦P	
	N2,N3	P<75kW	NO	P<75kW	N2	- 2000	N2	P≦125kW	
Т		N2,N3	75kW≦P<150kW	3.5t<		3.5t< P≦125KV	P≧ IZUKW		
l R U	3.5t<	75kW≦P<150kW	GVW≦12t	/3KW≧P\130KW	GVW≦12t	< 9000	GVW≦12t	125kW <p< td=""></p<>	
Ċ	GVW			150kW≦P		≦3000rpm		123800 \ F	
K				75kW≦P<150kW		P<180kW		P<250kW	
		150kW≦P≦225kW N3	_	N3	180kW≦P<250kW N3	1 \200K**			
			12t <gvw td="" <=""><td>150kW≦P</td><td> 12t<g√w< td=""><td>250KW≦P</td><td>12t<gvw 250kw≤f<="" td="" =""><td>250kW≦P</td></gvw></td></g√w<></td></gvw>	150kW≦P	12t <g√w< td=""><td>250KW≦P</td><td>12t<gvw 250kw≤f<="" td="" =""><td>250kW≦P</td></gvw></td></g√w<>	250KW≦P	12t <gvw 250kw≤f<="" td="" =""><td>250kW≦P</td></gvw>	250kW≦P	
		225KVV <p< td=""><td></td><td></td><td></td><td>> 2 axles</td><td></td><td>2001(17)=1</td></p<>				> 2 axles		2001(17)=1	

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.

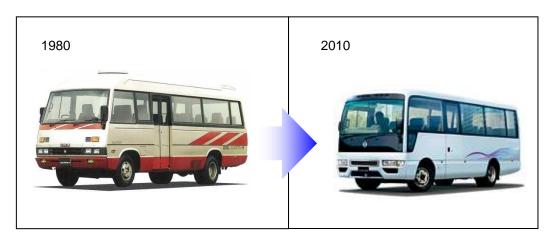
The outside view of each category concerning M

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

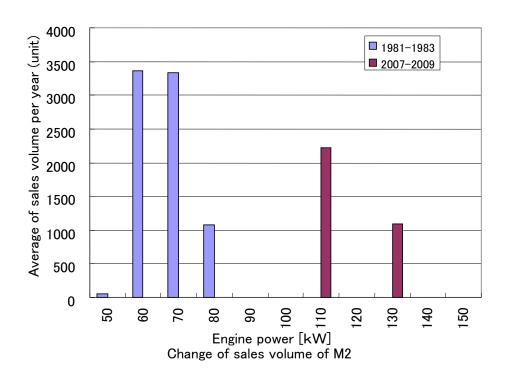
The outside view of each category concerning N

N2 3.5t< GVW≤12t	P≤125kW	For urban driving
	125kW <p< td=""><td>Not for urban driving</td></p<>	Not for urban driving
N3 12t <gvw< td=""><td>P<250kW</td><td>For bulky load</td></gvw<>	P<250kW	For bulky load
	250kW≤P	For heavy load ,tractor etc

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



Mainly passengers of 27



Current Subcategory

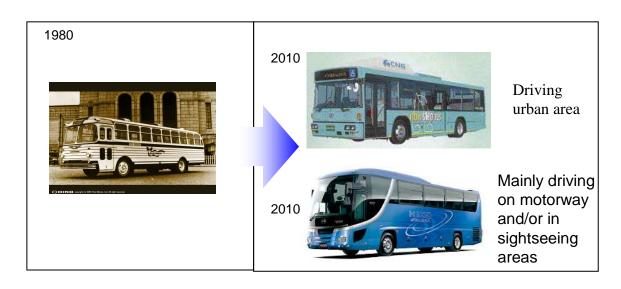
_				
	ECE R51.02		JAPAN Regulation	
	GVV	V≤2t		
	2t <gvw≤3.5t< td=""><td>No threshold</td></gvw≤3.5t<>		No threshold	
	3.5t <gvw< td=""><td>P<150kW</td><td>P≤150kW</td></gvw<>	P<150kW	P≤150kW	
	≤5t	150kW≤P	150kW <p< td=""></p<>	

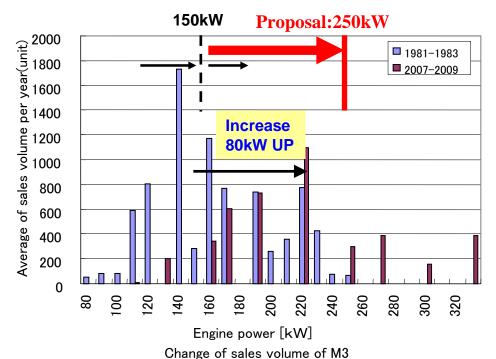
- -There is no vehicles over 150kW in these 30 years.
- -Different test method is applied to the vehicles below 3.5t. (same test method as M1)
- There is no vehicle below 2t now.



ECE R	JAPAN Proposal	
GVW		
2t <gvv< td=""><td>GVW≤3.5t</td></gvv<>	GVW≤3.5t	
3.5t <gvw< td=""><td>P<150kW</td><td>3.5t<gvw≤5t< td=""></gvw≤5t<></td></gvw<>	P<150kW	3.5t <gvw≤5t< td=""></gvw≤5t<>
≤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< td=""></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.

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.



<u>長江通り</u>にて離合(<u>おのみちバス</u>・<u>中</u> 国バス)

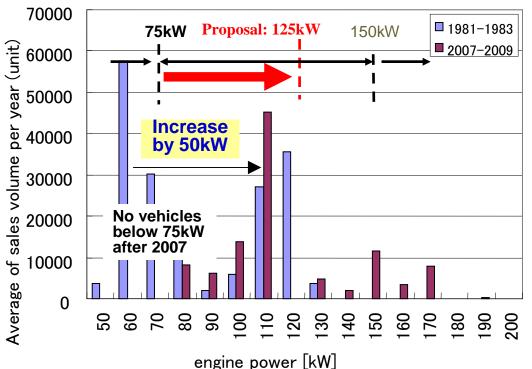
出展: http://ja.wikipedia.org/wiki/狭 隘路線 Onomichi bus and Chugoku Bus.JPG (191kW)

> 江戸川区 都営バス (191kW)



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





Change of sales volume of N2

Current Subcategory

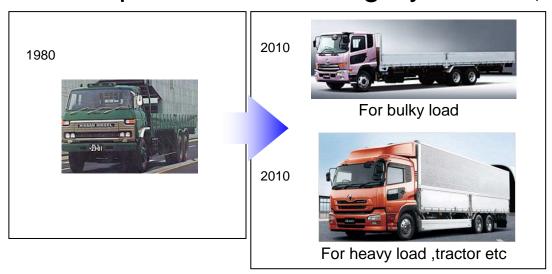
ECE R51.02	JAPAN Regulation
P<75kW	P≤150kW
75kW≤P<150kW	1 2100KW
150kW≤P	150kW <p< td=""></p<>

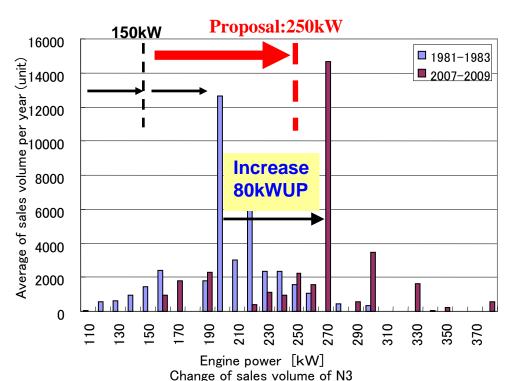
-There is no vehicle below 75kW
-The current threshold 75kW
could be shifted to 125kW



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

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





Current Subcategory

ECE R51.02	JAPAN Regulation
P<75kW	
75kW≤P<150kW	P≤150kW
150kW≤P	150kW <p< td=""></p<>

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



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.

Туре	ECE R51.02		JAPAN Proposal	
B U S	M2 GVW≦2t		M2 GVW≦3.5t	
	M2 2t <gvw≦3.5t< td=""></gvw≦3.5t<>			
	M2,M3 3.5t <gvw (M3: 5t<gvw)< td=""><td>P<150kW</td><td colspan="2">M2 3.5t<gvw≦5t< td=""></gvw≦5t<></td></gvw)<></gvw 	P<150kW	M2 3.5t <gvw≦5t< td=""></gvw≦5t<>	
		150kW≦P≦225kW	M3 5t <gvw< td=""><td>P<250kW</td></gvw<>	P<250kW
		225kW <p< td=""><td>250kW≦P</td></p<>		250kW≦P
T R U C K	N2,N3 3.5t <gvw< td=""><td>P<75kW</td><td rowspan="2">N2 3.5t<gvw≦12t< td=""><td>P≦125kW</td></gvw≦12t<></td></gvw<>	P<75kW	N2 3.5t <gvw≦12t< td=""><td>P≦125kW</td></gvw≦12t<>	P≦125kW
		75kW≦P<150kW		125kW <p< td=""></p<>
		150kW≦P≦225kW	N3 12t≪GVW	P<250kW
		225kW <p< td=""><td>250kW≦P</td></p<>		250kW≦P

Thank you

