

Transmitted by the expert from Japan

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40th GRSP 12th- 15th December 2006

Agenda Item D.1.

Regulations of Crash Safety about HEV and EV

MLIT, Japan

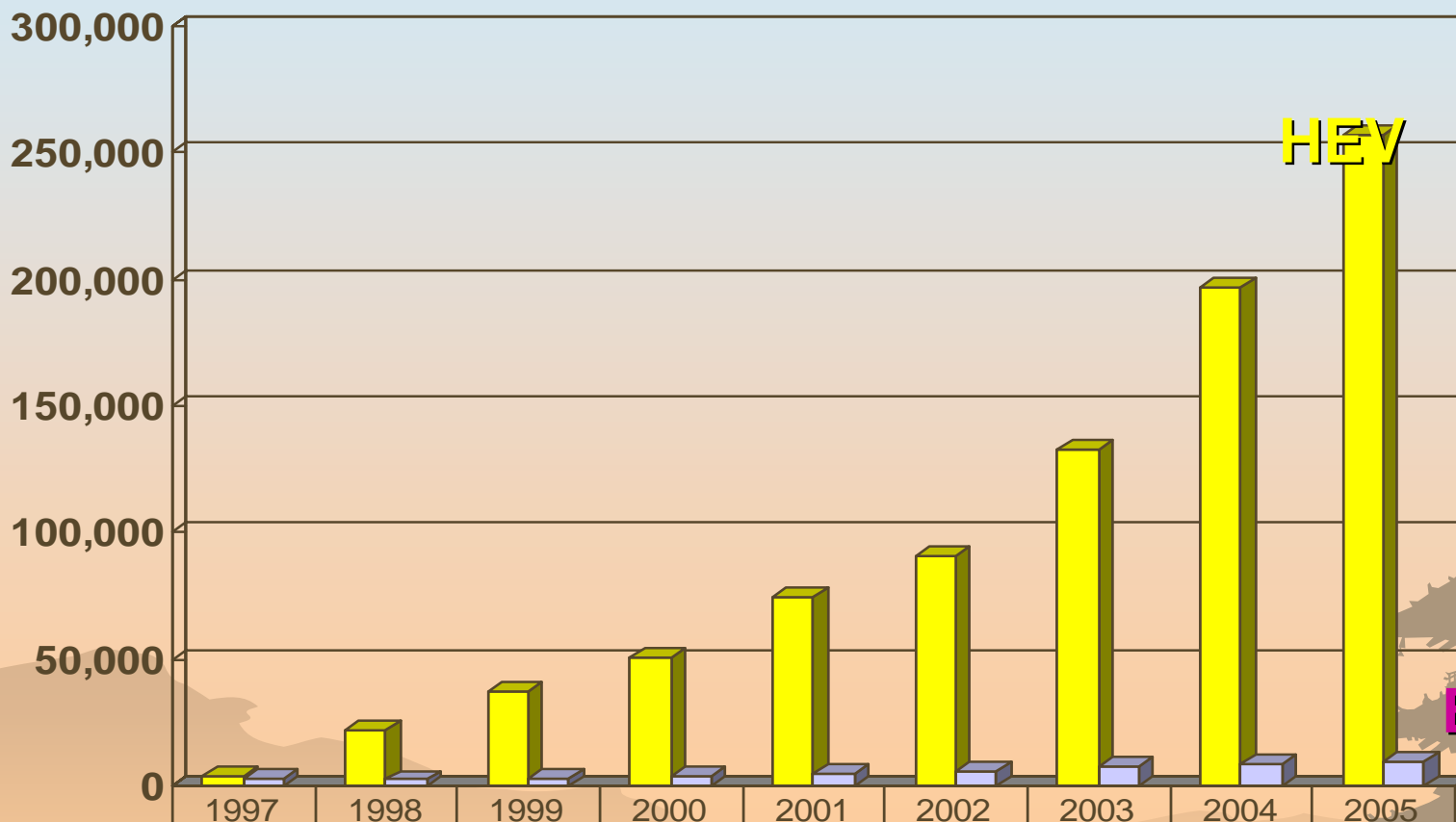
December 2006



The number of HEV and EV in 97'-05'

In Japanese market, The number of HEV and EV is increasing continuously for several years.

(Number of Vehicles)



	1997	1998	1999	2000	2001	2002	2003	2004	2005
HEV	3,696	22,450	37,380	50,400	74,600	91,200	132,500	196,800	256,600
EV	2,500	2,400	2,600	3,800	4,700	5,600	7,700	8,500	9,900

(FY)

Report of Transport Policy Council (12th June 06')

- ❁ TPC, an advisory group of JMLIT consisting of vehicle safety experts, submitted a report on future vehicle safety measures to the Minister of JMLIT.
- ❁ This report indicates that crash safety regulation of HEV and EV should be established.
- ❁ As background of this suggestion,
 - Crash safety regulation of HFCV has already been established in Japan
 - The number of HEV and EV is increasing rapidly.
- ❁ On the other hand, international harmonization of this regulation such as gtr or ECE regulation doesn't keep up yet.
- ❁ Therefore, we plan to establish this regulation as Japanese Safety Regulations.



Outline of Regulation about HEV and EV

❁ Crash Safety Requirement

→referred ECE-R94,R95

- Leakage of liquid electrolyte in the battery
- Fastening of Batteries
- Protection of occupants against electric shock at vehicle collision

❁ Protection against electric shock at usually usage

→Based on ECE-R100 and Japanese FCV's regulation, established regulation according to some advanced technology

- Protection against direct contacts with live parts
ex. Barrier, enclosure, etc.
- Protection against indirect contacts
ex. Electrical connection between exposed conductive parts (barrier, enclosure, etc.) and electrical chassis (vehicle frame, etc.) to prevent outbreak of high voltage
- Insulation resistance
ex. Keep not less than $100 \Omega/V$ of the nominal voltage between live parts and electrical chassis.



Draft of Discussion Schedule

- ❁ April 06' Kick off discussion about this issue
- ❁ March 07' Established draft regulation about crash safety of HEV and EV
- ❁ April 07' Collected public comments
- ❁ Autumn 07' Enter into enforce this regulation
- ❁ December 07' Proposed amendment of ECE-R100 at GRSP/GRPE

