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Environment Friendly Vehicles (EFV)

OVERVIEW

Cars are among the major consumers of energy in developed societies. They also make a major contribution to urban pollution, and to global warming. That is why the scientists, manufacturers and research institutions are making efforts continuously to reduce the pollution made during its production, usage and disposal of passenger cars.

The basic design concept for environmentally friendly vehicle is based upon the following design strategies:

- Design the most efficient vehicle that uses the least energy for movement within the city, one that needs least energy to ride on road while delivering the required power efficiently and simply as possible.
- Energy on which the vehicle is driven, whether it is from Gasoline, diesel, CNG, LPG, Hydrogen or Electricity
- Define the boundaries of specific parameters to formulate the universal method for defining and evaluating the environment friendliness of a car including efficiency.

As per the discussions from the 7th Informal Group meeting held in Geneva, in conjunction with the 60th GRPE session, the single score approach should not be used for the evaluation of the Vehicles. Also the term environmentally friendly Vehicles should not be used as per the ISO 14021, because no vehicle is environmentally friendly or environmental beneficial. Giving different ratings to the different parameters will not be justifiable. So, it is concluded that, some specific names to be decided for the vehicle satisfying the particular criteria. For e.g. the vehicle with low GHG emission can be called as Low GHG car. On the similar lines low pollution car, low noise car, and recyclable car. The separate methodology and the evaluation criteria need to be defined keeping in view the future trends.

The 100 % weightage has been assigned to each parameter as:

CO₂/GHG emission: 100 (Low GHG car)

Regulated Pollutants: 100 (Low pollution car)

Noise: 100 (Low noise car)

Recyclability: 100 (Recyclable car)

Each parameter will be analyzed separately in order to avoid arbitrary and/or biased subjective weightings, and it will not have any influence over the others so as to avoid the Single score approach. This is approach is designed particularly as a customer information system on a voluntary basis.

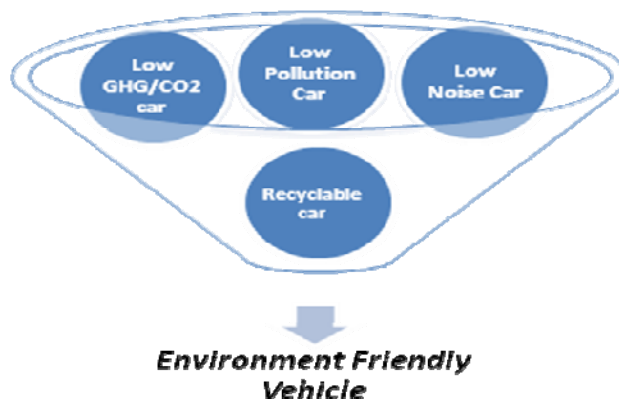
The reference has been taken from the documents which were based on the document GRPE 58-02 the background document regarding the feasibility statement for development of a methodology to evaluate Environmentally Friendly Vehicles. Below mentioned, are the documents presented and discussed in the 7th Informal Group meeting.

EFV-07-02- Parameter: GHG/CO2 Emissions,
 EFV-07-03: Parameter: Regulated Pollutants,
 EFV-07-04: Parameter: Recyclability and
 EFV-07-05: Parameter: Noise.

While framing out the criteria, it has been ensured that approach will be a technology and segment neutral instead of a technology and segment prescriptive. Concentration has been kept on already existing legislation and focus on the crucial requirements in order to avoid misleading and an information overload.

Following are the newly defined criteria, on which the observations and comments are invited. It is proposed to discuss these documents in the forthcoming 8th Informal Group EFV meeting to be held in conjunction with 61st GRPE session in January 2011.

CO2/GHG Emissions	Regulated Pollutants	Noise	Recyclability	Type of Fuel
<ul style="list-style-type: none"> • 4 different approaches are defined • CO2 Emissions Ratings (Defined Ratings) • FC Ratings (Regulation based ratings) • FC Ratings (Energy Consumption) • Well-to-wheel Energy Efficiency 	<ul style="list-style-type: none"> • COP values are to be used for evaluation purpose • No extra score given to the vehicles with advanced emission control devices. • Assessment is in-line with the current and future emission norms. • Vehicle achieving higher norms will be rewarded with higher scores. 	<ul style="list-style-type: none"> • Pass-by-noise limit of Europe for M1 category of vehicle is 74 dB. • This is taken as a baseline for the design of assessment criteria. • It is discussed about 'special road surface' i.e. the quiet road surface achieved by a special top layer of 40 ~ 50 cm. This road reduces the noise by almost 8 ~ 10 dB. So it will be easy to reach from 74 to 64 dB. 	<ul style="list-style-type: none"> • Provision of recycling strategy during vehicle design • Use of Environmentally friendly material • Development of product's recycling/reuse/scrapping manual and coding of recyclable parts in vehicle • Extent of Recyclability of vehicle 	<ul style="list-style-type: none"> • This parameter has been covered under the Regulated Pollutants. • Hence no need to cover it separately.



It is suggested that criteria should result in Fuel economy guide, brochure, booklets, labeling of vehicles, and advertisement or else for customer information.

References:

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