

## **Final Terms of Reference for Informal Working Group on Electric Vehicles and Environment (EVE)**

### **1. INTRODUCTION**

The executive committee of the 1998 Agreement (AC.3) gave, in November 2011, its general support to a joint proposal by the United States, Japan, and the European Union to establish two working groups to address safety and environmental issues associated with electric vehicles<sup>1</sup> (EVs). The proposal (ECE/Trans/WP.29/2012/36 and its Corr1) was submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) at its March 2012 session with China joining as a cosponsor with the European Union, Japan and the United States and the proposal was formally adopted at that time.

The adopted proposal highlights the objectives for the two informal groups as:

- (a) Exchange information on current and future regulatory requirements for EVs in different markets,
- (b) Identify and seek to minimize the differences between regulatory requirements, with a view toward facilitating the development of vehicles to comply with such requirements
- (c) Where possible, develop common requirements in the form of one or more UN global technical regulations (GTR)

The purpose of this document is to set forth the Terms of Reference (ToR) for the Electric Vehicles and Environment (EVE) informal working group, focusing on the information exchange and joint research concerning the related impacts of the development of EVs to the environment such as CO<sub>2</sub> emissions, energy consumption and efficiency, energy storage (batteries, capacitors, etc.) and infrastructure.

It is also important to note that while EVs are currently on the market and regulators are moving forward with setting applicable technical requirements, the technology is still evolving. This ongoing technology development necessitates a flexible yet solid regulatory framework - one that is performance-oriented, based on the best available data and scientific research and analysis. Cooperation with relevant researchers and technical experts will be a prerequisite for successful operation of the informal working group. In its work the EVE informal working group may identify regulatory areas for the development of Global Technical Regulations (GTR) and as such would seek approval from AC.3 at that time to develop a GTR(s).

### **2. OBJECTIVE**

The EVE informal working group will be an open structure which will enable the exchange of information and experiences on relevant regulations, policy measures and standardization efforts. It is intended that the discussions will encompass all types of road vehicles with

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<sup>1</sup> The term and the work in the groups will cover electrified vehicles focusing on battery electric vehicles (BEV), hybrid electric vehicles (HEV) and plug-in hybrids (PHEV).

electrical propulsion.<sup>2</sup> The EVE informal working group is to provide an international forum for examining a range of issues and sharing information about the developing technologies, current regulatory activities, and policy approaches, including the important considerations such as research priorities, current projects and the deployment of EVs. Where possible and most important, the EVE informal working group will work to identify areas of common or shared research to advance understanding and to identify potential gaps where coordination can enhance understanding.

The general consensus is that EVs have superior environmental performance to conventional vehicles, but the exact methods of measurement of CO<sub>2</sub> emissions and energy efficiency is still not defined under the 1998 Agreement (although there is ongoing work on test-cycle and test procedure development for EVs in the WLTP and HDH groups). The EVE informal working group should look to enhance these discussions, where possible. The EVE informal working group is intended to pay significant attention and discuss the possibility to develop GTR in line with the scope of the 1998 Agreement.

Among the important potential considerations regarding the environmental aspects of EVs to be examined by the EVE informal working group, there would be methods and procedures necessary to determine the operational performance including cold start and durability, recharging performance of the battery drive system in any given vehicle and end-of-life battery approaches including battery recycling and repurposing.

In the event the EVE informal working group identifies the need to develop a GTR following a thorough review of the issues and potential areas for regulatory harmonization, a recommendation would be brought to GRPE and then to AC.3 for consideration regarding potential GTR activities.

With the continuing efforts to foster the development of electro-mobility, there will also be opportunities to share information on issues such as infrastructure build-up, standards for charging infrastructure and other standardization issues, and support for electrical vehicles market introduction and promotion.

### **3. Organization and Structure**

The EVE informal working group shall be open to all interested parties. The United States will serve as chairman. China and Japan will serve as vice-chairmen and Canada will serve as secretary. Participation in the EVE informal working group is open to all Contracting Parties, vehicle manufacturers and suppliers, as well as battery technical experts and manufacturers. The Chairs may allow for the participation of others whose expertise would assist the group.

**3.1.** The informal working group will initially develop the means and resources to address the issues before the EVE informal working group:

- a. Develop a priority list of topics to address the most timely and significant considerations before the EVE informal working group.

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<sup>2</sup> Noting the importance of commonly understood definitions and classifications, the EVE informal working group will also collaborate closely with the Vehicle Propulsion System Definitions (VPSD) informal working group recently endorsed at the March 2012 WP.29.

- b. Understand and document the current consideration of EVs under the work of other established informal working groups: EVS, WLTP, HDH, EFV and VPSD.
- c. Establish a mechanism for sharing ongoing research and information sharing on topics related to EVs and the environment.
- d. Develop a reference guide for regulatory activities already established or being considered by contracting parties.

**3.2.** The available literature, including standards and regulations, should then be screened and analyzed for potential identification and recommendation to AC.3 of future regulatory action.

**3.3.** The informal working group will make every effort to stay abreast of developing concepts and implementation strategies for the development of the possible GTRs and the introduction of EVs through regular dialogue and expert presentations.

**3.4.** All of these considerations regarding environmental performance aspects and other issues should be reviewed and coordinated in the context of the existing work already being conducted by the EVS, WLTP, HDH, EFV, and VPSD informal working groups. Because the work of the EVE informal working group is linked to the activities of other on-going related working groups, it will be important to have a clear understanding of the mandates of those informal working groups so that, as defined in this terms of reference, the EVE informal working group activities are unique or complement the activities of the other informal working groups.

#### **4. Operating Principles**

- a. The official language of the EVE informal working group will be English.
- b. Sessions shall be held in agreement with the majority of the participants based on the joint proposal by the chair, vice-chairs and secretariat.
- c. All documents will be circulated by e-mail to the members and posted on the UNECE/GRPE website in advance of the meetings. The informal working group may refuse to discuss any item or proposal which has not been circulated 10 working days in advance of the scheduled session.
- d. Agenda: A provisional agenda shall be drawn up by the chairman, vice-chairman and secretariat in accordance with the participants of the EVE informal working group. The first item upon the provisional agenda for each session shall be the adoption of the agenda. The second item on the provisional agenda will be the discussion, matters arising and adoption of the Report of the previous session.
- e. Proposals will be developed by consensus. When consensus cannot be reached, the chairman shall present the different points of view to GRPE. The chairman may seek guidance from AC.3 and GRPE as appropriate.
- f. Meeting Reports: Draft meeting reports will be circulated in advance of the next session with the view to be formally adopted at the next meeting.
- g. Reporting: The progress of the informal working group will be reported to GRPE and AC.3 orally or as an informal document by the chairperson or a designated participant of the group.

## 5. Timeline

- **January 2012:** Consideration of drafted terms of reference in anticipation of the approval of the proposal to establish the EVE informal working group.
  - **March 2012:** Approval by WP.29 of the EVE informal working group.
  - **June 2012:** First EVE informal working group meeting during the 64<sup>th</sup> session of the GRPE; discussion of drafted terms of reference.
  - **September 2012:** Second EVE informal working group meeting; Expected adoption of terms of reference by EVE informal working group
  - **January 2013:** Third EVE informal working group meeting during the 65<sup>th</sup> session of the GRPE, presentation of the terms of reference of the EVE informal working group and report on of the progress of the IWG.
  - **2012-November 2014:** Meetings of the EVE informal working group, regular reporting to GRPE and AC.3, including identification of any potential proposals for GTRs
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