Submitted by the US Expert on behalf of the co-sponsors – EC and Japan

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DRAFT PROPOSAL FOR TERMS OF REFERENCE FOR PROPOSED Informal Working Group on Electric Vehicles and Environment (EVE)

1. INTRODUCTION

The proposal to establish an informal working group on electric vehicles[1] (EVs) and the Environment comes as part a broader initiative proposed by the European Commission, DG Enterprise and Industry, the National Highway Traffic Safety Administration and the Environmental Protection Agency in the United States and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) in Japan. Under this initiative it is proposed to address both safety and environmental issues with the formation of two new informal groups one on Electric Vehicle Safety, and, another on Electric Vehicles and the Environment (EVE) under the GRPE.

Through this initiative, the co-sponsors aim to:

- exchange information on current and future regulatory requirements for electric vehicles in different markets,
- minimize the differences between these regulatory requirements, with a view toward facilitating the development of vehicles to comply with such requirements
- where possible, develop common requirements in the form of one or more UN Global Technical Regulations (GTR)

The EVE informal group is established under the 1998 Agreement to create the basis for the possible development of a GTR. All global partners are invited to join the groups and share experiences regarding setting relevant regulatory requirements as well as discuss the market introduction and incentives.

The technology of electric propulsion is fairly mature, but recent advances in energy storage (batteries, capacitors, flywheels) have largely improved electric vehicles' performance and made them a valid choice for consumers. There is a considerable potential for further developments in automotive energy storage. Electric vehicles, like hydrogen and fuel cell vehicles, represent a promising technology in terms of addressing climate change, improving air quality and cutting oil dependency. The current regulatory pressure to lower CO_2 and pollutant emissions is helping to drive an increasing market penetration of electric vehicles. Furthermore, many governments support the development and deployment of electric vehicles by financing research or offering incentives for consumers. Consequently, the automotive industry is investing in research and development, as well as the production capacity for electric vehicles, at a scale not seen in the past.

Together with support measures for industry development, many governments have already started to define their regulatory framework for electric vehicles - mostly in order to ensure

[1] The term and the work in the groups will cover both battery electric (BEV) and hybrid electric vehicles (HEV) (including plug-in hybrids (PHEV)).

their safety and thus gain consumer confidence -- but also in consideration of environmental performance measures.

Because of the relatively small volume of electric vehicles and their components currently produced, any degree of convergence between regulatory obligations can result in economies of scale and cost reductions for automotive manufacturers – critical in the context of economic recovery and the general cost-sensitiveness of the industry. The objective of the new informal group is to seek regulatory convergence on a global scale, via the framework of the 1998 Agreement. This avenue of cooperation is particularly interesting in consideration of the fact that the regulatory structure for electro-mobility technologies is currently being developed on both sides of the Atlantic and in Asia, so that there exists an unique opportunity to develop common approaches.

It is also important to note that while electric vehicles 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 group.

2. OBJECTIVE OF THE PROPOSAL

The informal working group on Electric Vehicles and the Environment would be an open structure which would enable the exchange of information and experience on relevant policies and regulations.

Concerning environmental performance, the general consensus is that electric vehicles have superior environmental performance to conventional vehicles, but the exact method of measurement of emissions and energy efficiency is still not defined under the 1998 Agreement (although there is ongoing work on test-cycle for hybrid electric vehicles in WLTP and HDH groups). The EVE group should look to enhance these discussions where possible.

The issues related to Electric Vehicles and the Environment may be less likely to provide grounds for a GTR, but it is important to provide an international forum for sharing information about developing techniques for such important considerations such as measuring the energy efficiency of future electric vehicles, battery durability, cold start performance, and recharging performance. Furthermore, policy approaches for implementation may also be discussed including such issues as measurement of upstream emissions..

Moreover, while investigating the potential for future regulatory action, the informal working group can discuss and share information related to research priorities, current projects and experiences in order to foster mutual learning and possibly encourage development of common research projects and definitions. Among the important considerations regarding the environmental aspects of electric vehicles to be examined for potential GTR or other appropriate action might include the methods and procedures necessary to determine the operational, recharging performance of the electric drive system in any given vehicle and end-of-life battery approaches.

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, support for battery manufacturing, battery recycling and second-life usage, thus bringing together dispersed competences within the global context of WP29.

All of these considerations regarding environmental performance aspects and other issues should be reviewed in the context of the existing work already being conducted by the WLTP, HDH and EFV informal groups. This will enable a clear and discrete development of the terms of reference for the new informal group on environmental performance of EVs.

3. Organization and Structure

The group shall be open to all interested parties. The sponsorship will be established by the EC, US and Japanese delegations.

3.1. The informal group will initially develop the means and resources to:

a. Understand and document the current consideration of electric vehicles under the work of other established informal groups: WLTP, EFV, and HDH.
b. Establish a mechanism for sharing ongoing research and information sharing on topics related to electric vehicles and the environment.
c. 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 of future regulatory action.

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

4. Timeline

- **January 2012**: Consideration of draft TOR in anticipation of the approval of the proposal to establish the EVE informal group.

- **March 2012**: Approval by WP.29 of the EVE informal group.

- **June 2012**: Adoption of Terms of Reference for WG by the GRPE

- **2012-2014:** meetings of the WG, regular reporting to GRPE and AC 3, including any proposals for GTRs