

# **Electric Vehicles and the Environment (EVE IWG)**

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**REPORT TO GRPE 66<sup>TH</sup> SESSION**

# Summary of Meetings

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- **EVE Session #2 – Baltimore (13~14.9.2012)**
  - Finalized TOR, initial discussions to develop an EV reference guide.
- **EVE Session #3 – Conference Call (27.11.2012)**
  - Proposed a format for the reference guide and questionnaire.
- **EVE Session #4 – Geneva (14.1.2013)**
  - Confirmed the format for the reference guide and questionnaire, initiated information gathering.
  - Concurrence from GRPE on progress report and terms of reference
- **EVE Session #5 – Tokyo (11-~12.4.2013)**
  - Completed information gathering, discussion of completed questionnaires by contracting parties and summary presentation.
- **EVE Session #6 – Geneva (3.6.2013)**
  - Sought input from CPs and other IWGs on list of priority issues to inform reference guide recommendations and guide potential future research/testing
  - All stakeholders invited to submit further literature/data.

# Reference Guide Development

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- Questionnaire submitted by 9 organizations will inform the development of the reference guide
  - Contractor was retained to assist in the information gathering phase for the guide and presented findings in Tokyo.
- Definitions continue to evolve. EVE will use the common definitions from other IWG's and VPSD.
- OICA has agreed to review first draft of the reference guide
  - EVE also seeking other volunteers to participate in drafting and review of the guide.
- Pending funding, the contractor will also assist in drafting the guide.

# Proposed Reference Guide Recommendations

- Potential gaps in the regulatory landscape regarding electrified vehicle performance have been identified as the result of the information gathering phase:
  - Vehicle energy efficiency/range:
    - ✦ Cabin heating, Air conditioning, potential battery temperature effect on capacity and efficiency, potential battery state of charge effect on efficiency, road gradient, energy equivalency conversion methods
  - Battery performance/durability:
    - ✦ Battery durability effect on range, potential battery durability effect on kWh/km, battery performance effect on emissions, battery management system performance
  - Some of these gaps are will be addressed in future phases of WLTP
- Gaps were discussed and EVE will continue working with CPs, stakeholders and other IWGs to develop recommendations for the guide, including future potential development of a gtr
  - CPs and stakeholders are invited to submit further literature/data that will bolster recommendations for the guide

# Proposed Reference Guide Information Sharing

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- 3 areas have been identified that will be included in the reference guide for information only
  - Regulatory incentives
    - ✦ For example multipliers for electrified vehicles
  - Regulatory standards
    - ✦ How are electrified vehicles incorporated in fuel economy calculations
  - EV Charging
    - ✦ Infrastructure and standardization of charging
    - ✦ Issues identified with vehicle response to charging shall be covered in the focus areas identified above.

# EVE Next steps

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- **Draft EVE Reference Guide**
  - Transpose information collected with the questionnaires and discuss first draft at EVE-07 in Beijing
  - Develop reference guide recommendations
- **Conduct EV research and/or testing to support guide recommendations**
  - Gather and analyze literature/data from other contracting parties
- **Coordinate with other GRPE working groups**
  - WLTP, VPSD, HDH, EPPR, EVS
- **Continue EV information sharing presentations**
  - All stakeholders are invited to present or submit topics of interests for presentations
  - Continue sharing information on standardization

# EVE Roadmap

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## Revised EVE Roadmap - May 2013

Task	start date	end date	status	EVE-01	--	EVE-02	EVE-03	--	EVE-04	--	EVE-05	EVE-06	--	EVE-07	--	EVE-08	EVE-09	--	EVE-10	--	--	
				Jun-12 GRPE	Jun-12 WP.29	Sep-12 USA	Nov-12 Webex	Nov-12 WP.29	Jan-13 GRPE	Mar-13 WP.29	Apr-13 Japan	Jun-13 GRPE	Jun-13 WP.29	Oct-13 China	Nov-13 WP.29	Jan-14 GRPE	Feb-14 TBD	Mar-14 WP.29	Jun-14 GRPE	Jun-14 WP.29	Nov-14 WP.29	
1.0 Adopt EVE Terms of Reference	Jun-12	Sep-12	completed	←																		
1.1 Submit to GRPE			completed						◆													
1.2 Submit to WP.29 (expect: June 2013)												◆										
2.0 Exchange of information (regulatory frameworks, other IWG, etc,...)				←																		
2.1 Research and information sharing	Jun-12		on-going	←																		
2.2 Discuss potential research gaps and agree on test plan	Apr-13	Oct-13	started																			
2.3 Conduct research/test plan	Oct-13	Jun-14																				
3.0 Reference Guide Development																						
3.1 Establish list of vehicle attributes	Nov-12	Jan-13	completed																			
3.2 Develop questionnaire	Nov-12	Jan-13	completed																			
3.3 Send questionnaire to EVE members (after EVE-04)	Feb-13	--	completed																			
3.4 EVE & GRPE members fill-in questionnaire	Feb-13	Apr-13	completed																			
3.5 Compile information into report	Apr-13	Dec-13	started																			
3.6 Develop recommendations on potential future gtr development	Apr-13	Dec-13																				
3.7 Circulate 1st draft Reference Guide to EVE for comments		Sept. 30																				
3.8 Revise Draft Reference Guide based on EVE comments	Oct-13	Dec. 1																				
3.9 Submit 2nd draft to GRPE for comments (submit a few weeks before)	--	Dec. 1																				
4.0 Revise Draft Reference Guide based on GRPE comments	Jan-14	March. 1																				
4.1 Submit 3rd draft Reference Guide to GRPE (submit > 12 weeks before)	--	March.1																				
4.2 Approval of Reference Guide by GRPE	--	Jun-14																				
4.3 Submit Reference Guide to WP.29 (submit > 12 weeks before, Secretariat's duty)	--	Aug. 1																				
4.4 Approval of Reference Guide by WP.29	--	Nov-14																				
-- Current EVE mandate ends (summary report of activities)																						

# Upcoming EVE Meetings

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- **EVE #7 – Beijing, China, Oct. 17 – 18, 2013**
  - Review first draft of reference guide and draft recommendation
- **EVE #8 – Geneva, January 2014 GRPE**
  - Submit second draft as an informal document to GRPE by Dec.1, 2013 to discuss and receive comments during GRPE
- **EVE #9 – To be decided, February 2014**
  - Revise second draft based on GRPE comments
  - Discuss need for a new mandate for EVE
- **EVE #10 – Geneva, June 2014 GRPE**
  - Submit third draft as a formal document to GRPE by March 1, 2014
  - Seek final approval at Nov. 2014 WP.29 following GRPE concurrence