

# DG ENTR – Lot 2 framework

## *LIGHT DUTY ELECTRIC AND HYBRID VEHICLES*

*GRPE/WLTP –DTP Meeting  
Geneva, 8 June 2011*

*DG client:*

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*Contractors:*

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# Agenda

1. Objectives
2. Tasks
3. Deadlines
4. Task 1 - Overview
5. Task 2 – Overview
6. Next stages

## Objectives

- To provide end-users and regulators with sufficient information about the vehicle so that:
  - End-users can make an informed choice when selecting a vehicle
  - Regulators can design regulatory measures
- Create a test regime that reflects real world conditions

# Tasks

- Task 1 – Review existing legislation, regulations and standards
- Task 2 – Review desired stakeholder and consumer data requirements
- Task 3 – Determination of limitations, shortcomings and omissions in existing type approval procedures with respect to the identified objectives
- Task 4 – Recommendation of modifications and complementary test procedures and next stages (test work required)

## Deadlines

- Stakeholder input (consumer requirements) regarding utility parameters requested before 27 June 2011
- Stakeholder input (automotive industry) regarding technical developments requested before 14 June 2011
- Final report due September 2011

# Task 1: Review of existing legislation

## Light passenger and commercial vehicles - overview

### Regulations (EC) No. 715/2007 and 692/2008

- EC No. 715/2007: introduces Euro 5 and Euro 6 emissions limits
- EC No. 692/2008: detailed technical requirements and specifications
- EC No. 692/2008 refers to UNECE Regulations 83 and 101 for test procedures

### UNECE Regulation 83

- Emissions limits and technical requirements harmonised with EC legislation (Euro 5 and Euro 6)
- Detailed test methods referenced by EC legislation

### UNECE Regulation 101

- Technical requirements harmonised with EC legislation
- Detailed test methods referenced by EC legislation

# Task 1: Review of existing legislation

## Light passenger and commercial vehicles

| Regulation                        | Test   | Parameters  |
|-----------------------------------|--|---|
| EC No. 692/2008<br>and UNECE R83  | Type 1: Exhaust emissions at ambient conditions          | CO; THC; NMHC; NOx;<br>PM; battery state of<br>charge, electric range       |
|                                   | Type 2: CO at idling speeds                              | CO  |
|                                   | Type 3: Crankcase gas emissions                          | Crankcase pressure  |
|                                   | Type 4: Evaporative emissions                            | THC   |
|                                   | Type 5: Durability of pollution control devices          | CO; THC; NMHC; NOx;<br>PM   |
|                                   | Type 6: Average emissions at low ambient<br>temperatures | CO; THC; CO2  |
|                                   | On-board diagnostics test                                | CO; NMHC; Nox; PM   |
| EC No. 692/2008<br>and UNECE R101 | CO2 emissions and fuel consumption                       | CO2; fuel consumption;<br>electric energy<br>consumption; electric<br>range |

## Task 2: Parameters

- Parameters may include:
  - Electric range (both EV & HEVs, full/empty battery)
  - Energy consumption (fuel and/or electric)
  - Maintenance parameters (specifically related to life of major components
    - e.g. battery pack )
  - Performance (speed, acceleration, etc.)
  - Durability of batteries
  - Recharge time (EVs and plug-in HEVs)
  - Conditional parameters (outside/interior temperatures, journey length, age of battery, etc)
  - Ancillary loads (aircon, etc)
  - Etc
    - *Cost can be derived from these parameters, but is no parameter itself*



## Project kick-off meeting, 11 May 2011

10 Stakeholders in-person plus about 8 using the web-conferencing facility

### Views:

- Do not focus on political issues – only on test procedures to collect the relevant data
- New legislation should be robust enough to cope with existing and upcoming PHEV technologies
- CO<sub>2</sub> not to be considered – only energy & fuel consumption
- After Sept, parameters will be further developed over 1-2 years
- WLTP subgroup 4 and this study will be aligned
- How can OEMs specify charging time while there are so many elements that might affect it?

## Next stages

- Complete review of existing legislation
  - M1 and N1 category
  - L category
  - WLTP-DTP
- Review input from stakeholders – both the automotive industry and consumer groups
- Identify parameters from stakeholders and consumers not currently determined for type-approval