WLTP
Vehicle range and energy consumption

EVE 12
28 October 2014
• Test cycle, test procedure and test conditions are in principle the same for conventional vehicles and electrified vehicles
• Areas where there is differences is described in annex 8 of the GTR
  – Charge depleting test (OVC-HEV and PEV)
  – Preconditioning (OVC-HEV)
  – REESSS conditioning
• GTR No 15
  – Phase 1 includes test cycle and test procedure for type 1 test, normal ambient conditions
  – Proposal for phase 2 includes test procedure for low ambient temperature, high altitude, durability and in-service conformity
    • Consider for EV, durability for battery and electric motor
• Electric vehicles considered in the GTR
  – NOVC-HEV
  – OVC-HEV
  – PEV
  – FCV
• For electrified vehicles test procedure consist of two tests
  – Charge sustaining
  – Charge depleting
• Test cycle WLTC and WLTC\textsubscript{city}
Charge depleting CD
Charge sustaining CS

- Soak
- "A"
- Test
- Testcycle
- Charging

Max. 120 minutes

Cold start of ICE in "default-mode"

$\Delta E = E_{AC}$ (recharging energy from the main)
Charge depleting PEV

- Battery discharge according to manufacturer's recommendation
- Soak time and battery charge
- All Electric Range AER / AERcity
- Max. 120 min.
- Max
- Min
- Fully Charged
- Test i
- Test i+1
- Test i+2
- Test i+3
- 12h charging
- $\Delta E = E_{AC}$ (recharging energy from grid)
• OVC-HEV
  – CD and CS test
• PEV
  – CD test
• NOVC-HEV
  – CS test
• FCV
  – Procedure under development in phase 1b
• Test conditions same as for conventional vehicles
  – Ambient temperature
  – Soak
  – Test equipment
• Values derived from the tests
  – Emission compound (OVC-HEV and NOVC-HEV)
  – CO2 and fuel consumption (OVC-HEV and NOVC-HEV)
  – Electric energy consumption (OVC-HEV and PEV)
  – Electric range (OVC-HEV and PEV)
    • All Electric Range
    • Charge Depleting Range
• Amendments for EV in phase 1b
  – Phase specific calculation for CO\textsubscript{2} and fuel consumption
  – Shortened test procedure for PEV
  – Combined approach for EV
  – Test procedure for FCV