

Scientific Workshop on "Closing the gap between light-duty vehicle real-world CO₂ emissions and laboratory testing" (Universidade Nova, Lisbon, 7-8 June)

Minutes

Following a request of Commissioner Cañete in view of the planned Commission proposal for post-2020 emission performance standards for light-duty vehicles, the SAM High-Level Group (HLG) agreed at its first meeting on 29th January 2016 to provide scientific advice on the topic **"Closing the gap between light-duty vehicle real-world CO₂ emissions and laboratory testing"**

The SAM High-Level Group organised a scientific workshop in Lisbon on 7-8 June 2016 to discuss with key personalities of the scientific community the best options to ensure that CO₂ emissions from light-duty vehicles correspond to real emissions values.

The full workshop focused on the two main questions defined in the scoping paper agreed among the SAM HLG and the Commission:

- *What is the European and world-wide scientific basis for improving the measurement of light vehicle CO₂ emissions and fuel consumption in order to produce values closer to average real-world data?*
- *Which approaches might be considered, what are their strengths and weaknesses, also in terms of reliability and transparency, and what additional scientific and analytical work would be needed?*

The participants to the workshop included the top most-cited European researchers in this field. Additional participants were suggested by Euro-CASE (European Council of Applied Sciences, Technologies and Engineering). The workshop counted also with the participation of representatives from Industry and NGOs based on scientific-technical merit. The SAM HLG was represented by three of its seven members. The European Commission including DG CLIMA, DG GROW and DG RTD (SAM Secretariat) participated to the workshop as observers, intervening only upon request for policy clarifications.

The workshop was structured in five sessions addressing a more detailed set of questions that were developed by the SAM HLG with the support of the SAM Secretariat. Following the opening session, which included welcome words from the Rector of the University, there were four thematic sessions built around some of these key questions. In each session – chaired either by HLG Members or invited experts – one expert gave an impulse presentation of 20-25 minutes, followed by two short interventions by discussants and some 50 minutes of open debate in each session.

A presentation via video link was made by a top expert from the U.S. in the field, Jeff Alson from the U.S. Environmental Protection Agency, who provided an interesting contrast to the European discussions.

The second day featured a fifth session focused on policy options and a wrap-up session that provided the opportunity to bring the scientific debate of the previous day closer to the needs of policy-makers. On request by the Chairman of the HLG this session included a short overview of the policy process in this area made by the Commission (DG GROW) representative attending the workshop.

The workshop discussion was held under Chatham House rule (not attributing the statements to a person without his/her consent). All participants were asked to speak in their personal capacity as scientists or engineers.

As agreed at the workshop, all workshop documents including all presentations were made public through the SAM website: <http://ec.europa.eu/research/sam/index.cfm?pg=co2emissions>

The discussions were targeted to the specific questions allowing a very fruitful dialogue in a very open atmosphere including a very fluid interaction between the SAM High Level Group and the participants. The workshop was a real cornerstone of the process that will lead to the formulation of the SAM HLG opinion expected in October 2016.

Discussions included the following broad lines:

- The broader context of climate change and the decarbonisation of transport
- The policy framework and regulatory context in the EU and elsewhere
- Test cycles and the gap between real-world emissions and laboratory testing
 - Test procedures and driving cycles used for type approval of light-duty vehicles
 - Origin, characteristics and evolution of the gap between real-world emissions and laboratory testing
- Challenges of measuring real driving CO₂ emissions
- Options for policy action
 - Possibilities to reduce the gap between real-world emissions and type approval laboratory testing, including an assessment of the options available now (e.g. RDE/PEMS, fuel consumption meters, coast down procedure, etc.)
 - Future solutions in view of the decarbonisation and the digitalisation of the transport sector, including future options that need to be explored (e.g. big data, self-driving cars, plugin hybrids, life cycle assessment, etc.)