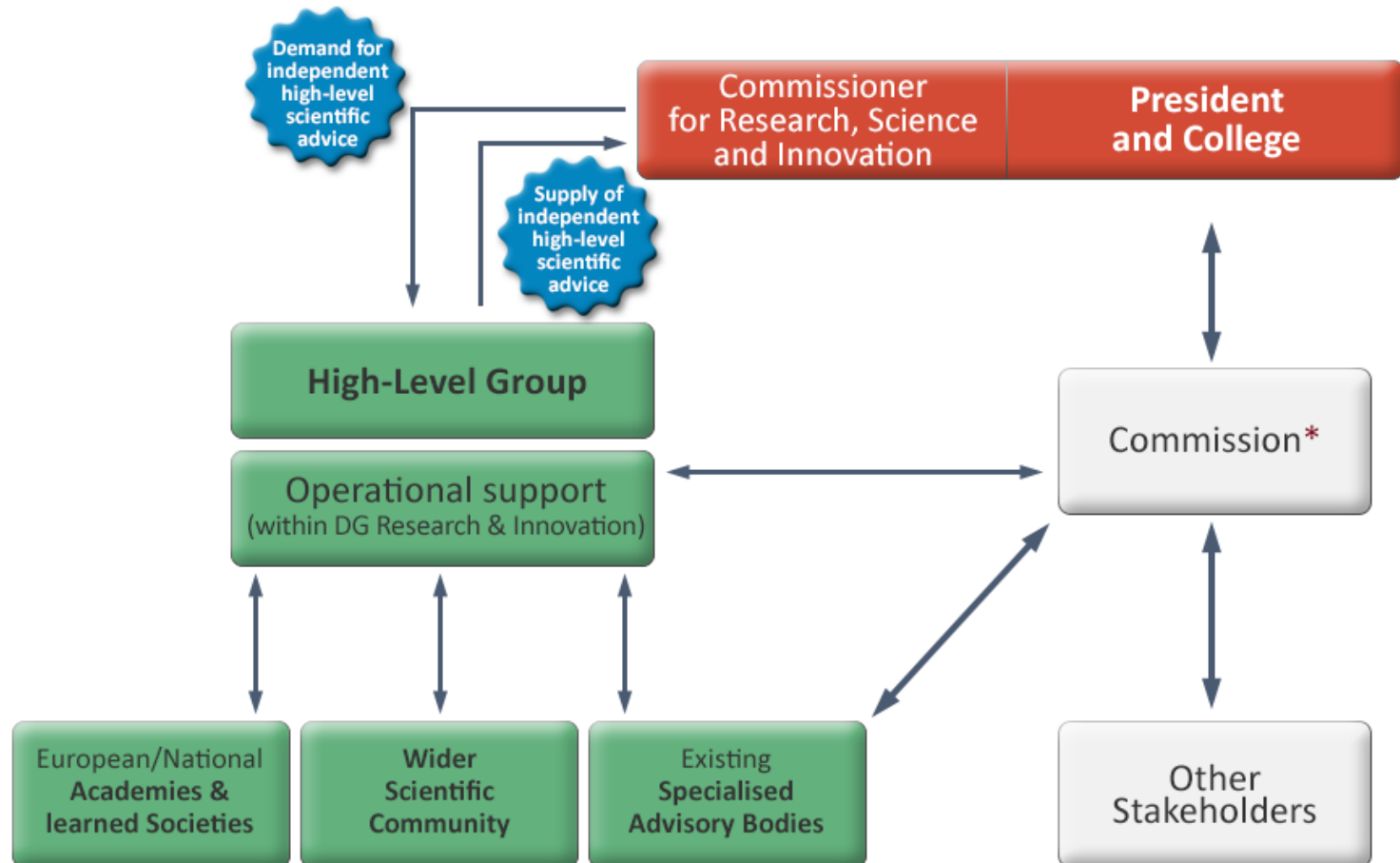




An introduction to the European Commission's Scientific Advice Mechanism

Elements of the Scientific Advice Mechanism



* Including the Joint Research Centre which provides in-house scientific support

The members of the High-level Group of Scientific Advisors



COMMISSION DECISION

of 16.10.2015

on the setting up of the High Level Group of Scientific Advisors

Tasks:

➤ Responsive

- **Provide independent scientific advice to EU policy and legislation at any time and in any policy field**
 - **long, medium, and short-term incl. in crisis situations**
 - **without duplicating existing advice**
 - **including an assessment of the robustness and limitations of the evidence**

➤ Proactive

- **Identify policy issues for which scientific advice is needed**
- **Recommend improvements for the interaction between policy-making and scientific advice**
- **Enhance synergies with other science advisory structures**



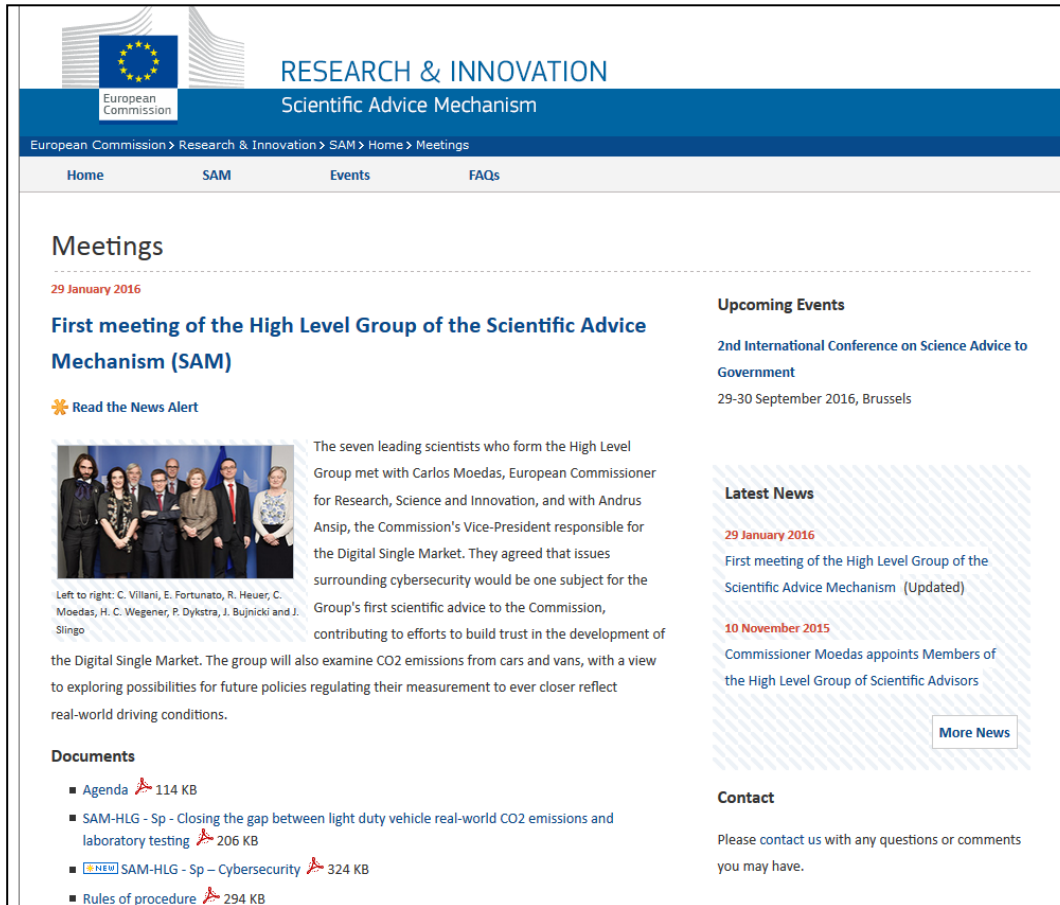
Establishment of a close collaboration with the European Science Academies





European
Commission

The SAM website will be used to ensure transparency



The screenshot shows the SAM website interface. At the top, there is a navigation bar with the European Commission logo and the text 'RESEARCH & INNOVATION Scientific Advice Mechanism'. Below this is a breadcrumb trail: 'European Commission > Research & Innovation > SAM > Home > Meetings'. A secondary navigation bar contains links for 'Home', 'SAM', 'Events', and 'FAQs'. The main content area is titled 'Meetings' and features a section for '29 January 2016' with the headline 'First meeting of the High Level Group of the Scientific Advice Mechanism (SAM)'. A 'Read the News Alert' icon is present. Below the headline is a photograph of the meeting participants. The text describes the meeting with Carlos Moedas and Andrus Ansip, and mentions the group's focus on cybersecurity and CO2 emissions. A 'Documents' section lists files like 'Agenda 114 KB', 'SAM-HLG - Sp - Closing the gap between light duty vehicle real-world CO2 emissions and laboratory testing 206 KB', 'SAM-HLG - Sp - Cybersecurity 324 KB', and 'Rules of procedure 294 KB'. To the right, there is an 'Upcoming Events' section for the '2nd International Conference on Science Advice to Government' and a 'Latest News' section with a 'More News' button. A 'Contact' section at the bottom right asks users to contact the website for questions or comments.

RESEARCH & INNOVATION
Scientific Advice Mechanism


European Commission > Research & Innovation > SAM > Home > Meetings


Home SAM Events FAQs

Meetings

29 January 2016

First meeting of the High Level Group of the Scientific Advice Mechanism (SAM)






 Read the News Alert



Left to right: C. Villani, E. Fortunato, R. Heuer, C. Moedas, H. C. Wegener, P. Dykstra, J. Bujnicki and J. Slingo

The seven leading scientists who form the High Level Group met with Carlos Moedas, European Commissioner for Research, Science and Innovation, and with Andrus Ansip, the Commission's Vice-President responsible for the Digital Single Market. They agreed that issues surrounding cybersecurity would be one subject for the Group's first scientific advice to the Commission, contributing to efforts to build trust in the development of the Digital Single Market. The group will also examine CO2 emissions from cars and vans, with a view to exploring possibilities for future policies regulating their measurement to ever closer reflect real-world driving conditions.

Documents

- Agenda  114 KB
- SAM-HLG - Sp - Closing the gap between light duty vehicle real-world CO2 emissions and laboratory testing  206 KB
-  SAM-HLG - Sp - Cybersecurity  324 KB
- Rules of procedure  294 KB

Upcoming Events

2nd International Conference on Science Advice to Government
29-30 September 2016, Brussels

Latest News

29 January 2016
First meeting of the High Level Group of the Scientific Advice Mechanism (Updated)

10 November 2015
Commissioner Moedas appoints Members of the High Level Group of Scientific Advisors

[More News](#)

Contact

Please contact us with any questions or comments you may have.

<https://ec.europa.eu/research/sam/index.cfm>

Closing the gap between light duty vehicle real-world CO₂ emissions and laboratory testing



Introduction to the task



European
Commission



Scientific Advice Mechanism

Scoping paper:
Closing the gap between light duty vehicle real-world
CO₂ emissions and laboratory testing

29 January, 2016
(Revised)

Research and
Innovation

Rev. date: 11/02/2016

Following a request for support by SAM submitted by Commissioner Cañete to Commissioner Moedas, a Scoping Paper has been prepared by DG Climate Action in cooperation with other Commission services (e.g. DG GROW, JRC), defining the exact scope and timing of the request

Extract from the Scoping Paper

"The Commission has already identified two possible further streams of action, on the one hand by **ensuring that the WLTP test is kept as representative as possible of "real-world" CO₂ emissions** and on the other by exploring the development of complementary procedures, like the **use of large-scale fuel-consumption data or the development of a simulation tool.**

An ex-post assessment of average real-world emissions would allow subsequently more precise ex-ante testing procedures. Capturing the average real-world driving behaviour and circumstances would incentivise vehicle manufacturers to deploy technologies delivering more CO₂ savings in practice."

Request to SAM

"SAM is asked to provide scientific advice in view of improving the **measurement of light vehicle CO₂ emissions, also in terms of reliability and transparency.**

The mechanism could **explore the progress on this particular matter** also in other parts of the world by capitalising on the international liaisons of the scientists.

As regards the possible deployment and exploitation of on-board fuel consumption meters, data protection and ownership issues will need to be duly taken into account."

Questions to be addressed by SAM

- *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 SAM High Level Group is expected to present a scientifically sound analysis of the various options to inform the policy debate expected over the next years.

Timeline

29/01/2016	Request from the Commission accepted by the SAM High-Level Group
11/02/2016	Final Scoping Paper agreed
since Feb. 2016	Literature search and evidence gathering
04/03/2016	Visit of the SAM HLG to JRC Ispra
07-08/06/2016	Scientific expert workshop in Lisbon
September 2016	Stakeholder meeting in Brussels
October 2016	Adoption of SAM HLG Opinion

Objective of the scientific expert workshop

To gather the views of top experts in the field of CO₂ emissions from light-duty vehicles on the questions asked to SAM and to discuss solutions that could be presented to policy-makers.

The outcomes of the workshop will inform the Opinion to be delivered by the High-Level Group.

How have the participants to the workshop been selected?

Top 10 most-cited European researchers in the field

- + Suggestions from Euro-CASE (European Council of Applied Sciences, Technologies and Engineering)**
- + Participants from NGOs and industry, based on scientific-technical merit**
- + Representatives from EPA and EEA**

Tour de Table:

Introduction of the participants

Agenda Day 1

09:00 Opening session

09:45 1st session: Comparison of test procedures and cycles

11:15 *Coffee break*

11:30 2nd session: Origin, characteristics and evolution of the gap between real-world emissions and laboratory testing

13:00 *Lunch break*

14:00 3rd session: Challenges of measuring real driving CO₂ emissions

15:30 *Coffee break*

16:00 Measuring CO₂ emissions from light-duty vehicles:
A view from the US

16:30 4th session: Strategies to close the gap for CO₂ emissions

18:00 *End of first day*



Evening programme

19:00

Public event:
"Introducing the Scientific Advice Mechanism"

Venue:

***Academia das Ciências de Lisboa,
Rua da Academia das Ciências 19***

20:30

Dinner

Venue:

***Restaurante da Ordem dos Engenheiros,
Avenida António Augusto de Aguiar 3, 6th floor***

A bus will be provided to get from the workshop to the academy and then to the restaurant and back to the hotel. In case you want to go from the hotel to dinner directly, you can take a taxi or walk (15 minutes).

Agenda Day 2

09:00 Fifth session: Options for policy action and way forward

10:30 *Coffee break*

11:00 Final discussion and wrap-up

12:00 *Departure of participants*

Basic rules for the workshop

- Everybody speaks in his/her **personal capacity** as a scientist or engineer, not for his/her employer
- **Chatham House** rule (= you can use all information, but not attribute it to a person without his/her consent)
- **Open debate** is encouraged (feel free to underpin your argument with a slide if needed)
- There are **observers** from the European Commission in the room, but they will not intervene in the debate (unless asked for a technical clarification)
- The discussions as such will not be public, but all workshop documents including written contributions and presentations **will be put on the SAM website**
- **Summary minutes** will be taken by the SAM Secretariat and also be published

1st session: Comparison of test procedures and cycles

- **What is the European and world-wide scientific basis for improving the measurement of light-duty vehicle CO₂ emissions and fuel consumption in order to produce values closer to average real-world data?**
- **Which are the expectations about the new WLTP in terms of strengths and weaknesses, also in terms of reliability, and what additional measures would be needed in order to produce values closer to average real-world data?**
- **Which are the differences between the WLTP and test cycles used in America and Asia regarding CO₂ emission measurements and the related gaps between laboratory and real drive emissions? How do regulatory authorities in America and Asia tackle the problem?**

Chair: Dimosthenis Trimis (Karlsruhe Institute of Technology, Germany)

Impulse: Zissis Samaras (Aristotle University of Thessaloniki, Greece)

Discussants: Michel André (IFSTTAR, France)

Nicolae Ispas (University of Brasov, Romania)

2nd session: Origin, characteristics and evolution of the gap between real-world emissions and laboratory testing

- **What is the existing gap (average) in CO₂ measurements between laboratory-based type approval tests and real on-road emissions?**
- **What is the origin of the gap and how did it develop over time?**
- **What is the expected gap in CO₂ (average) emissions vs. real data under the WLTP?**
- **What is the expected evolution over time taking into account possible test cycle flexibilities, in-use factors, etc...?**

Chair: Elvira Fortunato (Co-Chair of the High-Level Group of Scientific Advisors)

Impulse: Peter Mock (International Council on Clean Transportation)

Discussants: Gonçalo Gonçalves (Instituto Superior Técnico, Portugal)

Christian Bach (EMPA, Switzerland)

3rd session: Challenges of measuring real driving CO₂ emissions

- **How can (or cannot) the real driving emissions (RDE) approach adopted for regulated pollutants be useful to reduce the gap in the case of CO₂ emissions?**
- **Are there assessment methods able to normalize data from PEMS trips without jeopardizing the effectiveness in detecting RDE performance?**
- **What are the scientific reasons to support (or not) the introduction of an RDE approach in the post-2020 emissions package for CO₂?**

Chair: Jan Macek (Czech Technical University in Prague)

Impulse: Stéphane Rimaux and Bernard Swoboda (PSA, France)

Discussants: Federico Millo (Polytechnic University of Turin, Italy)

Juhani Laurikko (VTT, Finland)

4th session: Strategies to close the gap for CO₂ emissions

- What are the possible solutions to reduce the gap under WLTP and beyond (e.g. introduction of a "not to exceed" limit)?
- How can the CO₂ measurements gained with the RDE procedure in combination with modelling approaches be useful to reduce the gap?
- What are the possibilities from a scientific point of view to use fuel consumption as an indicator of real emissions and which are the challenges of this approach?
- Which other aspects (e.g. acceptance by consumers) need to be considered?

Chair: Dame Julia Slingo (Member of the High-Level Group of Scientific Advisors)

Impulse: Norbert Ligterink (TNO, The Netherlands)

Discussants: Christoph Höhmann (Daimler, Germany)

Ian Skinner (Transport and Environmental Policy Research, UK)

5th session: Options for policy action and way forward

- From a scientific point of view, which policy options can be developed to address the problem of closing the gap between light-duty vehicle real-world CO₂ emissions and laboratory testing?
- How can new technologies and methodologies help to tackle the issue, for instance wireless communications, big data approaches and the modelling of complex systems?
- Which approaches discussed at the workshop are the most promising ones?

Chair: Henrik Wegener (Chair of the High-Level Group of Scientific Advisors)

Impulse: Georgios Fontaras (Joint Research Centre, European Commission)

Discussants: Athanasios Konstantopoulos (CERTH, Greece)

Cinzia Pastorello (European Environment Agency)