

International Conference on
Transport and Environment: A global challenge
Technological and Policy Solutions

Milan, Italy
19-21 March 2007

DRAFT AGENDA

1st Day

Plenary Session :
Air Quality Policy in Europe and the World



Mr Stavros Dimas
 European Commissioner of Environment

Session I	Session II	Session III
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2nd Day

Plenary Session:
Science and Policy for a Sustainable Transport



Mr Janez Potočnik
 European Commissioner for Science and Research

Session I	Session II	Session III
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3rd Day

Session I	Session II	Session III
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Session I	Session II	Session III
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Session I: *Alternative Fuels and Technologies for a Cleaner Environment*

Session II: *Real-World Emission Measurements: PEMS*

Session III: *Advanced Particle Emission Measurements: PMP*

INTRODUCTION

The conference will provide a forum for the discussion of the new regulatory approaches to control air pollution with special emphasis in the transport sector. It will focus on the comparison of results from regulatory research programs, the associated scientific findings, the new measurement technologies and the potential of future fuel and power train technologies.

Sessions will focus on:

- Alternative fuels and power train technologies
- Real-world emissions measurements (Portable Emissions Measurement Systems, PEMS)
- Advanced Particle Emission Measurements (PMP)

The conference will bring together experts from the regulatory bodies, industrial stakeholders and scientists in an international background (EU, US, Japan, China, India, Korea).

Objectives of the conference include the promotion of new integrated approaches to address and solve the problems of air quality and one of its major contributors, i.e. transport, as well as to exchange information and experiences on the new ways of measuring emissions from the transport sector.

SIDE EVENTS

Day 1 (19 March 2007, 12:00-13:00)

Day 2 (20 March 2007, 12:00-13:00)

Press Conference:

- **EU Air Quality Policy**
- ***A case study: Collaboration JRC – North Italy***

Press Conference:

- **Research in support to EU sustainable transport policy:**
- ***Launch of European project TRAENVIA for Corridor V***



Monday 19th March

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Institute for
Environment and
Sustainability

Welcome

9:30-9:45

R. Formigoni, President Lombardy Region
L. Moratti, Mayor of Milan(tbc)
R. Schenkel, Director General DG-JRC, European Commission

Plenary Session

9:45-11:30

Round Table I: Air Quality Policy in Europe and the World

S. Dimas, European Commissioner for Environment
H. Krahmer, Member of the European Parliament
A. Pecoraro Scanio, Minister for Environment – Italy (tbc)
R. Formigoni, President Lombardy Region
R. Schenkel, Director General DG JRC, European Commission
M. Oge, Director US-EPA Office for Transport and Air Quality
M. Bresso, President of Piemonte Region (tbc)
D. Arturo Gonzalez Azpiri, Secretary General, Ministry of Environment – Spain(tbc)

11:30–12:00

Coffee Break

12:00-16:00

Round Table II: Air Quality Policy measures in Europe and the World

J. Alejandro, Ministry of Environment - Spain
U. Lahl, Ministry of Environment - Germany
M. Vežjak, Ministry of Environment – Slovenia
H. Bolscher , Ministry of Environment – The Netherlands
M. Oge, Director US-EPA Office for Transport and Air Quality
M. Klingbeil - DG ENV
M. Grasserbauer, G. De Santi – DG JRC
N. Hong Khanh, Institute for Environmental technologies – Vietnam
R. Bertollini - WHO
F. Picco, Regione Lombardia
C. M. Marino – ARPA Lombardia
Regions Piemonte, Emilia Romagna (tbc)
UK, France, (tbc)

13:00-14:30

Lunch

14:30-18:00

Parallel Scientific Sessions

Session I: Alternative Fuels and Technologies for a Cleaner Environment, Mon 19th 14:30-18:00

Non-technical Instruments to promote alternative Fuels and Vehicles

Chair: F.X. Soeldner – DG TREN (tbc), F. Picco (Lombardy Region)

1. Local initiatives and strategy to diffuse the culture of hydrogen and the acquaintance of hydrogen infrastructures/vehicles among the Mantova community (citizenship and schools). ZERO REGIO PROJECT
S. Sutti
CREA - MANTOVA
2. Promoting the Market development of methane powered vehicles (natural gas and/or bio-methane): Lessons learnt and forward outlook.
P. Boisen
ENGVA
3. Strategies to reduce greenhouse gas emissions and noxious emissions from transport, on the basis of the trilogy (trias) of transport, technology and energy scenarios.
D. Fiorello
TRT Trasporti e Territorio MILANO
W. Schade (ISI Fraunhofer) P. Christidis
(PTS Sevilla)

Coffee Break

4. The role of Alternative Fuels in meeting GHG and criteria emissions reductions.
A. C. Lloyd
ICCT (International Council on Clean Transportation)
5. BIOGASMAX:Biogas Market Expansion to 2020 Air Quality
S. Mohr
ENGVA
6. Type approval procedures based on real driving cycle operating conditions and their potential effects on alternative powertrains diffusion
A. Alessandrini (Centro di Ricerca de La Sapienza per il Trasporto e la Logistica)
F. Orecchini (CIRPS - Università di Roma "La Sapienza")
F. Ortenzi (Centro di Ricerca de La Sapienza per il Trasporto e la Logistica)
F. Villatico (CIRPS - Università di Roma "La Sapienza")

Session II: Real World Emissions Measurements, Monday 19th 14:30-18:00

Test methods based on PEMS

Chair: D. Chernich (CARB), L.E. Schulte (RW TUV)

1. Measurement Allowance: Approach and Modelling
M. Spears (US-EPA)
2. NTE analysis of Germany Heavy-Duty in-use PEMS data
L. Schulte (RW TUV)
3. NTE and alternative pass-fail methods for in-use testing with PEMS
NN, DG ENTR
4. Measurement Allowance: Test Results
C. Sharp (SWRI)
5. Development of MPS and QCM for on-board PM testing
D. Booker (Sensors Inc.)
6. Issues for the development of an on-board PM Test protocol
L. Rubino, P. Bonnel (EC DG JRC)
7. Compliance and Correlation Testing Of An On Board Emissions Measurement System
H. Nakamura and al. (Horiba)
8. SEMTECH-DS; PEMS for In-Use Compliance Testing
A. Shah (Sensors Inc.)

Emission reduction from vehicles in Europe and the world

Chair: A. Ayala, CARB, USA, Y. Goto, NTSEL, Japan

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| 1. An Overview of the UN-ECE Particle Measurement Programme | C. Parkin, DfT, UK |
| 2. An Overview of European Vehicle Emissions Legislation | P. Good, DG-ENTR |
| 3. The issue of NO ₂ from cars: Overview of the 2006 Workshop | G. Hoermandinger, DG-ENV |
| 4. The Swiss approach to emission reduction from cars | BAFU, Switzerland (tbc) |
| 5. The Californian approach to emission reduction from cars | A. Ayala, CARB, USA |
| 6. The Japanese approach to emission reduction from cars | Y. Goto, NTSEL, Japan |
| 7. "Technology Trend for Diesel PM reduction in Korea" | Youngil Jeong, Hongsuk Kim, Gyubeck Cho (KIMM) |
| 8. Diesel Particle Filters (DPFs) and the environment | D. Bosteels, AECC |
| 9. The experiences of the automotive industry with emission reduction | ACEA (tbc) |



9:30- 9:45

Welcome

J. Potočnik, European Commissioner for Science and Research
 R. Formigoni, President Lombardy Region
 L. Moratti, Mayor of Milan(tbc)

9:45-11:30

Plenary Session

Round Table III: *Science and Policy for a Sustainable Transport*

J. Potočnik, European Commissioner for Research
 M. Grootte, Member of the European Parliament
 P. Costa, Member of the European Parliament
 S. Gabriel, Minister for Environment – Germany
 J. Podobnik, Minister for Environment – Slovenia (tbc)
 J. Bozic, Minister for Transport – Slovenia
 A. Di Pietro, Minister of Infrastructures – Italy (tbc)
 F. Mussi, Minister for Research – Italy (tbc)
 R. Formigoni, President of Lombardy Region
 G. Galan, President of Veneto Region (tbc)
 R. Illy, President of Friuli-Venezia Giulia (tbc)

11:30-12:00

Coffee Break

12:00 – 16:00

Round Table IV: *Transport and Environment Integrated Plans in Europe and the World*

J. Alejandro, Ministry of Environment - Spain
 M. Vezjak, Ministry of Environment – Slovenia
 C. Clini, Ministry of Environment – Italy
 P. van Gurp, Ministry of Transport – The Netherlands
 M. Zan-Owe, Environmental Protection Agency – USA
 Z. Stancic – DG RTD
 G. Lalis - DG ENTR
 M. Grasserbauer, G. De Santi – DG JRC
 F. Picco – Regione Lombardia
 Piemonte, Emilia Romagna, Veneto, Friuli Venezia Giulia (tbc)
 Ukraine
 Brazil

13:00-14:30

Lunch

14:30-18:00

Parallel Scientific Sessions

Hydrogen, Worldwide Progresses overview

Chair: *Luisa PRISTA DG RTD, Adolfo Perujo – DG JRC*

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| 1. Economic perspectives of hydrogen and fuel cells. | A Chr. Hansen
Roskilde University
Denmark |
| 2. "Technologies for the development of a new infrastructure for hydrogen and hydrogen-methane blends" | S de Sanctis
SAPIO
Italy |
| 3. "European experience: Hydrogen and Fuel cell technology platform" | S. Petheves
JRC IE – Petten
Netherlands |

Coffee Break

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| 4. 'European Commission: Development of an EU Regulation for the type-approval of hydrogen vehicles' | F. PEKAR
DG ENTR |
| 5. "EU activities on Hydrogen and fuel cells" | <i>M. Maggiore</i>
DG RTD |
| 6. The project Hyapproval on the European handbook of hydrogen refueling stations | M. Reijalt
H2IT |

Legislation developments based on PEMS

Chair: *M. Spears (US-EPA), G. Mattino' (DG ENTR)*

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| 1. Heavy-Duty In-use legislation in Europe: EURO5 and elements of future EURO6 standards

European PEMS Heavy-Duty Pilot program | P. Good, F. Pekar (DG-ENTR)

P. Bonnel (EC DG JRC) |
| 2. PEMS in the On-road and Off-road legislation in the United States

US Heavy-Duty Pilot program | M. Spears (US-EPA) |
| 3. PEMS and legislation in Japan | P. Goto (NTSEL) |
- Coffee Break***
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| 4. European Industry perspective on in-use legislation with PEMS | J. Stein, A. Ekemo (ACEA) |
| 5. US Manufacturer experience with HD in-use testing | T. Kramer (International) |
| 6. Swedish program for Heavy-Duty in-use testing for in-use | H. Johansson (SRA), L. Erlandsson (AVL MTC) |
| 7. Heavy-duty diesel fuel economy Measurements using PEMS | C. Ensfield (Sensors Inc.) |
| 8. California ARB Regulatory overview and Experience with PEMS | A. Ayala (CARB) |

PM emission measurements

Chair: Z. Samaras, LAT, Greece, A. Mayer, TTM, Switzerland

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| 1. KEYNOTE SPEECH: Advances in PM measurements | Prof. D. Kittelson, USA |
| 2. "Coagulation as a feasible method for a number concentration standard in exhaust gas measuring systems?" | G. Pohlmann, K. Schwarz, W. Koch, Fraunhofer Institut Toxikologie und Experimentelle Medizin, Hannover, Germany |
| 3. "Electrical Tailpipe PM Sensor (ETaPS) for On-Board and Inspection type PM measurements" | V. Niemelä ,DEKATI |
| 4. "Design concepts for the measurement of particulate number" | A. Bergmann, W. Schindler. AVL List GmbH, Austria |
| 5. "Verification and Traceable Calibration of Condensation Particle Counters" | H. Horn, TSI Germany |
| 6. "Reference systems for calibration / validation of particle number concentrations and size distributions". | C. Gerhart, GRIMM |
| 7. "Design Study of a Particle Number Counting System for Field Use" | M. Kasper, MATTER Eng. |
| 8. "Particle and particulate measurements and HORIBA's solution" | M. Rahman, HORIBA |
| 9. Contribution from Sensors | |



Session I: Alternative Fuels and Technologies for a Cleaner Environment, Wed 21st 9:30-12:30

Renewable and Alternative fuels: BTL, GTL, Oxygenates, Blends, Synthetic Fuels

Chair: J.F. Larivé – CONCAWE, V. Mahieu – DG JRC

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| 1. The JEC WTW study (JRC-EUCAR-CONCAWE) | Jean-François Larivé
CONCAWE |
| 2. Waste based substitution potentials for different biomethane pathways | Stephan Ramesohl
Wuppertal Institute
Samuel Stucki
Paul Scherrer Institute |
| 3. WTW study of BTL-, GTL- and CTL- based chains using various configurations/supply paths. | Oscar van Vliet
Copernicus Institute for Sustainable
Development and Innovation
Utrecht University |

Coffee Break

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| 4. European Biofuels/Biodiesel environmental perspectives | Author: tbc
EBB European Biodiesel Board |
| 5. Ethanol Perspectives | Abengoa (<i>tbc</i>) |
| 6. Biofuels availability | R. Edwards (DG JRC-IES-REU) |
| 7. "Biofuels: Global and European Potentials and Sustainability Issues". | Uwe R. Fritsche
Oeko-Institut
(Institute for applied Ecology)
Darmstadt – Germany |

12:30-14:00

Lunch

Low Environment Impact Technologies for Engines, Powertrains, and Vehicles

Chair: Paul GREENING - ACEA (tbc), Helmut LIST (AVL)

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| 1. Comparisons of fuel efficiencies and CO2 emissions when burning methane gas and diesel oil respectively, and when achieving the same emission standards. | Nils Olov Nylund
TEC Finland |
| 2. TBC: EU funded and technology oriented programs (FP6/FP7) | L. Prista
DG RTD |
| 3. The Brazilian experience with flex-fuel vehicles | Rui de Abrantes (tbc)
Cetesb
Environmental Sanitation Agency Vehicle
Emission Laboratory - Brazil |
| 4. On-board Hybrid Vehicle emissions assessment | F. Villatico (CIRPS - Università di Roma "La Sapienza"),
E. Rossi (ENEA). Alessandrini (Centro di Ricerca de La Sapienza per il Trasporto e la Logistica)
F. Orecchini (CIRPS - Università di Roma "La Sapienza")
F. Ortenzi (Centro di Ricerca de La Sapienza per il Trasporto e la Logistica) |

Coffee Break

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| 5. "STARBUS" - An evaluation tool for different energetic pathways: Experimental and modelling approach. | G.Plassat (ADEME)
B.Guiot (CRMT)
F. Lefevre (CRMT) |
| 6. The project Procura on joint procurement models for alternative vehicles | Silvia Vivarelli
ETA Florence |

Session II: Real World Emissions Measurements, Wed 21st 9:00-12:30

Round Table – The status of PEMS in legislation, International co-operation for on-board PM

Participants: Giovanni De Santi (DG JRC), DG ENTR, Merylin Zaw-Mon, Matt Spears (US-EPA), ACEA, EMA, Instrument providers

Round Table:

- Launch of the European heavy-duty pilot program
- Co-ordination with its US equivalent and launch of an international work program regarding on-board PM

Coffee Break

Application of Portable Emissions Measurements Systems: Case studies

Chair: A. Krasenbrink (DG JRC), A. Ekermo (VOLVO POWERTRAIN)

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| 1. Kansas City project | M. Sabish (ERG) |
| 2. PEMS-Laboratory Instruments Inter-Comparison | C. Gierczack (Ford) |
| 3. Testing NRMM with PEMS: Case Studies | P. Scherm (EUROMOT) |
| 4. City-Bus Testing | J. Izquierdo, R. Delgado, (IDIADA) |

12:30-14:00

Lunch

Session II: Real World Emissions Measurements, Wed 21st 14:00-17:30

Chair: L. Hill (HORIBA), A Reading (SENSORS INC)

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| 5. On board aircraft emission measurements | T. Rindlisbacher (Swiss Federal Office of Civil Aviation) |
| 6. US Manufacturer experience with HD in-use testing | D. Keski, (DDC) |
| 7. Emissions of Recreational Boats on Lake Constance - Onboard Measurements and Aftertreatment | M. Klaisle (Fachhochschule Konstanz) |

Coffee Break

Chair: A. Shah (SENSORS INC), R. Hummel (DG JRC)

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| 8. PEMS measured emissions of two euro 2 buses retrofitted with different combinations of PM traps and SCR | G. Lenaers (Vito) |
| 9. An experience with an on-board opacity measurement campaign on buses running in Italian cities and engine test bed correlation of PM emissions | M. V. Prati and al. (Istituto Motori CNR) |
| 10. Using PEMS for testing vehicles which are not applicable on test beds | S. Hausberger and al. (TUG) |
| 11. Locomotive and Marine In-Use Testing | S. Fritz (SWRI) |
| 12. Measurement of unregulated pollutants using on-board FTIR | M. Vojtisek (Department of Mechanical Engineering, Technical University Liberec) |

Session III: Advanced Particle Emission Measurements and Abatement, Wed 21st 9:00-12:30

The PMP light-duty vehicle intercomparison programme, final results and conclusions

Chair: S. Park, Korea Univ., Korea, P. Dilara, DG-JRC

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| 1. Presentation of final results of PMP light-duty intercomparison exercise from the laboratories (UK, F, D, JRC, S, Japan, Korea) | B. Giechaskiel, P. Dilara DG-JRC |
| 2. The challenges of accurately measuring PM from a non-steady combustion process, | J. Andersson, Ricardo, UK |
| 3. Daily and periodic calibrations of the particle number measurement system used in the InterLaboratory Correlation Exercise | Dr Ian Marshall, Emma Sandbach, AEA Energy and Environment, UK |
| 4. "PMP Protocol robustness under the prism of alternative sampling system realizations" | Z. Samaras, LAT, Aristotle University |
| 5. The influence of vehicle preconditioning on particle number emissions | M. Mohr, EMPA |
| 6. The Japanese programme of PMP (light-duty) | H. Yamada or T. Kawai, NTSEL, Japan |
| 7. "Evaluation of Particle Emission in Passenger Vehicles for various Fuels" | S. Kwon, J. Kim (NIER), J. Lee, Y. Jeong (KIMM), and S. Park (Korea Univ.) |
| 8. Experiences from the CARB PMP-based programme | A. Ayala, CARB, USA |

12:30-14:00

Lunch

Session III: Advanced Particle Emission Measurements and Abatement, Wed 21st 14:00-17:30

Launch of the PMP heavy-duty validation exercises (kick-off meeting)

Chair: Ch. Parkin, DfT, UK, G. Martini, DG-JRC, P. Laguna Gomez DG-ENTR

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| 1. Introduction | P. Laguna Gomez, DG-ENTR |
| 2. The design of the HD intercomparison exercise | Ch. Parkin, DfT, UK |
| 3. Progress in PMP heavy-duty intercomparison exercise | G. Martini, DG-JRC |
| 4. Progress of the PMP parallel Asian intercomparison exercise (heavy-duty) | Y. Goto, T. Kawai, H. Yamada, NTSEL, Japan |
| 5. The PMP HD Round Robin | OICA / ACEA (tbc) |
| 6. Discussion on further labs preparation, timetable and execution details | All participants and JRC manager |
| 7. Discussions on Equivalent programmes | (Representatives from Japan, Korea, USA) |

Venue:

fieramilano

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<http://www.fieramilano.it/>

Web-site:

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