



# Cooling Cars with Less Fuel: Improving the On-Road Performance of Motor Vehicles

23-24 October, 2006

At the International Energy Agency headquarter, Paris

## Agenda

(as of 23<sup>rd</sup> October)

**Preceding workshop at the IEA in Paris:** October 22<sup>nd</sup>: 19:30 pre-workshop dinner in a nearby restaurant. Meet other workshop participants in an informal setting (not sponsored: approx. cost 25€/person).

### Monday, October 23<sup>rd</sup>

Time	Event
<b>9:00</b>	<b>Registration</b>
	<b>Session 1: Fuel consumption of vehicle air conditioning</b>
9:30	Welcome by Session Chair (Rick Bradley, IEA)
	Why is the IEA concerned about energy use in transportation? – Noé Van Hulst, Director, Long Term co-operation and policy analysis Office, IEA.
	The ECMT and its work on car components Stephen Perkins, ECMT, European Conference of the Ministers of Transportation, OECD, Paris
	Why focus on the fuel use of air conditioning? – Alan Meier, IEA
	Worldwide perspective of mobile air conditioning and other car components – K.G. Duleep, Energy & Environmental Analysis, Inc., USA
	Brief History and Future Prospect of Global Cooperation on Improving Mobile AC Environmental Performance – Stephen O. Andersen, Environmental Protection Agency (EPA), USA
	Assessing the Vehicle Level and National A/C Fuel Use Impact of Advanced Climate Control Technologies – John Rugh, National Renewable Energy Laboratory (NREL), USA
	Coffee break
	<b>Session 2: Government Activities – To what extent is cooling covered by the Fuel economy tests? How to regulate what will not be covered by the tests?</b>
	Introduction by Session Chair (James Boyd, CEC)
	Activities relating to Evaluation of Cooling Cars Technology – Takao Onoda, IEA
	An overview of possible public policy tools and how they work: labels, standards and voluntary agreements around the world – Thomas Guéret, IEA

	Canada's approach to reducing GHG emissions from motor vehicles – Paul Khanna, Transportation Energy Use Division, Natural Resources Canada
	Update in efforts in promoting MAC fuel efficiency in Europe – Günter Hörmandinger, Clean Air and Transport Unit, DG Environment, European commission, Brussels
	MAC from developing countries' perspectives Jim Curlin, OzonAction Branch, UNEP, Paris
	Discussion
<b>13:00</b>	<b>Lunch</b>
<b>Session 3: Refrigerant gases and energy efficiency</b>	
<b>14:15</b>	Introduction by Session Chair (Jim Curlin, UNEP)
	Europe's strategy to limit the impact of Green-House Gases from Mobile Air Conditioning: the forthcoming directive – José Pablo Laguna Gomez, Automotive Industry Unit, DG Enterprise and Industry, European Commission
	Refrigerant gas leakage: new evidence from an ACEA-CEP study – Denis Clodic, CEP, École des Mines de Paris, France
	DuPont DP-1 GLocal LCCP Assessment – Mary Koban, DuPont Fluoroproducts, Wilmington, USA
	Status of the Development of a Low Global Warming Refrigerant for Automotive Air Conditioning Applications – Dr Nacer Achaichia, Honeywell, Belgium
	Coffee break
	B-COOL project – Carloandrea Malvicino, CRF - Fiat Research Center, Italy
	Latest developments and perspective in R-744 (CO <sub>2</sub> used as a refrigerant) – Armin Hafner, SINTEF, Norway
	The role of the car equipment manufacturers – Christophe Petitjean, Valeo, France
	Discussion
<b>Session 4: Assessing the performance and its translation into Energy Savings</b>	
	Introduction by Session Chair (Stephen O. Andersen, USEPA)
	How to measure the performance of the equipment, of the system and of the cooling of the car itself? And how to measure or estimate their impact on the fuel use? – Denis Clodic, CEP, École des Mines de Paris, France
	North America projects to develop standard tests for MAC efficiency – William Hill, TIE-HVAC General Motors Corp., USA
	High efficiency and tight future MAC systems – Denis Clodic, CEP, École des Mines de Paris, France
	Hybrid compression systems – Georges El Khoury, SANDEN automotive, France
	Discussion: can fuel economy tests adequately capture AC energy use? What other options are available?
<b>18:15</b>	<b>First Day Ends</b>
18:30	Reception hosted and sponsored by the IEA

## Tuesday, October 24th

Time	Event
<b>9:00</b>	<b>Day 2 begins</b>
	<b>Session 5: Comfort, load reduction and alternatives</b>
	Introduction by Session Chair (Denis Clodic, CEP, École des Mines)
	Envelope optimisation (colour, roof insulation, advanced glazing), an overview – Emanuele Lugarà, CRF, Italy
	Climate control: comfort assessment, health and energy savings – Stefano Mola, CRF, Italy
	AC loads and car colour: potential savings from high albedo surfaces Hashem Akbari, Lawrence Berkeley National Laboratory
	Using Solar Reflective Paint to Reduce Cooling Load and Fuel Consumption – Dr Tomohiko Ihara, National Institute of Advanced Industrial Science and Technology, Japan
	Energy Efficiency Improvement with the New Development Scroll Compressor – Hideto Noyama, Mitsubishi Heavy Industry, Japan
	Discussion: Should we make separate component tests or include these factors in the overall fuel economy tests?
	Coffee break
	<b>Session 6: Showcase of good practices, programmes and policies for the future</b>
	Introduction by Session Chair (Alan Meier)
	JAMA's Activity for Reducing Global Warming Impact from MAC System – Tohru Ikegami, Toyota Motor Corporation, JAMA, Japan
	The sensitive user's views: thought on control, design and policies – Jos Dings, NGO Transport and Environment, Brussels
	California's plans to reduce car cooling energy use – James Boyd, Commissioner, California Energy Commission, USA
	General discussion: What commitments or standards could be decided? What steps need to be taken to recognise and reward efficient cooling systems?
	Summary from the chair
	<b>End of Energy Efficient MAC Workshop / Lunch</b>
	<b>Supplemental Session 7: Other technologies to improve on-road performance</b>
	Introduction by Session Chair (Paul Waide, IEA)
	New developments in the component approach to improving vehicle's efficiency – Alan Meier, IEA or Thomas Guéret, IEA
	Update on energy efficiency improvement through low rolling resistance tyres – Christophe Penant on behalf of the industry (ETRMA and ETRTO)
	Potential improvements in vehicle lighting – Thomas Guéret, IEA
	Coffee break
	Fuel savings from eco-driving behaviour and technologies to reinforce it – Martin Kroon, International expert on eco-driving, Netherlands
	Idle-stop systems – François-Xavier Artigues, Valeo, France
	Discussion and further steps
<b>17:00</b>	<b>Workshop adjourns</b>

Please contact Thomas Guéret for more information:

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### **TO REGISTER:**

Please send your details (name, organisation, function, address, phone and fax numbers and the detail of your time of presence including at the pre-workshop dinner) to: [chantal.boutry@iea.org](mailto:chantal.boutry@iea.org)

### **Workshop venue:**

At the IEA Headquarters, conference room 1

9, rue de la Fédération

PARIS 15<sup>th</sup> district (15<sup>ème</sup> Arrondissement)

Metro station “Bir Hakeim” or R.E.R. station “Champ de Mars”



- See available updates and other documents on the workshop:  
[http://www.iea.org/Textbase/work/workshopdetail.asp?WS\\_ID=247](http://www.iea.org/Textbase/work/workshopdetail.asp?WS_ID=247)
- A CD-rom with workshop presentations and documents will be sent to every participant after the workshop. Please feel free to propose any information that could be usefully included.