

N AECC Newsletter

Association for Emissions Control by Catalyst

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Affiliated to CEFIC

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INTERNATIONAL REGULATORY DEVELOPMENTS

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EUROPE

1. Emissions from Motorcycles

The March Environment Council reached a political agreement, with a qualified majority, on a common position concerning the Commission proposal to amend Directive 97/24/EC on two or three-wheel motor vehicles. Germany abstained, specifying, in a statement to the minutes, that it would have preferred setting binding maximum levels for around 2006.

The common position reached will introduce tighter emission limits from 2003 for new types of motorcycles. Limits depend on engine size and are less severe for tricycles and quadricycles. The new tightened limit values correspond to a reduction of 60% for hydrocarbons and carbon monoxide for four-stroke motorcycles, and 70% for hydrocarbons and 30% for carbon monoxide for two-stroke motorcycles.

For hydrocarbons the Council agreed on tighter limit values than those originally proposed by the Commission for large motorcycles (class II: >150cc), to be introduced from 2003. For smaller motorcycles (class I: <150cc), the Council confirmed the figures proposed by the Commission.

This common position will be formally adopted, without discussion, at a future Council meeting once the text has been checked legally and translated into the 11 community languages. It will then be sent to the European Parliament for a second reading.

In the Council common position the second stage with new mandatory emission limits for “around” 2006 would be based on the

new World Motorcycle Test Cycle (WMTC) which the Commission intends to present before the end of 2002.

The common position allows Member States to offer tax incentives to vehicles that comply with the new 2003 mandatory limit values before the application date, as well as to vehicles that comply with the stricter 2006 permissive limit values in the common position.

	Class (cc)	Mass of carbon monoxide (CO)	Mass of hydrocarbons (HC)	Mass of oxides of nitrogen (NOx)
		L ₁ (g/km)	L ₂ (g/km)	L ₃ (g/km)
Limit values for motorcycles (two-wheel) for type approval and conformity of production				
A (2003)	all	5,5	1,2 (Council 1,0 for >150cc)	0,3
B (2006)	I (≤150)	2,0	0,8	0,2
	II (>150)	2,0 2,3	0,3 0,2	0,1 0,15
Limit values for tricycles and quadricycles for type approval and conformity of production (positive ignition)				
A (2003)	all	7,0	1,5	0,4
B (2006)	I (≤150)	5,0	1,2	0,3
	II (>150)	2,9	0,25	0,2
Limit values for tricycles and quadricycles for type approval and conformity of production (compression ignition)				
A (2003)	All	2,0	1,0	0,65
				Mass of PM L₄ (g/km)
B (2006)	I (≤150)	1,4	0,7	0,45
	II (>150)	0,80	0,15	0,65
				Mass of PM L₄ (g/km)
				0,07

NB: In the Commission proposal and Council common position the values in row B are permissive and applicable for tax incentives. Changes in the European Parliament common position at the first reading are in ***Bold and Italics*** and based on the current car cycle.

2. EU proposes Emission Standards for Small Utility Engines

The European Commission has adopted a proposal on emission standards from small machinery equipped with petrol engines. The types of engines covered are used in lawn mowers, chain saws, bush cutters, trimmers and snow removal equipment. Emissions from small utility engines are currently not regulated in the European Union. The proposal includes two stages of limit values; the first to be met 18 months after the regulation is in force and the second one between 2004 and 2010, depending on the engine category.

The proposed standards have been developed in co-operation with the US EPA with an intention of a worldwide standard harmonisation. This would streamline the engine development process for the manufacturers and allow the possibility to market one engine concept worldwide.

The adopted proposal, COM (2000) 840, will amend and become a part of the Directive 97/68/EC, which regulates emissions from non-road diesel engines.

3. EU sets 10-year Plan for Environment

The European Commission has launched an environmental action plan, which will guide its policies for the next 10 years. The Commission has identified four main areas where it needs to concentrate its efforts:

fighting global warming, protecting nature, improving health and the environment, and preserving natural resources.

The strategy is seen as a road map on the direction EU policies will take in the foreseeable future. About 80 percent of national environmental measures in the EU are based on EU directives. A key element of the strategy “Environment 2010: our future, our choice” is an emphasis to work with industry and consumers to make production and consumption patterns less environmentally damaging.

The strategy foresees greater use of voluntary initiatives to encourage industry to improve its environmental performance and reward the better companies with, for example, streamlined permitting procedures. The paper, which marks a move away from the traditional approach of limiting emissions from chimneys and outlet pipes, puts great emphasis on using market-based mechanisms to promote greener products, such as increasing use of “eco-labels” and ecological audits for companies.

However, the Commission's paper also recommends some tougher policy instruments as ways of influencing the market - legal liability for environmental damage and environmental taxes where politically feasible. The Commission said it would make more effort to ensure countries implement existing legislation, but it also identified certain business sectors as the focus for tougher environmental regulation.

The strategy proposal now goes to the Council and the European Parliament for agreement under the co-decision procedure.

4. Energy Taxes must rise to save Climate says Margot Wallström

The only way to persuade consumers and industry to reduce their reliance on the fossil fuels blamed for climate change would be to steadily increase energy taxes, EU Environment Commissioner Margot Wallström told a conference in Berlin. “Increasing energy prices is of course something that we should not leave to the oil producing countries. A well planned policy for energy taxation is the way forward,” Wallström said.

Under the Kyoto agreement in 1997, the EU promised to reduce its greenhouse gas emissions by 8% from 1990 levels by 2010. However without more radical policies, the Commission estimates emissions will rise by 7%.

Wallström said policy makers now had to face the politically unpopular reality that to reduce the demand for energy, fuel prices have to rise.

NORTH AMERICA

5. Bush Administration gives “Green Light” to implement HDE Standards and Diesel Sulphur Limits

US EPA Administrator Christine Todd Whitman has directed EPA to move forward on schedule to implement the on-road HDE 2007 standards and the 15 ppm diesel sulphur limits. In January, the Bush Administration put the rule on hold, raising the possibility that it might try to delay or propose changes to the rule adopted by the Clinton Administration last year but the rule will now go into effect.

6. Oil Refiners announce their intention to Sue US EPA over Diesel Fuel Rules

US oil refiners have announced that they will sue the Environmental Protection Agency (EPA) to change the new low sulphur diesel rules they say are too strict and threaten consumers with shortages and high prices. The rules released in December are aimed at lessening particle emissions from diesel trucks providing cleaner air for children, the elderly and people with respiratory ailments. They are to take effect in 2006. Under the rules, refiners would have to cut sulphur in diesel fuel to 15 parts per million (ppm) compared to current levels of 500 ppm.

The National Petrochemical and Refiners Association (NPRO), the leading refiners association, said it is suing in order to prevent future diesel shortages.

7. US MSHA adopts two Final Diesel Rules for Underground Mines

The Mine Safety and Health Administration announced two final rules to protect underground miners from emissions of diesel particulate matter (DPM). One of the rules regulates PM emissions in coalmines, the other in metal or non-metal mines (i.e. non-coal mines). Both rules were published in the Federal Register on 19 January.

The regulations take different approaches to reduce DPM exposure in coal and in non-coal mines, as follows:

Metal and non-metal mines: The final rule to protect miners will establish an interim DPM concentration limit of 400 microgram/m³ and, after five years, that level must be reduced to 160 microgram/m³.

For the purpose of ambient sampling DPM is defined as total carbon including elemental and organic carbon, but excluding metal ash or sulphates. The current level of DPM exposure in North American mines ranges from 200 and 500 microgram/m³, with significantly higher levels measured at some locations. The new regulations are expected to require widespread use of diesel particulate filters. The rule also introduces 500 ppm sulphur diesel fuel for metal and non-metal mines.

Coalmines: In underground coalmines, the new rule sets a specific emission limit of 2.5 g/hr (grams per hour) of DPM for permissible and non-permissible equipment. This emission limit replaces the explicit requirement to install 95% efficient particulate filters. Coalmine operators may use a combination of controls to comply with the emission limit but it is expected that, in most cases, meeting the limit will require the use of particulate filters. Only the smallest engines will be able to meet the 2.5 g/hr limit with no emission aftertreatment. Permissible vehicles, which are equipped with water scrubbers or heat exchangers, are expected to use disposable, paper-based particulate filter cartridges, while non-permissible equipment would use catalytic particulate filters.

8. EPA issues Air Toxics Rule

On 20 December 2000, the US EPA signed another final regulation – the “Rule to Control Emissions of Hazardous Air Pollutants from Mobile Sources” commonly known as the “Air Toxics” rule. The action addresses emissions of hazardous air pollutants from motor vehicles and their fuels. Motor vehicles are significant contributors to national emissions of several hazardous air pollutants, notably benzene,

formaldehyde, 1,3-butadiene, acetaldehyde, and diesel particulate matter and diesel exhaust organic gases.

In the rule, EPA lists 21 compounds emitted from motor vehicles that are known or suspected to cause cancer or other serious health effects. In the rule, EPA also examines the mobile source contribution to national inventories of these emissions and the impacts of existing and newly promulgated mobile source control programmes, including the reformulated gasoline (RFG) programme, the national low emission vehicle (NLEV) standards, the Tier 2 motor vehicle emissions standards and gasoline sulphur control requirements, and the heavy-duty engine and vehicle standards and on-highway diesel fuel sulphur control requirements. Between 1990 and 2020, EPA projects that these programmes will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 67 to 76 percent, and will reduce on-highway diesel PM emissions by 90 percent.

9. CARB holds to ZEV Mandate

California is holding firm to its zero emission vehicle (ZEV) mandate, directing automakers to produce between 4,450 and 15,450 electric cars starting in 2003. At its 25 January hearing, the California Air Resources Board (CARB) voted to keep the 10-year-old ZEV mandate in place, while giving automakers additional options in meeting their ZEV requirements.

CARB’s action also requires about 100,000 other highly clean vehicles in 2003 with this number increasing to more than 400,000 by 2006. CARB will include from 2007 heavier sport utility vehicles, pickup trucks and vans in the sales figures used to calculate the

number of ZEVs each automaker is required to sell in California. This will increase the number of vehicles used to calculate ZEV requirements from just under 1 million to more than 1.5 million.

The ZEV mandate is meeting its goal of encouraging automakers to develop not just battery-powered electric vehicles but also other new clean-car technologies, including fuel cell vehicles, electric-gasoline hybrids and super clean gasoline vehicles.

10. Soot is Emerging as big factor in Global Warming according to New Study

Researchers at Stanford University in California believe that soot emitted from fires, diesel engines and jet engines, could be a major cause of global warming, second only to carbon dioxide, and may cause as much as 30 percent of the climate change, also known as the greenhouse effect.

Until now, experts on global warming have not considered soot a major player and have placed most of the emphasis on reducing carbon dioxide, methane and other greenhouse gases. But Mark Jacobson, a professor of civil and environmental engineering, believes they should also be concentrating their efforts on reducing soot worldwide to combat global warming, cut pollution and to improve health.

His team found that soot and carbon dioxide cause warming in different ways. "Carbon dioxide absorbs the Earth's infra-red radiation whereas soot absorbs solar radiation directly," added Jacobson.

In a study published in the science journal

*Nature*¹, Jacobson and his colleagues used a computer model to show how soot mixes with other particles in the atmosphere to contribute to global warming. Most previous studies had assumed soot never mixes with other particles. But the Stanford team showed that soot combines with particles such as dust, sea spray, sulphate and other chemicals within five days after entering the atmosphere.

When the researchers programmed the computer to show the effect of millions of tons of mixed soot on climate they were amazed by the results. "These black carbon mixtures turn out to be one of the most important components of global warming," Jacobson said.

The study raises questions regarding the overall benefits of diesel technology for reducing the risk of climate change. While diesel engines are more fuel-efficient than gasoline engines and emit less carbon dioxide they currently emit much more soot.

11. Children at risk in Diesel School Buses according to NRDC Report

The Natural Resources Defense Council (NRDC) and Coalition for Clean Air have released a report showing that children who ride to school on diesel-powered buses may be exposed to as much as four times more toxic exhaust than if they travelled in passenger cars. More than 23 million children in the United States use school buses.

The report estimated that the diesel exhaust exposures are likely to result in an additional 23 to 46 cancer cases per million children exposed.

¹ "Strong radiative heating due to mixing state of black carbon in atmospheric aerosols", Mark Z Jacobson, *Nature*, **409**,695-697 (2001)

The report, entitled “No Breathing in the Aisles: Diesel Exhaust Inside School Buses,” said the excess exhaust levels on the buses were more than eight times the average levels found in the ambient air in California.

MIDDLE EAST

12. Saudi Arabia introduces Unleaded Petrol from 2001

Saudi Arabia has announced that it will introduce unleaded gasoline from 1 January 2001 to combat air pollution. The official Saudi press agency quoted officials at state-owned Saudi Aramco as saying that the kingdom's four domestic refineries would start producing only unleaded gasoline from 1 January 2001.

Saudi Arabia is the world's largest exporter of crude oil.

Saudi Arabia's gradual switch from leaded to unleaded fuel had been moved one year in advance of the January 2002 target date set by the Gulf Cooperation Council, which also includes Oman, Qatar, Bahrain, Kuwait and the United Arab Emirates.

ASIA-PACIFIC

13. Vietnam decides to go Unleaded

In late November 2000 Vietnam decided to switch to unleaded petrol. The switch will take place on 1 July 2001.

FORTHCOMING CONFERENCES

“Catalytic Gold”

2-5 April 2001, Cape Town

Details from www.acitravel.com

Covers catalytic applications in environmental control.

“2nd European Fuels Conference”

24-25 April 2001, Vienna

Details from www.wraconferences.com

“22nd International Vienna Motor Symposium”

26-27 April 2001, Vienna

Details from ÖMV, Tel: +431 588 01-31503, Fax: +431 586 6294,
<http://ivkwww.tuwien.ac.at/oevk.html>

“2001 SAE International Fuels and Lubricants Conference”

7-9 May 2001, Orlando, Florida

Details from SAE, Email mjena@sae.org

“Hart’s World Fuels Conference”

14-16 May 2001, Brussels

No details yet.

“Well-to-Wheels 2001 - Investing in Advanced Propulsion Systems and Fueling Infrastructures”

14-16 May 2001, Nice

Details from: Intertech,
<mailto:jscheld@intertechusa.com> or

<http://www.intertechusa.com>.

The conference will focus on new strategies for developing ultra low emission, fuel-efficient vehicles by assessing a number of engine/fuel combinations in terms of cost,

energy efficiency, emissions and market requirements.

“EAEC European Automotive Congress – Europe & the Second Century of Auto-Mobility”

18-20 June 2001, Bratislava, Slovakia

Details from: SIA, Tel: +33 1 41 93 70, Fax: +33 1 41 93 79.

<http://www.saits.sjf.stuba.sk/>

6th Italian Seminar on Catalysts “Fundamentals and Application to Environmental Problems”

18-23 June 2001, Grado, Italy

Details on <http://www.dschi.univ.trieste.it/>

“Engine 2001 Conference”

19-21 June 2001, Messe Stuttgart

Details from

<http://www.ukintpress.com/engine/expo> or from Mark Fenner on Tel: +44 1306 877411 or Email <mailto:expo@ukintpress.com>

Held in conjunction with “Engine Expo 2001”; sessions include “Emissions control: Euro IV and beyond – 21st century catalytic converters, NOx traps, particulate control....”

“SIMEA 2001”

26-28 June 2001, São Paulo, Brazil

Details from AEA Brazil, Email: simea@aea.org.br Web: www.aea.org.br

Covers wide range of automotive topics including emissions.

“2001 SAE Future Transportation Technology Conference”

20-22 August 2001, Hilton-Costa Mesa, California

Details from:

<http://www.sae.org/calendar/ftt/cfp01.pdf>

Call for papers on Energy & the Environment, Alternate Fuels & Energy Systems and Advanced Propulsion Systems.

“Prosper 2001” – International Congress on innovation in urban passenger transit systems aimed at energy saving and environmental improvement

19-20 September 2001, Karlsruhe, Germany

Details of Congress on www.prosper.ttk.de .

Call for papers Email

Colin.Jefferson@uwe.ac.uk

The congress focuses on energy saving, pollution reduction and safety. Topics include hybrids, low and zero emission systems, clean and fuel efficient engines and fuel cells. Abstracts due 27 April 2001.

MACC 2001 “Material Aspects in Catalytic Converters”

3-4 October 2001, ICM, Munich

Details on www.macc.dgm.de

Covers all material aspects of performance and life of catalytic converters.

International Commercial Powertrain Conference “Synergy for Progress”

18-19 October 2001, Academy of Sciences, Budapest

Details from AVL, Fax: +43 316 351314,

Email: event@avl.com

First AVL conference devoted to automotive, industrial and agricultural engines.

SAE International Truck & Bus Meeting & Exhibition

12-14 November 2001, Chicago

Details on www.sae.org/truck

Covers emission testing and control.

“3rd International Conference on Health Effects of Vehicle Emissions”

28-28 November 2001, Hilton Birmingham Metropole, NEC Birmingham, UK

Information from Frances Webb, PennWell Global Energy Group, Tel: + 44(0) 1628 810562, Fax: + 44(0) 1628 810762, Email: francesw@pennwell.com

Programme details not yet finalised but will include a one-day noise seminar.