

# N **AECC** Newsletter

**Association for Emissions Control by Catalyst**

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Affiliated to CEFIC

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**January – February 2002**

## **INTERNATIONAL REGULATORY DEVELOPMENTS**

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## **EUROPE**

### **1. Milan experiences Severe Pollution**

Record levels of air pollution in Milan forced the regional government to ban all cars and motorbikes for the first time in 25 years. Milan, Como and other nearby cities decided to introduce the one-day traffic ban because a blend of pollutants from factories, heating and cars had created a health hazard.

### **2. EU Air Quality remains Poor**

The European Commission's annual reports on the concentration levels of ground-level ozone in the European Union during 1998 and 1999 show that despite a slight improvement of the situation in Central Europe (a slight downward trend in the ozone pollution peaks is visible over the last years), there still is not global reduction in population and ecosystems exposure to ozone in the EU.

The reports reveal that the levels of ozone concentration measured in more than 1400 observation posts remain well above the ceilings set by the Council's framework Directive on air pollution by ozone (Directive 92/72/EC).

In 1998, the ceiling for health protection (110 micrograms/m<sup>3</sup> during eight hours) was, on average, exceeded during a 20 to 60 day period in Mediterranean countries (up to 80 in certain areas), and by 10 to 35 times in countries located in the centre of the EU. The danger limit for warnings (360 micrograms/m<sup>3</sup> during one hour) was exceeded by eight observation posts in three Member States: Greece, Italy and France and the public was informed of the situation and asked to avoid all significant physical exercise on those days.

In 1999, no exceedence of the danger levels (360 micrograms/m<sup>3</sup>) took place, but the ceiling for informing the public (180 micrograms/m<sup>3</sup> during an hour) was exceeded by all the members of the EU except Ireland, Denmark, Sweden and Finland. The most critical situations took place in Italy, Greece, France and Spain where the population was informed of the high levels of ozone pollution during a 40 to 60 day period.

### **3. EU will attempt to regulate Emissions from Ships**

The European Commission has issued a discussion paper titled "A Community Strategy On Air Pollution From Seagoing Ships", intended to inform the development of a European strategy on air pollution from seagoing ships. Emissions from ocean going ships are currently not regulated in the EU.

Air pollutant emissions from seagoing ships do not stop at national boundaries and some disperse to the land, particularly in coastal areas. Emissions of sulphur dioxide and nitrogen oxides are particularly significant, causing acidification and eutrophication and leading to the formation of ground-level ozone and particulate matter.

EU Member States have already achieved a great deal in reducing land-based emissions of these pollutants, but for the most part, seagoing ships are exempted from existing EU air quality legislation and to date marine heavy fuel oils have not been subject to EU legislation with the result that seagoing ships' contribution to EU emissions is rising. Preliminary projections suggest it is quite possible that by 2010, ship emissions of sulphur dioxide could have reached three quarters of land emissions. For nitrogen oxides, the figure is probably nearer 60%.

The Commission has recently commissioned a new study to quantify ship emissions more precisely, based on year 2000 ship movements, and including in-port emissions for the first time. The Commission recognises that on many environmental criteria, shipping performs well relative to other forms of transport. For this reason the Commission want to continue to promote shipping and move the carriage of more goods from land to sea. But it is nonetheless important to examine the environmental impact of ship emissions and propose measures where necessary to bring shipping into line with other land-based sectors and transport modes.

The strategy being proposed is at this stage to respond through three separate directives and to consider measures to reduce air pollutant emissions from the maritime sector. These are:

**Directive 2001/81/EC on National Emission Ceilings**, which commits the Commission to report to the European Parliament and Council by the end of 2002 on the extent to which emissions from international maritime traffic contribute to acidification, eutrophication and the formation of ground-level ozone within the Community.

**Directive 1999/32/EC on the Sulphur Content of Liquid Fuels**, which already sets sulphur limits for marine distillate oil used in Community territorial waters, but commits the Commission to "consider which measures could be taken to reduce the contribution to acidification of the combustion of marine fuels other than distillates, and, if appropriate, make a proposal".

**Directive 1994/63/EEC on Stage 1 VOC Vapour Recovery**, which invites the Commission to look at extending the directive's scope to address volatile organic compounds, emitted during the loading and unloading of ships.

The principal pollutants covered by the strategy will therefore be sulphur oxides, nitrogen oxides and volatile organic compounds. The strategy will also consider particulates and greenhouse gases.

## **NORTH AMERICA**

### **4. ARCO to offer Low Sulphur Fuel in California**

ARCO will begin offering a cleaner burning diesel fuel, well in advance of anticipated regulatory requirements, aimed specifically at helping reduce soot emissions from urban municipal fleets in Southern California. The new fuel will have a maximum sulphur content of 15 ppm, while the sulphur content of diesel fuel currently used in California is an average of 120 ppm, with a maximum sulphur level of 500 ppm.

The new ultra low sulphur diesel fuel will be available immediately, upon request, to operators of urban municipal fleets that have been retrofitted with catalytic exhaust control technology. The announcement is being made simultaneously with the California Air Resources Board's (CARB) staff proposal requiring significantly lower emissions from urban buses (see below), but prior to finalisation of new Public Transit Bus Fleet Rules and Urban Bus Engine Standards, which are intended to help ensure even better air quality throughout the state.

## **5. California proposes to Clean Up Urban Buses**

The California Air Resources Board has introduced a regulatory proposal to reduce emissions from urban buses based on a multi-component transit bus fleet rule for transit agencies, more stringent emission standards for engines used in urban buses, applicable to engine manufacturers. The fleet rule is designed to achieve nearer-term emission benefits while the engine standards are designed to achieve long-term emission benefits resulting from new bus engines with ultra-low, near-zero, and zero-emissions.

To provide transit agencies with flexibility in determining their optimal fleet mix, the proposed rule allows transit agencies to choose between two compliance paths, either the diesel path or the alternative-fuel path.

Within the two paths, CARB staff is proposing a comprehensive transit bus programme that encompasses a combination of different requirements. In total, these requirements will ensure low-emission public transportation within California. These requirements include:

- An in-use NO<sub>x</sub> fleet average requirement that will encourage the retirement of the oldest, dirtiest diesel buses
- PM retrofit requirement, with an emphasis on the dirtiest buses, to reduce public exposure to toxic diesel PM emissions
- Low-sulphur diesel fuel requirement
- Low-emission bus purchase requirements, based on new urban bus emission standards

- A zero-emission bus demonstration project
- Zero-emission bus purchase requirements.

## **6. California Assembly approves Global Warming Auto Emissions Legislation**

California is pursuing reductions in new vehicles' carbon dioxide emissions. The proposed regulation, which would be developed by the state Air Resources Board during the next two years and could go into effect in 2005, passed a vote in the Assembly by 42 votes to 24.

The legislation does not specify emissions targets to meet but simply directs the state to come up with the maximum feasible reduction. The bill may be expanded to cover all greenhouse gases.

## **7. Ozone Air Pollution found to cause Asthma**

Children who play sports in areas with high levels of air pollution are three to four times more likely to develop asthma than other youngsters, according to a new study published in the *Lancet* medical journal.<sup>1</sup> The study by researchers at the Keck School of Medicine at the University of Southern California showed that ozone can contribute

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1. "Asthma in exercising children exposed to ozone: a cohort study", Department of Preventive Medicine, University of Southern California School of Medicine, Los Angeles, CA, USA (R McConnell MD, K Berhane PhD, F Gilliland MD, T Islam MS, W J Gauderman PhD, E Avol MS, Prof J M Peters MD); National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA (S J London MD); and California Air Resources Board, Sacramento, CA, USA (H G Margolis MS), *Lancet* 2002; 359: 386-91

to asthma - the most chronic disease in children.

The study involved about 3,500 children ranging in age from 9 to 16 who had no history of asthma. The researchers questioned the youngsters about what sports they played and monitored levels of air pollution in their communities. The communities were then divided into low and high pollution areas. After five years, 265 children were diagnosed with asthma. Overall, the sporty children were more likely to develop the disease. In communities with high levels of pollution, the risk increased with the number of sports the children played.

In communities with high ozone concentrations, the relative risk of developing asthma in children playing three or more sports was 3.3 times higher than for children playing no sports. Sports had no effect on the incidence of asthma in areas of low ozone concentration.

The researchers believe that active youngsters in highly polluted communities are taking higher doses of ozone into their lungs because they breathe rapidly and deeply.

## **8. Study assigns Bright Future to Gasoline and Diesel Vehicles**

According to a study entitled *Future Powertrain Technologies: 2008 to 2020* from DRI-WEFA and Arthur D. Little, consumers will continue to favour sport-utility vehicles (SUVs) and light trucks as gasoline and diesel engine technology becomes more advanced. While there is currently a trend toward developing less-polluting fuels, the study concludes that fossil fuels will be widely used until 2020. The study also looked into emissions

regulation scenarios and technical barriers that could delay developments such as hybrid electric and fuel cell vehicles.

According to the study advanced versions of fossil-fuelled spark ignition and diesel engines will dominate the market through 2020. However, these advanced versions of today's reciprocating engines will differ significantly from current designs, and there will be several forms of hybrid vehicles as well.

## **ASIA - PACIFIC REGION**

### **9. Japanese Government & Expressway Corporation must pay for Pollution Damages**

The Kobe District Court has ordered the Japan central government and Hanshin Expressway Public Corporation to pay 210 million yen in compensation to residents of Amagasaki, Hyogo Prefecture and take responsibility for pollution caused by vehicle exhaust emissions. The court ruled that the onus is on the government and the corporation to keep the permissible daily exposure to suspended particulate matter at 0.15 milligrams per cubic meter or less.

### **10. Nepal mandates tight Standards**

Nepal has banned the import of motor vehicles not meeting Euro I emission standards to try to curb pollution in the Himalayan kingdom. In a separate directive, the Minister said vehicles owned by the government, public corporations and diplomatic missions should install emission control devices by 19 February.

Air pollution in Kathmandu was increasing, making it one of the most polluted cities in the world.

In August, Nepal banned the import of two-stroke motorcycles and forced polluting

auto-rickshaws off the streets of Kathmandu.

**FORTHCOMING CONFERENCES**

**23<sup>rd</sup> Vienna Engine Symposium**

25-26 April 2002, Vienna

Details from:

<http://ivkwww.tuwien.ac.at/oevk.html>

**HEI Annual Conference 2002: Air Pollution: Integrating Exposure and Effects**

28-30 April 2002, Seattle, USA

Details from: [www.healtheffects.org](http://www.healtheffects.org)

**Fuel Cells Forum: Towards Commercialisation and Technological Advancement**

29-30 April 2002, London

Details from: [www.ibcenergy.com/em1179](http://www.ibcenergy.com/em1179)

**SAE Spring Fuels and Lubricants Meeting**

6-9 May 2002, Reno, Nevada, USA

Details from: [www.sae.org/sfl](http://www.sae.org/sfl)

**Hart's World Fuels Conference 2002**

21-23 May 2002, Brussels

Details from: +1-800-872-3835

**“FISITA 2002” – World Automotive Congress**

2-7 June 2002, Helsinki

Details from FISITA on:

[www.fisita2002.com](http://www.fisita2002.com)

*Congress themes include The Environment, New Generation of Vehicles and Policy & Regulation.*

**11th International Conference “Verkehr und Umwelt”**

19-21 June 2002, Graz, Austria

Details on: <http://fkma.tu-graz.ac.at>

**Emission Control 2002**

10-11 June, Dresden

Details from: <http://ivk.tu-dresden.de/EC20021>

*Technologies for ultra-low emissions*

**Fuel Cells: Science and Technology 2002**

25-26 September 2002, London

Details from: [www.fuelcelladvances.com](http://www.fuelcelladvances.com)

*From the organisers of the Grove Fuel Cell Symposium*

**11th Aachen Colloquium, Automobile and Engine Technology**

7-9 October 2002, Aachen, Germany

Details on: [www.rwth-aachen.de/ac-Kolloquium](http://www.rwth-aachen.de/ac-Kolloquium)