AECC

Newsletter

July - August 2005

INTERNATIONAL REGULATORY DEVELOPMENTS

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Association for Emissions Control by Catalyst AISBL

Diamant Building
Boulevard A. Reyers, 80
B-1030 Brussels
Belgium

Tel: +32 2 706 81 60
Fax: +32 2 706 81 69
info@aecc.be
www.aecc.be

AECC NEWSLETTER

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EUROPE

Commission Internet Consultation on Initial Proposals for Euro 5

The European Commission has issued a consultation document on light-duty Euro 5 emissions. The main features of the draft proposal are as follows (% reductions shown are from Euro 4):

- **5 mg/km PM emissions from diesel cars (80% reduction).** The new UN/ECE PMP measurement method would be introduced later with a lower limit.
- **200 mg/km NOx from diesel cars (20% reduction).**
- **Gasoline cars: 60 mg/km NOx and 75 mg/km HC (25% reduction).** The text notes that many vehicles are already well below this limit.
- **New 5 mg/km PM emissions limit for lean burn, direct injection petrol vehicles.**
- **Particulate number standard for diesel cars** to be introduced later to prevent the development of open filters meeting the particulate mass limit but not controlling the more harmful ultrafine particles.
- **Durability requirement of 160000km** (currently 100000km). The in-use compliance period would, however, remain at 5 years or 100000km.
- **Remove heavy passenger vehicles exemption.** Previous emissions standards enabled vehicles such as large SUVs to meet less stringent light commercial vehicle standards. The Commission "sees no continuing rationale for this exemption".
- **Implementation dates:** the proposals would allow 18 months for new Type Approvals and 36 months for all registrations after the regulation comes into force, instead of a fixed implementation date.

The proposal will establish a completely new Regulation* (not Directive) using the 'split level approach' where key aspects such as the emissions limits and dates are decided through co-decision by Council and Parliament, whilst technical details are adopted through the 'comitology' procedure with representatives of the Member States.

* Unlike Directives, Regulations are directly applicable and binding in all Member States without any national implementing legislation.

The new Regulation will result in the repeal of Directive 70/220/EEC and all amendments.

The full set of limits proposed is shown below:

Category	Class	Ref. Mass	Limit values											
			CO (mg/km)		HC (mg/km)		NOx (mg/km)		HC+NOx (mg/km)		PM [1,3] (mg/km)		PM [2] (#/km)	
		kg	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel
M		All	1000	500	75	-	60	200	-	250	5.0	5.0		
N1	I	≤1305	1000	500	75	-	60	200	-	250	5.0	5.0		
	II	>1305 but ≤1760	1810	630	100	-	75	260	-	320	8.0	8.0		
	III	>1760	2270	740	120	-	82	310	-	380	12	12		

[1] Existing measurement procedure. Revised method and limits to be adopted when UN/ECE Particulate Measurement Programme complete.

[2] A PM number standard may be introduced after completion of the UN/ECE PMP. Standard to broadly correlate with petrol and diesel mass standards. In the absence of a number standard manufacturers should make number data available at Type Approval.

[3] Petrol particulate mass standards apply only to vehicles which use lean burn direct injection engines.

European Commission Impact Assessment on OBD for Passenger Cars

The European Commission has published a report examining the effect of different policy options for the development of OBD threshold values (the emission level at which a Malfunction Indicator must light up) which had originally been intended for application with Euro 4.

The policy options evaluated were: 1) No change from Euro 3 OBD threshold values 2) Reduction from Euro 3 with the same magnitude of difference between Type Approval limit value and threshold value (Commission position) 3) Reduction in Threshold values proportional to the reduction in Type Approval limits. 4) "California approach" – OBD thresholds set to 1.5 times the Type Approval limit.

The report concludes that 2008 may be too early for the introduction of such thresholds. Option 2, from 2008, is "generally interesting regarding its cost-effectiveness with the exception of NOx". The delayed (2010) introduction of option 3 also seems cost-effective. Introduction of the "California approach" thresholds in 2008 is seen as cost effective but not, according to the manufacturers, technically feasible.

The report also concludes that it would not be cost-effective to change the OBD thresholds for DI petrol engines before 2010. For diesel engines more experience and sensor development are needed before changing the threshold limits.

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EU Commission agrees to Move Forward On 'Thematic Strategies'

The European Commission has agreed to move forward with plans to launch a series of initiatives to upgrade specific areas of environmental policy, including air quality, under the CAFÉ (Clean Air for Europe) Thematic Strategies.

The agreement at a special Commission meeting in July came despite strong objections from several of the 25 commissioners who claimed that the initiatives could endanger economic competitiveness. Opposition was focused in particular on the proposed air quality plan that aims to reduce particulate emissions by 80% but which is expected to cost €12 billion per year. An early draft of the plan would tighten rules on emissions from vehicles, fuelling stations, small combustion plants, ships, and planes. Following the outcome of the debate, EU Environment Commissioner Stavros Dimas, who led support for the environmental initiatives, is expected to present a more detailed air quality plan in September.

Suggested Euro 3 Motorcycle Emission Limits for the World Harmonised Cycle

The EU's Joint Research Centre (JRC) has issued its report on equivalent emission limits for the World Harmonised Motorcycle Test Cycle (WMTC) which is an option to the European cycle for Euro 3 approval.

The report observes that the WMTC is slightly more demanding on HC than the Euro 3 cycle for most motorcycles over 150cc, more demanding on CO for most vehicles and more demanding on NOx for all vehicles. The Euro 3 test is more demanding on HC for most motorcycles below 150cc.

The report proposes two scenarios for WMTC limits:

1. A single set of limits (except bikes <150cc would have a higher HC limit, as for the Euro 3 cycle);
2. Two limits for NOx because of differences between the WMTC and Euro 3 ratios for Class 3 bikes (those with a max. speed >130km/h) and Classes 1 & 2.

The report suggests that the limits shown below would provide equivalence with the Euro 3 limits already defined for the current European test cycle.

g/km	CO	HC		NOx	
		<150cc	≥150cc	Class 1+2	Class 3
Euro 3	2.0	0.8	0.30	0.15	0.15
WMTC Option 1	2.62	0.75	0.33	0.17	0.17
WMTC Option 2	2.62	0.75	0.33	0.17	0.22

Impact Assessment on new Emissions Requirements for Motorcycles

The Commission has also published the final version of the Impact Assessment on new emissions requirements for two and three-wheel motor vehicles.

Durability of 30000km for 4-strokes over 150cc, 10000km for mopeds and 12000km for 2-strokes, tricycles, quadricycles and 4-strokes below 150cc is seen as reasonable.

3 options were considered for **Euro 3 for mopeds**:
a) 30% lower limits but keeping the hot start;
b) Euro 2 limits but with cold start (30% weighting);
c) Euro 2 limits but with cold-start (50% weighting).
Including cold-start emissions (options b or c) is seen as providing the main benefit.

The **World Harmonised Motorcycle Test Cycle (WMTC)** could be introduced as a sole type-approval test soon after 2008 with limits based on ECE40 calibrations. These could then be revised as a further step if necessary.

Regulations to control HC are expected to also control **2-stroke PM** without needing a specific PM test.

Roadworthiness is one of the most effective measures that can be taken to reduce emissions.

Fitting **OBD** to all 4-strokes and including catalyst monitoring would maximise the benefit. Applying OBD with catalyst monitoring only to the larger (Class 3) motorcycles would be the most cost-effective option.

German Cities plan to ban Diesels without Particulate Filters

Following a meeting of local authorities it appears that most German metropolitan districts are planning controls on diesel vehicles without particulate filters.

According to German newspapers, Berlin plans a complete ban on such vehicles, Frankfurt plans a low-pollution zone starting in 2008 and Stuttgart plans to ban diesels older than 1992 model year from 2007, with the threshold moving to 1999 model year in 2009. The German Association of Cities says that many other cities have similar plans ready.

15 German urban areas have already breached the EU limit of 35 days per year that exceed the 50µg/m^3 Air Quality limit for PM10, and more are expected.

New Report shows Fine Particles dominate Urban PM in Copenhagen

A new report from the Danish Environmental Protection Agency describes the collection of samples of PM1, PM2.5, inhaleable dust (PMinh) and 16 polycyclic aromatic hydrocarbons (PAHs) inside and outside an uninhabited 4th floor 'street canyon'

apartment. Similar urban background samples were collected at a 2 km distant 4th floor high rooftop.

The report finds that approximately 70% by weight of the PM2.5 consisted of the smaller (1µm diameter) PM1. The average indoor and outdoor PM2.5 concentrations exceeded the US-EPA air quality guideline and the urban background was at this limit. Traffic appeared to be a major source of indoor PAHs.

Assessment of the adverse health effects induced by PM2.5 suggests 780±520 excess deaths occurred per million inhabitants in Copenhagen in 2002. Additionally, 1006±701 and around 550 excess hospitalisations were predicted for cardiovascular disease and respiratory symptoms, respectively.

French Study Highlights Pollution from Two-Wheelers

A report from the French Agency for the Environment and Energy Management (ADEME) says that two-wheeled vehicles are responsible for more than 10% of French urban air pollution, despite accounting for less than 1% of fuel use. ADEME said the imbalance was due to the large number of older mopeds, motorcycles, and scooters that fail to meet current EU emission standards. France's 2.4 million two-wheeled vehicles produce 10% of the country's total carbon monoxide emissions and 13% of unburned hydrocarbon emissions, according to the study. ADEME suggests that the ongoing replacement of older two-wheeled vehicles combined with the planned implementation of tighter standards in 2006 will gradually lower emissions.

Dutch measures to improve Air Quality

The Dutch Directorate General for Environmental Protection (VROM) has announced a package of measures to improve air quality in the Netherlands.

The package comprises:

- subsidies for retrofitting soot filters to existing trucks, vans, cars, diesel locomotives and machinery;
- similar subsidy arrangement for new vans and taxis;
- encouragement of cleaner buses and dust-carts;
- structural financing of incentive measures to speed up the introduction of Euro 4/5 trucks.

In addition the Cabinet intends to make soot filters on new vehicles compulsory from 1 January 2007 if the European Commission agrees to it.

Italy's State of the Environment Report Sees Worse Emissions

The Italian Ministry of Environment has released its annual report on the country's environment, showing an increase for all of Italy's five largest cities in the number of days where smog was considered a health risk, despite a slight (0.1%) decline in per capita traffic. This follows a rise of 1.6% a year earlier.

Also according to the report, Italy's greenhouse gas emissions increased by 8.1% between 1990 and the end of 2004.

European Commission proposes Harmonisation of EU Car Tax Structures

The European Commission has presented a proposal for a Directive that would require Member States to re-structure their passenger car taxation systems. The aim is to remove obstacles to the transfer of passenger cars from one Member State to another and so improve the internal market.

The Commission says it would also promote sustainability by restructuring the tax base of both registration taxes and annual circulation taxes so as to include elements directly related to CO_2 emissions, as pioneered by the UK. The proposal aims only to establish an EU structure for passenger car taxes; it would not harmonise tax rates or oblige Member States to introduce new taxes.

The proposal contains three elements:

- Abolition of car registration taxes over a transitional period of five to ten years, which would be tax-neutral if accompanied by a parallel increase of annual circulation taxes.
- A refund system for registration and circulation taxes when cars are exported or permanently transferred to another Member State.
- The introduction of a CO_2 element into the tax base of both annual circulation taxes and registration taxes. By the end of 2008, at least 25% of the total tax revenue from registration and annual circulation taxes should be CO_2 based, rising to 50% by 2010.

European Commission approves Dutch State Aid for NOx Reduction from Barges

The European Commission has approved a €20m Dutch state aid package to cut nitrogen oxide (NOx) emissions from commercial barges and the like. The money will be available over five years to Dutch-registered inland waterways vessels using low-emission diesel engines.

Feasibility Study on Emissions Reductions for Recreational Craft

The European Commission's Directorate General for Enterprise and Industry has issued a "call for tenders" for a study on the feasibility and impact of four possible scenarios for further emission reduction measures for recreational craft engines. The study

has to cover technical, social, environmental, economic and competition aspects and, to the extent possible, a detailed cost/benefit analysis for each of the scenarios proposed plus the suitability and impact of a 'do-nothing' scenario.

Low-Sulfur Diesel Fuel in Russia

Lukoil, which produces nearly half of Russia's oil, has become the first Russian oil company to begin large-scale production of low-sulfur (50 ppm) diesel meeting EN-590:2004 standards. The current Russian GOST 305-82 standard is 2000 ppm.

NORTH AMERICA

US to Introduce World Harmonised Motorcycle Test Cycle (WMTC)

The US EPA is to propose, through its standard regulatory process, implementation of the new World Harmonised Motorcycle Test Cycle (WMTC), which EPA says "incorporates state-of-the-art emissions testing technologies and more accurately reflects current driving characteristics".

Once EPA finalises the new test cycle regulations, they will be used to certify new on-highway motorcycles to US standards. EPA plans to issue a proposed rulemaking in 2006 and says that the motorcycle industry can gain greater efficiencies by using one test procedure worldwide. The internationally recognized global technical regulation is supported by the United States, Canada, China, the EU, Japan, and several other countries.

Forecasts on US Diesel Market

The 2005 Ricardo diesel report predicts a significant rise in US light-duty diesel market penetration over the coming decade. Sales in the light-duty segment are projected to grow from 43000 units in 2004 to over 1 million units per year by 2012 and 1.5 million by 2015.

Diesel already enjoys a market penetration of over 56% in the US premium light-truck sector but cost remains a major issue for passenger cars, light trucks and SUVs. Significant efforts are underway to reduce diesel engine emissions and develop more effective aftertreatment devices, and Ricardo predicts that a rapid increase in diesel sales will follow as such devices become available and affordable from 2009.

In Western Europe, diesel car sales in 2004 reached a record level of over 48%. The global growth of light-duty diesel sales also continues, with 2004 posting the largest volume increase for a decade. VW now reports over 60% of its car sales as diesels.

Another report from J.D. Power-LMC says that hybrids and diesels are expected to take 11% of the US market by 2012. Diesels are expected to grow from 3% market share in 2004 to 7.5% by 2012. Forty-four hybrid and 26 diesel models are expected to be available in the US by that date.

New Emissions Limits and Fuel Sulfur Standards for Mexico

SEMARNAT, Mexico's Environment Ministry, has announced that the government will soon publish a revised emissions standard for new light vehicles as part of a wider campaign to improve air quality. Other regulations for motorcycle and heavy-truck and bus emissions are also under revision.

The ministry had also issued for public comment a draft standard to lower the sulfur content of fuel. 'Premium' gasoline (currently at 250-300 ppm S) will have to meet sulfur levels of 30 to 80 ppm by 2006, and 'Magna' gasoline (now up to 1000 ppm) will have to meet the same levels by September 2008. Diesel sulfur levels will have to fall from the current 500 ppm to 300 ppm by 2006 and to 15 ppm by 2008.

US Transportation and Energy Bills include Funds for Diesel Retrofits

The US Senate and House of Representatives have both agreed the large energy and transportation bills that include funding for diesel retrofit programmes.

The energy bill includes $200 million/year for 5 years for a diesel retrofit/engine replacement incentive plan for ozone and particulate matter (PM) non-attainment areas and $110 million over 3 years for research into emission improvements for locomotives.

The transportation bill provides $55 million per year of funding for EPA's Clean School Bus programme to help pay for the replacement of older school buses and the retrofit of diesel school buses with emission controls such as oxidation catalysts and diesel particulate filters. It will also allow States to use Congestion Mitigation and Air Quality (CMAQ) funding to purchase diesel retrofit controls for construction equipment used in federally-funded highway projects in ozone or PM non-attainment areas.

California Review of Options for New Urban Bus Engines

A staff review from the California Air Resources Board proposes three options for revising the 2007 emission standards for new urban bus engines.

California's current NOx requirement for new urban bus engines for 2007 and beyond is 0.2 g/bhp-hr, the same as the California and national heavy-duty truck standard for 2007, which includes urban buses for all but California. However, flexibilities in the heavy-duty

truck rule result in the option of certifying all engines to an average NOx standard of 1.2 g/bhp-hr between 2007 and 2009. As engine manufacturers plan to do this, it is unlikely that in 2007 diesel engines meeting California's urban bus NOx standard will be available.

The options considered are:

- keep the current new urban bus emissions standards as they are;
- align the NOx emission standard for 2007 to 2009 model year with the heavy-duty truck NOx emission standard (1.2 g/bhp-hr). The 0.2 g/bhp-hr NOx standard would then be effective from 2010;
- require all transit agencies to purchase/lease only alternative fuel buses.

The report does not specifically recommend any one of these options but indicates that harmonisation with truck standards may be the most cost-effective. The Board will review these options and approve one of them on 15-16 September 2005.

Proposals for School and Transit Buses & Refuse Vehicles for South California

California has also issued staff proposals covering new transit buses, school buses and refuse trucks operating in the South Coast Air Quality Management District (SCAQMD).

If adopted, the proposals would require all transit bus agencies operating in the South Coast district to follow ARB's alternative fuel path; school bus fleets of 15 or more to purchase the cleanest engines available and to annually retrofit 25% of in-use diesel school buses with ARB-verified emission controls; and all new refuse trucks to use the cleanest engines available.

Final EPA Staff Paper recommends stronger PM Standards

A key 'final staff paper' in EPA's review of national air quality standards for particle pollution does not recommend changes to current air quality standards but does recommend that the administrator considers strengthening and refining them to better protect public health and visibility.

The paper recommends that EPA revise the current PM10 standards with a new health-based standard for particles known as 'thoracic coarse' particles - particles between 2.5 and 10 micrometers in diameter that can be deeply inhaled. In addition, it recommends that the administrator consider revising the existing secondary fine particle standard to improve protection of visibility in urban areas.

US States prepare to adopt California CO_2 Standards

Oregon and Washington are preparing to adopt California's new-vehicle greenhouse gas emissions standards. This would bring the requirements into effect along the entire US West Coast.

In addition, at least six States in the Northeast (New York, Connecticut, New Jersey, Massachusetts, Vermont and Maine) are also moving to adopt California's new standards to reduce greenhouse-gas emissions from cars. A seventh state, Rhode Island, is considering whether to adopt the new California rules. Most Northeast States have followed California vehicle emission rules for years.

CARB Mandates On-Board Emissions Diagnostics for Heavy-Duty Trucks

The California Air Resources Board (ARB) has adopted a regulation requiring engine manufacturers to install on-board diagnostic systems (OBD) on diesel and gasoline heavy-duty engine and vehicle systems.

The emission control systems and components that the regulation requires manufacturers to monitor include the fuel system, catalyst systems, exhaust gas recirculation (EGR) system, particulate matter (PM) filter, and cooling system. The new requirements are phased in from 2010 with full compliance by 2016.

California Diesel Emissions agreement with Railways

The California Air Resources Board (ARB) has established a Memorandum of Understanding with two railway companies to reduce diesel emissions in and around rail yards in California.

The main elements of the agreement with the Union Pacific Railroad Company and the Burlington Northern and Santa Fe Railway Company are:

- A state-wide idling-reduction programme through the use of anti-idling devices and operational changes.
- Health risk assessments for all major rail yards.
- Community and air district involvement in the preparation of risk assessments, enforcement and the evaluation and development of measures to further reduce impacts on local communities.
- Maximising the use of low-sulfur diesel in locomotives fuelled in California.
- Establishment of a state-wide visible emissions reduction and repair programme to reduce the incidents of smoking locomotives.
- A detailed evaluation of advanced PM emission control measures.
- An assessment of remote sensing technology (RST) to identify high-emitting locomotives.

Listing of Incentives for Off-Road Diesel Retrofit Programmes

A report detailing existing and proposed US federal, state, and local incentives for diesel retrofit programmes in the port and construction sectors has been prepared for the EPA's Sector Strategies Programme. The report is now available on a number of websites including:
http://www.agc.org/galleries/default-file/Retrofit%20Incentives%20Report%20FINAL.pdf

Texas Emissions Reduction Plan and Low Emissions Diesel Fuel Rule

The Texas Commission on Environmental Quality (TCEQ) has announced that $127 million of Texas Emission Reduction Plan (TERP) grants for diesel emissions reduction will be spent on replacing 98 railroad locomotives, retrofitting or re-powering six switcher locomotives, and replacing or retrofitting older, higher-emitting diesel engines through a series of smaller grants. $19 million of the grants will go to highway fleet truck operators.

In addition, the Texas Low Emission Diesel (TxLED) rule will, from 1 October 2005, require diesel fuel for vehicles and non-road equipment supplied in 110 counties in the eastern half of Texas to start to meet California Air Resources Board specifications. The rules apply initially to producers and importers. From November 2005 it is extended to bulk plant distribution facilities, and from 1 January 2006 it applies to all other facilities including retail fuel outlets and wholesale bulk facilities.

Fuel Economy Reforms for Light Trucks

The US Transportation Secretary has announced plans to reform the Corporate Average Fuel Economy (CAFE) programme for light trucks (mini-vans, pickup trucks, and sport utility vehicles). The new proposal will set different standards for six categories based on vehicle size instead of the current fleet-average figure. During a transition period from 2008 to 2010, manufacturers will be allowed to choose the old or new CAFE system. However, the largest light trucks such as the Ford Excursion and Hummer H2 would not have to meet fuel economy standards.

Honda support California PZEV Model with Home Natural Gas Compressors

Honda is to support sales of its Civic GX natural gas-powered sedan in California by a pilot programme offering a natural-gas compressor for home use to overcome the limited refuelling infrastructure there. The Civic GX meets California PZEV emissions limits.

SOUTH AMERICA

Peru reduces Diesel Fuel Sulfur Content

Peru's Ministry of Energy and Mines has published a decree establishing a timeline for reducing the sulfur content of various types of diesel fuel by 2010.

Supreme Decree 025-2205-EM requires a reduction in diesel 1, the most widely used form of this fuel, to 3000 parts per million (ppm) within 60 days of publication in the official gazette, El Peruano. The standard will drop to 50 ppm on 1 January 2010. Diesel 2 must not exceed 5000 ppm within 60 days, again reducing to 50 ppm in 2010. The decree also prohibits within 60 days the importation of any form of diesel fuel with sulfur levels higher than 2500 ppm. Peruvian refineries have been importing diesel with sulfur levels as high as 9000 ppm.

ASIA-PACIFIC

Vietnam to introduce Euro 2 Emission Standards

In 2007 Vietnam will apply Euro 2 standards for vehicle emissions as part of a bid to reduce air pollution, State media reported July 19. The emission standards will be applied to cars, motorbikes, and light and heavy vehicles. In addition, fuel sulfur levels for both diesel and gasoline will be reduced to a maximum of 500 ppm.

According to the Ministry of Transport, in 2002, vehicles nationwide consumed around 1.5 million tonnes of fuel and produced six million tonnes of carbon dioxide (CO_2), 61000 tonnes of carbon monoxide (CO), and 35000 tonnes of nitrogen oxide (NO_2) in emissions. Meanwhile, the number of vehicles is increasing by 15% each year.

Philippines introduction date for Euro 2

The Department of Environmental and Natural Resources says that the Philippines is to introduce Euro 2 emissions standards from December 2006.

In addition, the government has ordered all public agencies to use diesel fuel which contains 1% coco methyl ether. A bill currently in the Philippines Congress would mandate all oil companies to blend 5% ethanol into gasoline within 2 years, increasing to 10% at the end of 4 years.

Guangzhou, China, to accelerate Clean Vehicles and Fuels

The government of Guangzhou city has applied to the State Council to implement the Euro 3 vehicles emissions standard in the next year, and plans to

implement the Euro 4 vehicles standard around 2008. Fuel sulfur levels will be tightened to 350 ppm for diesel and 150 ppm for gasoline as Euro 3 is implemented and 50 ppm for both fuels for Euro 4.

Malaysia lists Emissions Violations

Malaysia's Department of Environment website has started to display lists of vehicles impounded for violating emissions standards. The majority of the over 700 vehicles listed are trucks and buses owned by local transport and manufacturing firms. According to the Department, vehicles are the source of over 80% of air pollution in Malaysia.

Draft Urban Transport Strategy for India seeks to Reduce Congestion

India's first draft National Urban Transport Policy, drawn up by the Ministry of Urban Development, is expected to be sent for Cabinet approval later this year and to then become official government policy.

The draft notes that the increasing number of automobiles has led to "severe congestion" in cities, where "pollution loads are far above acceptable levels." Major elements include:

- encouraging cities of more than 1 million to phase-out vehicles using two-stroke engines;
- discouraging use of private diesel cars;
- commercialising electric-vehicle technologies and
- encouraging mass rail transit systems.

China plans Consumption-based Taxes

The New York Times reports that China's State Council is drafting regulations which would penalise buyers of large SUVs and other high engine capacity vehicles by up to 20% as part of a strategy to reduce the country's overall energy consumption. China currently levies an excise tax ranging from 3 to 8% on cars, while taxes on SUVs and MPVs range between 3 and 5%.

Beijing implements Euro 3 Fuel Standards

The Beijing Municipal Bureau of Industry and Commerce has issued a circular confirming that Beijing will ensure implementation of Euro 3 fuel standards for both petrol and diesel sold in the city from 1 July 2005. Petrol and diesel products for sale outside of the Beijing area will be stored separately and traded via specially designated accounts.

Singapore adopts Ultra-Low Sulfur Diesel

To pave the way for Singapore to adopt Euro 4 emissions standards for diesel vehicles in October 2006, the National Environment Agency (NEA) has decided to mandate the use of ultra-low sulfur diesel (ULSD) from 1 December 2005. ULSD will have a maximum 0.005% (50 ppm) sulfur content, one-tenth that of the diesel currently sold in Singapore.

Replacing the current grade of diesel with ULSD will help to further improve Singapore's air quality. Although Singapore's air quality is good, the growing level of PM2.5 is of potential concern. PM2.5 is linked to health problems such as asthma and other respiratory diseases. Diesel vehicles make up 20% of Singapore's vehicular population and contribute about 50% of Singapore's growing total PM2.5 emissions. To encourage owners to switch to Euro 4 compliant diesel vehicles, the Government introduced a special incentive package in March 2004.

MIDDLE EAST

Israel's Knesset gives Preliminary Approval to New Clean Air Act

Israel's parliament, the Knesset, has given a first reading to the Clean Air Act, a major new legislative effort aimed at reducing air pollution and improving air quality in Israel.

The Act contains standards for a wide variety of pollutants and outlines procedures for monitoring and assessment. It would grant the Environment Minister complete authority and responsibility for preventing air pollution and for setting and enforcing standards for emissions from vehicles, industry and power plants. The draft bill also proposes that the Minister present to the Knesset a national programme for reducing air pollution nationwide.

GENERAL

Air Pollution Causes Coronary Heart Disease in Women

Women who live in areas with greater air pollution have a higher susceptibility of developing and dying from coronary heart disease (CHD), according to a 22 year study accepted for publication in Environmental Health Perspectives (EHP).

Researchers found statistically significant increases in the relative risk of fatal CHD in females as pollution levels increased when they analysed PM levels alone. The risk estimates were strengthened when the study also considered ozone, and strengthened further when only postmenopausal females were included. When ozone combines with particulate matter (PM), women's risk of fatal CHD can increase up to twofold.

Danish Study finds damage to White Blood Cells by Ultrafine Particles

A study by Denmark's environmental protection authority has found evidence of damage caused by ultrafine particles below 0.1 microns to the white blood cells of Copenhagen cyclists after as little as two hours' (20 km) exposure to the capital's automotive exhaust fumes. Authors of the report say that they need more and larger studies to document a relationship between exposure to microparticles and cancer and other illnesses.

Award for Catalyst Pioneer

John Mooney, former Technical Director of Engelhard Corporation and now President of the Environmental and Energy Technology Policy Institute, has been awarded the 2005 Kazutoshi Fujimura Award for Lifetime Achievement in International Technology Cooperation and Development.

The award was given for his significant contribution over more than 30 years to the development and propagation of 3-way catalytic converter technologies. Vehicle emission control technologies that he helped to introduce and promote now constitute a global market of more than $70 billion per year. He is now active in attempting to eliminate the use of leaded fuel in 51 countries of sub-Saharan Africa, having already played a major role in this with India and China.

Passenger Cars DPF + SCR Technology

Exhaust system specialists Eberspächer have announced an exhaust system for light-duty vehicles featuring Selective Catalytic Reduction (SCR) in addition to an upstream particle filter. The company says that this should be ready for series production for the 2009 model year. Particles and nitrogen oxides can be reduced by more than 90%.

The SCR system uses AdBlue aqueous urea solution as the reducing agent, with a urea injector behind the soot filter. The pipes to the SCR catalyst are double-walled so that the air gap minimises calorific losses and provides thereby for a fast light-off.

FORTHCOMING CONFERENCES

SAE Future Transportation Technology Conference

7-9 September 2005, Chicago, Illinois, USA

Subjects covered include Global and Area Environment Studies, environmental sustainability, advanced spark ignition and compression ignition engines, fuel injection and combustion, aftertreatment, ship propulsion, railway traction systems, and alternative fuel Utilisation.

AVL Kongress: Motor und Umwelt

8-9 September 2005, Graz, Austria

ICE2005: 7th International Conference on Engines for Automobile.

11-16 September 2005, Capri (Naples), Italy

ICE2005 aims to disseminate research results related to the field of engines, fuels and innovative propulsion systems for sustainable mobility. The scope of the papers presented in the technical sessions of the Conference covers in-cylinder fluid dynamics and combustion, diesel engines, spark ignition engines, fuel injection and sprays, emissions measurement and aftertreatment, engine simulation and control, liquid and gaseous fuels, and hybrid and electric-fuel cell vehicles.

Reduction of Emissions and Geological Storage of CO_2

15-16 September 2005, Paris, France

The purpose of the symposium is to examine the role of technical innovation as well as the capture and geological storage of CO_2 in reducing greenhouse gas emissions. This symposium will also consider new technological approaches in the light of the resources needed to finance such operations.

Homogeneous Charge Compression Ignition Symposium

18-20 September 2005, Lund, Sweden

More at: http://www.sae.org/events/training/symposia/hcci/

The symposium will address the latest developments in HCCI for both diesel- and gasoline-fuelled engines as well as control strategies, fuel studies, laser-based diagnostics, mixture preparation, load extension and emission reduction. Attendees will also visit the 12-engine HCCI research facility at the Lund Institute of Technology, a leading research facility for HCCI in Europe.

4th SAE Heavy Duty Diesel Emissions Control Symposium

20-22 September 2005, Gothenburg, Sweden

More at: http://www.sae.org/events/symposia/hddec/

The symposium will discuss advances in engine developments and likely emissions control strategies to be adopted for Euro 5, US 2007 and Japan 2005 compliance. The symposium will also discuss technologies being investigated for 2010 and beyond, against a background of legislative priorities. For the first time, this symposium will incorporate a session specifically covering non-road emissions control.

APAC 2005 International Symposium on Air Pollution Abatement Catalysis

21-24 September 2005, Cracow, Poland

Details at: *http://apac2005.karboch.gliwice.pl/*

Topics relevant to molecular level concepts and models of the catalytic removal of S-containing compounds in gasoils (at a level less than 50 ppm); new catalysts or new processes; NOx, VOC and particulate matter from both mobile and stationary sources of emission (combustion of coal, gas and liquid fuels); Atmospheric ozone.

PTNSS Kongress 2005 - The Development of Combustion Engines

25-28 September 2005, Bielsko-Biała/Szczyrk, Poland
Details at http://www.ptnss.pl/kongres.html

The Congress will discuss latest achievements in such fields as design, manufacture, research and ecological impact of internal combustion engines and fuels. The main areas of interest include Combustion processes in SI and CI engines; Alternative fuels; Emission measurements and aftertreatment; and Engine testing, durability, reliability and diagnostics.

IFQC Fuel Quality Policy & Technology Briefing

28 September 2005, Johannesburg, South Africa

Details at:
http://www.ifqc.org/briefings/2005/2005Safrica_9_28.cfm

The Chief Director of the Department of Minerals and Energy will deliver a keynote address to set the scene for the briefing for both local and international participants. The meeting will also address sulfur reduction, "life after lead," the role of ethers, international conventional fuel and biofuel developments, potential biofuel use in South Africa, and heavy fuel oil issues.

Feinstaub – Quellen, Wirkungen und Vermeidung

29 September 2005, Berlin, Germany

Details at http://www.euroforum.de/p1100030

What are the sources of the fine particles? Are past measuring methods sufficient for the clearing-up of the damage mechanisms of the particles? What are the health dangers from fine particles? How large is the contribution of traffic to particles? What measures can be taken to lower the particle load?

14. Aachener Kolloquium – Aachen Colloquium Automobile and Engine Technology

4-6 October 2005, Aachen, Germany

http://www.rwth-aachen.de/ac-kolloquium/index.html

The congress will provide a wide range of technical presentations addressing to current challenges of the vehicle and powertrain industry. Program-related test vehicles, prototypes and aggregates from participating companies and institutions will be presented and there will be an accompanying exhibition.

Scania Transport Conference 2005 - Meeting the Challenges: Road Transport for the Future

5 October 2005, Brussels, Belgium

Representatives from the EU institutions, opinion leaders, international and national transport experts, industry representatives and media will be present at the event. The aim of the conference is to explore how a competitive and sustainable European transport industry, where road safety and environmental issues play a fundamental role, can be achieved.

1st International Symposium on Development Methodology – Optimisation of complex powertrains

11-12 October 2005, Wiesbaden Kurhaus, Germany

More at www.symposium-development-methodology.com

New Trends In Catalysis - International Course

11-13 October 2005, Brussels, Belgium

The course aims to cover catalysis research at large, and will provide a unique forum for sharing new methodologies, new insights and innovative developments in applications including petrochemicals and fine chemicals. Topics include new catalytic materials, chemical engineering in catalysis, biocatalysis and polymerisation catalysis.

Diesel Particulates and NOx emissions

17-21 October 2005, Michigan USA

University of Leeds / University of Minnesota intensive short course covering the latest developments in in-cylinder and exhaust aftertreatment, diesel particulates and NOx control.

Powertrain & Fluid Systems Conference

24-27 October 2005, San Antonio, Texas, USA

Details at: www.sae.org/pfs.

The conference will bring together interested stakeholders to discuss the latest trends in fuels, diesel technologies, homogeneous charge compression ignition and hybrids, as well as spark ignition improvements. In the Emissions programme, sessions include: Advanced Catalysts and Substrates and General Emissions, Diesel Gaseous Emissions, Diesel Particulate Systems, and Emissions Measurement and Testing.

Mechanisms of Action of Inhaled Fibres, Particles and Nanoparticles in Lung and Cardiovascular Disease

25-28 October 2005, EPA Conference Centre, Research Triangle Park, North Carolina, USA

The overall goal of this meeting will be to provide a forum for discussion of basic and applied research

strategies with an emphasis on interaction between environmental exposures to particles and fibres with host factors that may lead to disease pathogenesis.

2005 SAE Commercial Vehicle Engineering Congress and Exhibition

1-3 November 2005, Chicago, Illinois, USA

Details at *www.sae.org/comvec*

Clean Vehicles and Fuels European Symposium and Exhibition 2005

8-10 November 2005, Stockholm, Sweden

Details at:
http://www1.stocon.se/cleanvehicles/9/10334.asp

The symposium and exhibition creates a meeting point and marketplace where manufacturers and other promoters of clean vehicles and fuels can meet decision makers and buyers of green solutions.

6th China/Asia Clean Fuels Conference + Hart's World Refining and Fuels Conference: Asia

8-11November 2005, Beijing, China

International Conference on Gas-Fuel 05

14-16 November 2005, Brugge, Belgium

Details at:
https://www.ti.kviv.be/conf/Gas-Fuel%2005/index.html

The growing demand for energy has led to an increased market for natural gas. Simultaneously its use as a feedstock for the petrochemical industry is rapidly growing. Gas-to-liquid conversion is now a reality and research in this field is intensive. The symposium covers the general trends and European perspectives and the related research contributions with their potential for future commercial developments.

IFQC Fuel Quality Policy & Technology Briefing

17 November 2005, Vienna, Austria

Details at:

(http://www.ifqc.org/briefings/2005/2005Vienna_Austrial_11_17.cfm)

The Briefing will focus on international developments in the area of conventional fuel quality from automotive to marine fuels and will address growing interest and developments in biofuels across the globe. It is hoped to also give greater insight into fuel quality developments in the Central European region.

Renewable Energies for Europe – Research in Action

21-22 November 2005, Brussels, Belgium

Details at:
http://europa.eu.int/comm/research/energy/gp/gp_events/action/article_2790_en.htm

This conference organised by DG Research aims to present the important role that renewable energy research plays in Europe and to enhance awareness among stakeholders of the opportunities ahead. Key European success stories will be analysed and the existing and planned European renewable energy technology platforms on PV, biofuels, and wind will be presented. A particular emphasis will be placed on learning from national research programmes and examining possibilities to stimulate coordination. The potential of the different renewable energies will be put in the wider context of the renewable energy portfolio and market conditions.

Euro V Diesel Powertrains - Challenges and Solutions

24-25. November 2005, Essen, Germany

Details at *http://www.hdt-essen.de/*

The main challenge for developers of diesel engines is compliance with emission legislation. With the announcement of the Euro 5 emissions limits a further significant reduction of NOx and particulates will be required. This can only be achieved by huge efforts in all areas of powertrain development: base engine and combustion system, fuel system, aftertreatment, calibration etc. The conference will focus on actual development trends and challenges in these technical fields.

Pollutec 2005

29 November – 02 December 2005, Paris, France

More from http://www.pollutec.com/

Première journée consacrée aux poids lourds propres à Paris - Organised by ADEME

2 February 2006, Paris, France

More at www.ademe.fr under “manifestations”

2006 SAE World Congress

April 3-7, 2006, Detroit, Michigan, USA

More at http://www.sae.org/congress/

27th International Vienna Motor Symposium

27-28 April 2006, Vienna, Austria

World Hydrogen Energy Forum & Exhibition (HyTech 2006)

16-18 May 2006, Beijing, China

Covers both hydrogen fuel cells and Hydrogen ICEs.

8th Highway and Urban Environment Symposium

11-14 June 2006 ,Nicosia, Cyprus

Details at: *http://www.ags.chalmers.se/hues/*

The aim of the symposium is to provide a forum for recent research and development on all aspects of the highway and/or urban environment. Organisers: Chalmers University of Technology, Sweden; The Cyprus Institute, Cyprus

2nd International Symposium 'Environment & Transport' including 15th Conference on Transport and Air Pollution

12-14 June 2006, Reims, France

Abstracts to INRETS by 30 September 2005

Details at: http://www.inrets.fr/services/manif/env-trp2006/index.e.html

The themes will be evolution of transport systems, perception of the environment, the impact of transport on populations and ecosystems, the place of the environment in the concept of sustainable development, methods of evaluation, control methodologies and political scenarios for transport.

10th ETH Conference on Combustion Generated Nanoparticles

21-23 August 2006, Zurich, Switzerland

CAPoC 7 – 7th International Congress on Catalysis and Automotive Pollution Control

30 August - 1 September 2006 (tbc), Brussels, Belgium

1 December 2005: submission of extended abstracts

All topics related to applications and requirements of catalysis in automotive emissions control will be considered: catalyst technologies (TWC, lean burn of gasoline and diesel, cold start emissions); fuel cell catalysis; materials for catalysts, washcoats and fuel-borne catalysts; particulate emission control; NOx emission control under lean conditions; modelling of aftertreatment systems; unregulated pollutants; integrated emission control systems, onboard diagnostics; alternative fuel technologies and innovative technologies (new materials, recovery of precious metals, sensors).

FISITA World Automotive Congress 2006

22-27 October 2006, Yokohama, Japan

Details at: http://www.fisita2006.com

Deadline for Abstract Submission: 31 October 2005.