AECC

Newsletter

January-February 2008

INTERNATIONAL REGULATORY DEVELOPMENTS

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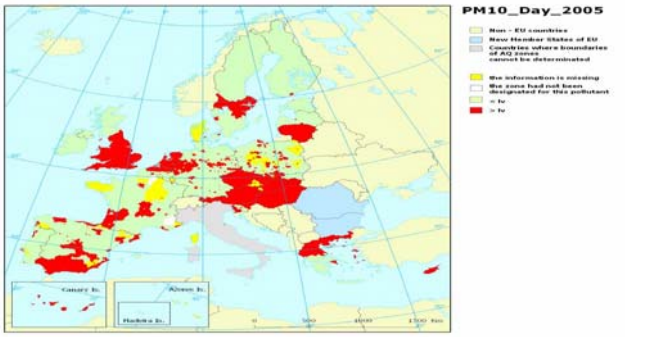
EUROPE

Study shows worsening EU Air Quality

A new study from the European Topic Centre on Air and Climate Change (ETC/ACC) reports that air quality in the EU has deteriorated over the last few years with respect to PM10, NO_2 and ozone. All exceeded legal limits in a "considerably" higher proportion of measured zones in 2005 than in 2001.

The report consolidates and analyses the air quality data that member states are required to provide under the Air Quality Framework Directive 96/62/EC. In 2005, 44% of EU-25 zones exceeded the daily limit value for PM10 and 18% exceeded the annual limit. The limit for ozone was exceeded in over a third of all zones and the annual legal limit for NO_2 was exceeded in 26% of zones.



The report says that more than 70% of NO_2 exceedances, over half of PM10 exceedances and 20% of ozone exceedances are due to local traffic. The report is at http://air-climate.eionet.europa.eu/reports/ETCACC_TP2007_4_AQQ2005

Preliminary data for 2006 have also been published. The number of zones where an exceedance of the limit or target values has been observed in 2006 does not differ strongly from the numbers observed in 2005.

Netherlands says Euro VI is Critical to improve Air Quality

In a new report, the Dutch national environmental assessment agency (MNP) says that the European Commission's Heavy-duty Euro VI proposal is one of the most critical cost-effective measures to improve local air quality in the Netherlands.

Implementing the Euro VI standards would reduce by 30% the number of places where NO_2 levels exceeded legal standards in the Netherlands by 2015, says the MNP. Total NOx emissions from traffic would decrease by 22% by 2020, it calculates. However if the Netherlands were to introduce Euro VI early in 2011, the number of places where NO_2 exceeds the air quality standards in 2015 would fall by 40% on city roads and by 46% on highways. The report says that the plans come too late to help the Netherlands meet the PM10 target by 2011, but will help it meet new PM2.5 targets. PM2.5 emissions will decrease by 12% by 2020 as a result of the proposals.

Slovenia has said that it aims to make the Euro VI proposal a priority for their Presidency of the EU, and aims to get agreement by the end of its term in June.

Russia introduces Euro 3

From 1 January 2008, Russia introduced Euro 3 exhaust emissions standards, prohibiting the production or import of vehicles that fail to meet that requirement. Russian manufacturers are now preparing for the transition to Euro 4 in 2010. Euro 5 is scheduled for introduction in 2014 in Russia.

The Russian government has also adopted new "Technical rules on the Requirements for Automobile and Aviation Fuel, Diesel and Ship Fuel, Fuel for Reactive Engines and Heating Oil". Fuel conforming to the Euro 2 standard will be sold in Russia only until the end of 2008 and Euro 3 fuel until the end of 2009. Euro 4-standard fuel will be allowed until no later than the end of 2013. No timeframe for Euro 5 fuel was set. Fuel with a lower octane level than the standards specified will be allowed until 2011 as long as other specifications are met. The state may order lower-standard fuel for defence purposes and reserves in the state reserve can be sold for five more years.

Information on Low Emission Zones

A new website, www.lowemissionzones.eu, aims to provide information on the many towns and cities in Europe that are introducing Low Emission Zones, where there is some form of restriction or penalty on the use of more polluting vehicles. Clicking on a map provides information on the standards required for vehicles in that specific zone together with information on air quality targets. The site is run by Sadler Consulting on behalf of a network of low emission zone (LEZ) cities and government ministries. It is a regularly updated, publicly funded website.

German Environmental Zones and Air Pollution Levels

From 1 January 2008 Berlin, Cologne and Hanover have introduced restrictions on "dirty" cars entering their inner-city areas to reduce ambient levels of particulate matter. Older cars without a catalytic converter or diesel particulate filter will no longer be able to enter these Environmental Zones. To be able to enter, cars must pass an emissions test at an authorised facility to gain a certified sticker.

Other German cities, including Stuttgart and Mannheim, will start enforcing similar zones from 1 March 2008 and Düsseldorf, Munster and Arnsberg announced on 3 January 2008 that they plan to set up a 50km long, 10km wide environmental zone between Duisburg and Dortmund, affecting 13 cities.

Meanwhile, provisional data from the German environment agency, the Umweltbundesamt (UBA), show that in 2007 although fine particle levels were lower than in previous years, levels of nitrogen oxide and particulate matter pollution exceeded legal limits. Concentrations of PM10 exceeded the 50µg/m^3 daily limit on more than 35 days at 8% of the 415 measuring stations. NOx exceeded the 2010 annual limit value at over half of urban roadside stations.

Milan Environmental Zone

In Milan, Italy, a 1-year trial of an Environmental Zone will require more-polluting cars to buy an 'Ecopass' to enter the city centre between 07:30 and 19:30 Monday to Friday. Those without an Ecopass will face a fine of €70. There are three tariff bands of €2, €5 and €10 per day, related to emissions levels. Petrol-engined cars meeting Euro 3 or Euro 4 and Euro 4 diesel cars with particulate filters (DPFs) can enter without paying the toll, whilst Euro 4 diesels without DPFs are exempt only for the first 3 months. Electric vehicles, hybrids, CNG- or LPG-powered vehicles, mopeds and motorcycles are also exempt, as are all public transit vehicles (buses, taxis), police vehicles, ambulances and vehicles for the disabled.

Italian support for Emissions Reductions

The European Commission has approved environmental investment aid to Italian companies purchasing new clean heavy-duty vehicles. During 2008, Italian companies may receive aid to invest in lorries over 11.5 tonnes that comply with Euro V emissions standards. The aid will normally amount to a maximum of 30% of the extra costs incurred for the purchase of a Euro V vehicle as compared to a Euro IV vehicle. It may be increased to 40% for small and medium-sized enterprises and 50% for companies in a region covered by priority development objectives.

In addition to this measure, the Italian finance bill includes funding of 10 million euros for each of 2009 and 2010 to the main Italian train operator, for engine replacement programmes to save energy and reduce pollutant emissions. The funding is primarily for diesel railcars used on non-electrified regional lines. The measure is expected to reduce polluting emissions by over 40 000 tonnes. The bill also establishes a fund aimed at improving energy efficiency and reducing atmospheric emissions of passenger ships at sea and in port beyond what is required by existing legislation.

Dutch Subsidy Programme for Retrofitting Filters to Mobile Machinery

A new regulation on the subsidy of particulate filters for non-road mobile machinery with engines between 75 and 560 kW was published in the Dutch Government Gazette of 28 December 2007.

The regulation is intended to offer financial support to owners of existing mobile machinery who fit an approved particulate filter to their equipment after the regulation comes into force. The equipment must be fitted with engines which satisfy the Stage II or Stage IIIA requirements of Directive 97/68/EC. Only approved particulate filters qualify for the subsidy. Approved filters are those shown on the Swiss VERT list and those on the HD list prepared by the Netherlands agency RDW. The subsidy does not apply to machinery fitted with filters as original equipment. The subsidy is 35% of the purchase and fitting cost of the filter, exclusive of VAT. The regulation permits a maximum subsidy of €5000.

Call for Swiss Environmental Zones

Swiss newspaper *Tages Anzeiger* reports that in Bern, Lausanne and Zurich, the daily PM10 limit of 50µg/m3 was exceeded every day from 19 to 29 December 2007, and in Lucerne, Basel and Geneva the values were also high. As a result the Swiss 'green' traffic club Verkehrsclub der Schweiz (VCS) is calling for the creation of environmental zones in densely-populated areas. The Canton of Geneva is so far the only one to announce that it wishes to introduce such a system. The Geneva government will reach a final decision in Spring 2008.

Pollution Levels and Actions in Belgium

The Belgian Inter-regional Environment Agency (Celine/Ircel) issued a number of pollution warnings in February. Speed controls were put into effect and air quality warnings issued in Brussels and parts of the Wallonia and Flanders regions. The warm weather, low winds and a temperature inversion resulted in high levels of PM10 and NOx in many parts of the country. PM10 levels averaged 40 to 50µg/m^3 with local excursions exceeding 100µg/m^3.

On 21 February the Flemish Minister of Environment announced that she would explore subsidising retrofit filter fitment to older diesel cars. She is looking at the Dutch incentive scheme that foresees an incentive of €400 for mounting a retrofit filter. Her Cabinet assessed that this amount would cover 80% of the total cost. In Belgium, there is already a federal subsidy of €200 for the purchase of a new car with a DPF and a Flemish allowance for retrofitting heavy-duty trucks with a particulate filter.

The Belgian Minister for Climate and Energy previously announced that the government is considering a reduction of one-third of emissions of fine particles emitted by diesel engines for 2020 under a plan called "AIR", to be finalised during 2008. He will also try to ensure that the proposed Euro VI heavy-duty emissions standard achieves speedy adoption.

Meanwhile, De Lijn, the largest bus operator in the Flanders region, has announced that it has ordered 165 combined particulate filter and urea-SCR NOx control systems for retrofitting to Euro III buses that are between three and five years old. The suppliers say the systems will reduce PM and NOx emissions to the levels of the European EEV standard (0.02g/kWh PM and 2.0g/kWh NOx). The order follows an evaluation on an MAN-engined Van Hool bus.

Changes to London Congestion Charge

Two changes to the London Congestion Charge have been announced, one affecting cars with high CO_2 emissions and the other affecting Euro V trucks and Euro 5 vans. The Mayor of London has agreed to discounts on congestion charging for heavy-duty vehicles meeting the full Euro V requirements (including On-Board Diagnostics), a similar arrangement for Euro 5 vans between 1.2 and 3.5 tonnes and an extension of discounts for LPG and CNG powered vehicles. In the second development, the mayor announced that the £8 (approx €10.80) per day charge for entering the central London Congestion Zone will be increased to £25 per day for cars emitting 225g/km CO_2 or more and for those registered before March 2001 with engines larger than 3000cc. However, those vehicles with the lowest CO_2 emissions (<120g/km) will become exempt. Some diplomats have refused to pay the charge and Porsche has applied for a judicial review of the proposed changes, which it called “unfair and disproportionate”. CO_2 emissions of all but one of Porsche’s current range are more than 225g/km.

Norwegian Report on the Economic Benefits of Particulate Filters

A new report from Transportøkonomisk institutt in Oslo for the Norwegian pollution control authority (SFT) examines the benefits and costs of diesel particulate filters. The report, *Dieselbiler Partikkelfilter-ettermontering og kostnader*, concludes that efficient integrated (wall-flow) particulate filters that comply with Euro 5 (5mg/km) are economically profitable for society. When retrofitting integrated DPFs to Euro 3 and Euro 4 diesel cars is possible, that is also economically profitable. Retrofitting older buses is also (with some assumptions on reliability) economically beneficial. Retrofitting DPFs to all post-1999 registered diesel cars in Oslo, Bergen and Trondheim would cost NOK 750 million (€95 million).

Proposed Update of Industrial Pollution Control Directive

The European Commission has released draft legislation to further reduce emissions from industrial installations regulated under the 1996 Integrated Pollution Prevention and Control (IPPC) Directive. It will merge this Directive with six related ones including the Large Combustion Plants and Waste Incineration Directives. The proposed Directive tightens minimum emissions limits in certain industrial sectors, particularly for large combustion plants and extends the scope of legislation to cover 20-50MW combustion plants, production of wood-based panels and preservation of wood. It is also proposed to lower the NOx limit for cement kilns that co-incinerate waste.

Flemish Report on Maritime and Aviation Emissions

A new report from Vlaamse Milieumaatschappij (the Environmental Agency for the Flemish region of Belgium) examines trends in emissions from domestic and international shipping and from aviation as they affect Flanders and the Belgian Continental Shelf.

The report, *Policy Needs for Environmental, Air and Maritime Transport*, says that maritime transport was responsible for about 21% of NOx in 2005, and aviation a further 4%. In addition 6% of total transport CO_2 came from shipping, which is also responsible for the vast majority of SO_2 emissions. In Flanders, more than half of the maritime emissions are produced in port areas. The data show a trend of rising emissions, although the rate of increase is less than the rate of increase in cargo transported.

EU Cleaner Planes Project

The European Commission and the aeronautics industry have officially launched the 1.6 billion euro ‘Clean Sky’ project which includes the development of engines that use less energy, reduce NOx emissions and can run on alternative fuels. There are three main objectives: the reduction by 50% of CO_2, halving the level of noise and reducing the level of nitrogen oxide emissions by 80%. So far 86 industrial, research and academic organisations have joined the project.

The “World’s Cleanest Ship”

The Port of Brussels hosted the Clean Waterborne Transport Event in Brussels on 28 February 2008, in which participants were able to visit the *Victoria*, described as the cleanest ship ever built. The ship is a lubricating oil barge operating in the Port of Rotterdam

and Antwerp. It uses low (10ppm) sulfur fuel for its 880kW engine, with particulate filters (DPF), Selective Catalytic Reduction (SCR) systems and Diesel Oxidation Catalysts to reduce emissions. The engine exhaust flow from each of the 2 banks of cylinders are gathered into a single flow where 2 burners for particulate filter regeneration and 2 urea injectors for the SCR system are located before the flow is again divided into two for the 2 parallel systems of DPF, SCR and DOC. The ship also uses navigation aids to reduce fuel consumption. Reductions of 97% in particulate mass and particle number and >75% NOx reductions have been achieved on Victoria together with a 5% fuel economy improvement. Details of the project and weekly emissions results are available at http://www.cleanestship.eu.

NORTH AMERICA

US Rules for Stationary Engine Emissions

The US Environmental Protection Agency (EPA) has issued the final version of its two new rules covering emissions from stationary engines. The first rule covers standards for spark-ignited (SI) stationary engines, the second covers standards for hazardous air pollutants from new, existing, and reconstructed stationary reciprocating internal combustion engines.

The rule for new stationary SI engines limits NOx, CO, and Non-methane hydrocarbon (NMHC) from engines of ≥500hp manufactured after 1 July 2007 and after 1 January 2008 for engines <500hp. All stationary SI engines that are modified or reconstructed after those dates are also subject to the rule.

The rule limiting air toxic emissions (including VOCs) applies to existing, new and reconstructed stationary reciprocating internal combustion engines that are either located at smaller-emitting 'area sources' or that have a site rating of ≤50hp and are located at defined major sources of air toxics emissions. Emergency engines must meet a standard of 10g/hp-hr for NOx and HC and 387g/hp-hr for CO. Engines >130hp must meet limits of 2.0g/hp-hr NOx, 4.0 g/hp-hr CO and 1.0g/hp-hr VOC. SI lean-burn engines between 500 and 1350hp must comply by 1 January 2008 whereas natural gas and lean burn LPG engines of 100-500hp and landfill-gas engines <500hp must meet the requirements by 1 July 2008.

Draft California Regulation on Emissions from In-Use Heavy-Duty Diesels

The California Air Resources Board has issued a draft proposal for a Regulation to reduce emissions from in-use heavy-duty diesel-fuelled vehicles. If adopted, the Regulation will apply, with limited exceptions, to all heavy-duty vehicles with a gross vehicle weight rating of 14 000lbs (6350kg) fuelled by diesel or "alternative diesel" (e.g. biodiesel or diesel emulsions, but not natural gas) and operating in California.

Fleet owners will have to comply with Best Available Control Technology (BACT) requirements. Phase 1, to be implemented between 2010 and 2013, will require NOx emissions from each vehicle to be no more than those from an engine meeting the 2007 engine standard and for all vehicles in the fleet to be equipped with the highest level of Verified Diesel Emissions Control System for control of Particulate Matter. An original-equipment particulate filter is deemed to meet the latter requirement. In Phase 2, to be implemented between 2017 and 2021, NOx emissions from each engine must be no more than the 2010 engine emissions standard in addition to all vehicles in the fleet being equipped with the highest level particulate control system.

Guide for Retrofitting Construction Equipment

The Department of Environmental Protection for the American state of Massachusetts has issued a guide for retrofitting diesel construction equipment with emissions control technologies. Chapters in the guide cover "Why Retrofit Diesel Construction Engines", requirements from state agencies, information on available technologies and fitment, and a selection of case studies. *Diesel Engine Retrofits in the Construction Industry: A How To Guide*, is available at www.mass.gov/dep/air/diesel/conretro.pdf.

US Air Quality Computer Tool

The US Environmental Protection Agency (EPA) has combined Google's internet mapping tools with EPA's air quality data to produce two tools that let air quality information be viewed on a virtual globe.

The first tool is part of a new EPA website (http://www.epa.gov/air/emissions/where.htm) which is designed to make emissions data for six common pollutants easy to find and understand. Users can look at emissions overall, by type of industry, or by largest polluter. EPA is also providing Air Quality Index (AQI) information in the Google Earth format at http://airnow.gov/index.cfm?action=google_earth.main allowing users to click on a specific location to see that city's colour-coded AQI forecast and current levels of ozone or particle pollution.

New Jersey to require Particulate Filters on all School Buses after Study

As a result of a study conducted by Rowan University for the New Jersey Department of Environmental Protection, the American state has decided that diesel

particulate filters and crankcase emissions controls should be installed on all of the approximately 18 000 school buses in the state. The department says that this will reduce fine particles and ultrafine particles considerably and will result in over 2000 asthma attacks being avoided every year. The study included measurements of particulate matter inside a school bus without any particulate control, with a flow-through 'particulate reactor' fitted, and with a wall-flow particulate filter fitted. The diesel particulate filter with a closed crankcase ventilation system gave a 95% reduction in ultrafine particles.

Source: Martinez-Morett et al, In-Cabin Particulate Matter Quantification and Reduction Strategies: Final Report; New Jersey Department of Environmental Protection, 08 January 2008; http://www.state.nj.us/dep/dsr/schoolbus/Final%20Report%20School%20Bus.pdf

British Columbia, Canada, to fit Particulate Filters to all School Buses

The province of British Columbia, Canada has also announced a province-wide retrofit programme for school buses, to be completed by the end of 2009. Last June, British Columbia was the first province to bring in a mandatory programme to upgrade the engines of older diesel trucks with oxidation catalysts. In addition, the Ministry of Environment and the Ministry of Transportation are developing a Provincial Idle Reduction Initiative (PIRI) to change drivers' behaviour to reduce engine idling.

California asks EPA to Regulate NRMM Greenhouse Gas Emissions

Officials from California and five other US States (Connecticut, Oregon, New Jersey, Massachusetts and Pennsylvania) have called on the US Environmental Protection Agency (EPA) to regulate greenhouse gas emissions from equipment used in the construction, mining and agricultural industries. California says that the 18 million such machines in California emitted 220 million tons of CO_2 in 2007.

Report on Air Pollution at Ports

US ports are among the biggest sources of air pollution and greenhouse gas emissions in their cities, according to a report by Energy Futures, Inc. The report says that the ports are making only slow progress toward reducing harmful emissions.

The results of a 10-month study assessing air pollution control efforts at the US's top 10 container ports are presented in the report. The study concluded that the best way to lower air pollution and greenhouse gas emissions and diversify fuel supply at US container ports is to use alternative fuels or advanced technologies to replace diesel. Energy Futures recommends the federal development and implementation of a national port clean-up strategy, the promotion of alternative fuels and advanced technologies at ports and the creation of a national funding mechanism to finance port clean-up. It also advocates international environmental standards and information resources on clean-up projects for ports.

Source: US Container Ports and Air Pollution: A Perfect Storm; www.energy-futures.com.

MECA Report on Emission Control Technologies for Diesel Engines

The Manufacturers of Emission Controls Association (MECA), which is AECC's sister organisation in the US, has released a report outlining the various technologies available to control PM and NOx emissions from diesel-powered vehicles. The report, *Emission Control Technologies for Diesel-Powered Vehicles*, provides detailed technical information on the emission control technologies for on-road heavy-duty and light-duty diesel engines and includes descriptions of their operating characteristics and control capabilities. In addition, MECA has put onto their website (www.meca.org) two reports detailing case studies of stationary diesel engine retrofit projects and mining equipment diesel retrofit projects. All of these documents are available under 'Publications' in the 'Resources' tab on the site.

Health Effects Institute Report on Mobile Source Air Toxics

The Health Effects Institute (HEI) has issued a new report summarising available health effect studies on seven of the US EPA's priority 'air toxic emissions' emitted by mobile sources.

The report *Mobile Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects* covers emissions of acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, naphthalene, and polycyclic organic matter. The report provides information on the significance of mobile source emissions for exposure and human health. It concludes that the contribution of mobile sources to overall emissions is greatest for 1,3-butadiene, followed by benzene and formaldehyde. Mobile sources are a significant, but not the principal, source of exposure to acetaldehyde - concentrations tend to be lowest outdoors and 2 to 10 times higher indoors and in vehicles. The report recommends that additional analytical methods and studies are required to better understand the health impacts that result from exposure to these mobile source air toxics. The report is at pubs.healtheffects.org/view.php?id=282.

Air Toxics Study Shows 15% Reduction in Cancer Risk

Air pollution programmes, including those to reduce emissions from mobile sources, have reduced Los Angeles area residents' risk of cancer from toxic air pollution by at least 15% in the past seven years, according to a study released by the South Coast Air Quality Management District (SCAQMD). The report finds that diesel exhaust accounts for approximately 84% of the region-wide cancer risk and mobile sources - including cars, trucks, ships, trains, aircraft and construction equipment - account for 94% of the total risk. SCAQMD will now prepare an update to its Air Toxics Control Plan to include strategies for further reducing toxic air pollution, based on these findings.

SOUTH AMERICA

Low Sulfur Fuel Target for Latin America and the Caribbean

Ministers attending the 16th Meeting of the Forum of Ministers of the Environment of Latin America and the Caribbean (LAC) in the Dominican Republic have agreed to promote the reduction of the sulfur content of fuels, targeting a goal of 50ppm and with an emphasis on countries with air quality problems in their metropolitan areas.

The decision acknowledges the work of the Partnership for Clean Fuels and Vehicles (PCFV) in the region to date. It advocates improving fuel quality in line with the global goals of the PCFV and requests technical, financial and capacity support, especially at the country level. Argentina, Brazil, Chile, Colombia, Ecuador, Uruguay, Venezuela, and Suriname had already agreed that a sub-regional target of 50ppm sulfur diesel is attainable by all countries within the next few years. They recommended bringing the issue of cleaner fuels and vehicles, including the regional approach to low-sulfur fuels, to the region's 16th Meeting of the Forum of Ministers of Environment.

Brazil mandates 2% Biodiesel

From 1 January 2008, all diesel fuel in Brazil must contain 2% biodiesel. By 2013 the country plans to increase this to 5%. Brazilian biodiesel is primarily made from soybeans, but castor oil sunflower oil and palm oil are also used.

ASIA PACIFIC

Japan considering Incentives for Clean Diesel

Japan is reported to be considering subsidies and tax breaks for those who buy passenger cars with clean diesel engines from 2009 in an attempt to cut greenhouse gas emissions.

Singapore reduces Tax for Clean Diesels

Singapore's budget, announced on 15 February 2008, includes a revised special tax structure for Euro 4 private diesel cars from 1 July 2008. Currently, a private diesel car which complies with Euro 4 has an annual road tax four times that of a normal car. From 1 July 2008 the special tax will be based on the engine capacity of the car, at a rate of SG$1.25 per cc, subject to a minimum tax of $1,250. So a 1600cc Euro 4 diesel car will pay a special tax of $2000 instead of $2972. The revision was made in recognition of the improved emissions of Euro 4 diesel cars for both particulate matters and carbon dioxide, and the fuel efficiency of diesel engines.

China issues Stage III Motorcycle & Moped Emissions Requirements

The latest versions of the Chinese emissions requirements for motorcycles and mopeds, dated 7 January 2008, have been issued (in Chinese) by the Chinese Environmental Protection Agency, SEPA.

Standard GB 14622-2007 applies to motorcycles and replaces GB 14622-2002 with effect from 1 July 2008. Standard GB 18716-2007 applies to mopeds and replaces GB 18176-2002 from the same date. The standards specify the limits and measurement methods for the emissions of pollutants, crankcase emissions requirements and durability requirements for pollution control devices. They also give the approval requirements, production consistency checks and identification methods for China stage III. A third standard – GB 20998-2007 – gives the evaporative emissions requirements for both motorcycles and mopeds, also applicable from 1 July 2008.

South Korea issues Standards for Emissions and Fuel Economy

The Ministry of Environment for South Korea has announced that the rules supplementing the Air Quality Preservation Act have been revised to introduce new automotive emissions standards starting on 1 January 2009. At that time, new gasoline-powered cars will have to comply with California's fleet average emissions standards. Diesel-

engine passenger cars will have to meet the European Union's Euro 5 standard (180mg/km NOx, 5mg/km PM) from September 2009 for new types and January 2011 for all types. Euro 5-based requirements also apply to diesel light-duty trucks one year after the passenger car requirements. For heavy-duty diesel vehicles the requirements to be applied from July 2009 for new types and July 2010 for all vehicles generally mirror the Euro V requirements.

The revised rules also mandate an increase in emissions warranty period at the same time. For gasoline cars, this period will rise to 192 000km from the current 160 000km. For diesel cars and light trucks the period will rise from the current 80 000km to the EU figure of 160 000km and for heavy-duty vehicles the period will be 300 000km. In all cases the equivalent time period is 10 years.

Taiwan phasing out 2-Stroke Motorcycles

Taiwan's Environmental Protection Administration (TEPA) announced that it will spend 580 million New Taiwan Dollars (€12.5 million) in the next three years to phase out motorcycles with 2-stroke engines. A scooter rider who gives up a 2-stroke motorcycle will be rewarded with NTD1500 (€33). According to TEPA, the concentration of hydrocarbons emitted by the 2-stroke engine is eight times more than a 4-stroke. The project will focus primarily on Kaohsiung and Pingtung counties, where 68% of the 2.5 million on-road motorcycles have 2-stroke engines, contributing 32% of the hydrocarbon emissions from mobile sources in the region. TEPA estimates that 1.07 million 2-stroke motorcycles in the region have been used for more than a decade, and hopes that the project might result in the phase-out of roughly 350 000 obsolete ones.

Revisions to Indian Air Quality Standards

The Indian government is introducing new uniform air quality standards which will replace the land-use based types currently in force. These distinguish between industrial and residential areas, and at present, more pollutants are allowed in industrial areas than in residential zones.

The new norms prepared by the Central Pollution Control Board (CPCB) are based on acceptable health risks derived from empirical studies conducted in the last three years. The new standards prescribe a maximum of 40µg/m^3 for nitrogen dioxide compared to the current limits of 80µg/m^3 for industrial areas and 60µg/m^3 for residential areas. The new standards also introduce, for the first time, a standard for PM2.5, with a limit value of 40µg/m^3. The standard for PM10 is unchanged. There are also standards for ozone, SO_2, benzene, arsenic, mercury, nickel and vanadium.

Beijing moves to 50ppm Sulfur Fuel

China has introduced cleaner fuel standards in its capital Beijing. Under the new standards, retailers will be required to supply gasoline and diesel roughly equivalent to the Euro IV standard, with a maximum of 50ppm sulfur. A request has also been sent to the State Council to allow Beijing to require new vehicles to meet Euro 4 standards.

China lays down Criteria for Small Displacement Vehicles

The Chinese National Development and Research Commission (NDRC) has laid down criteria to define a small displacement car as part of the Government's plans to create preferential policies for 'green' cars.

The NDRC has laid down three standards for fuel economy, emissions, and car size. For fuel economy, cars weighing 1660kg to 1770kg have to use less than 9.3litres/100km. Cars weighing 2180kg to 2280kg must use less than 11.07litres/100km. All cars must meet Euro 3 exhaust emissions standards, and to meet the size criteria, hatch-backs must be no longer than 4.2m and sedans no longer than 4.0m.

Air Quality in China

Beijing registered 246 "blue sky days" in 2007, surpassing its air pollution target for 2007 by one day. The accomplishment means Beijing's air quality has shown a steady improvement for nine years. The Beijing authorities now plan to set a target of 256 "blue sky days" days for 2008.

Shanghai's air quality was slightly better last year but vehicle emissions remain a major pollutant, accounting for over 80% of the city's air pollutants according to the Shanghai Environmental Protection Bureau. There were 328 days with excellent or good air quality, four days more than 2006, but the overall amount of air pollutants was almost the same. Starting this year, Shanghai will require cleaner vehicles and has set up a special task force to measure vehicle emissions on the street.

But in the southern Chinese province of Guangdong, China's industrial heartland, air pollution increased significantly last year, with 27 major cities and counties suffering a record number of 75.7 hazy days - a "marked increase" over normal years, according to Guangdong's meteorological bureau.

Indonesian plans for Biofuels

The Secretary of the Indonesian Biofuel Development Team has said that the country plans to substitute around 10% of its transport fossil fuel consumption with biofuel products by 2010. The government plans

to increase the bioethanol content of gasoline from 3 to 5% by 2010, using cassava and cane molasses as feedstock. The country had planned to double biodiesel production, but state-owned oil firm Pertamina has cut the biodiesel blend to 2.5% because of rising palm oil prices. The government may keep the blend at this level whilst it tries to boost the output of jatropha, a non-edible oil that grows in arid land and needs little care. Indonesia has pledged to upgrade to Euro 4 fuel standards by 2012, when all new cars must have engines compatible with Euro 4.

MIDDLE EAST

Israel's Clean Air Act

Proposals for a "clean air" bill are entering the final stages in Israel's Knesset. A number of clauses from the main bill are being fast-tracked as separate laws by reforming existing legislation.

Under the proposals, each local council with a population of over 30000 will draw up a long-term plan to reduce car pollution through administration and traffic regulation. The plan will be based upon expert opinions, examining how a reduction in air and car pollution and a rerouting of traffic will affect the population. Thus, local authorities will be able to ban polluting cars or cars in general from entering certain areas provided that a parallel plan to improve public transport has been implemented. Public transportation using environmentally friendly technologies will be given preference and money raised by fines will be channelled toward a fund encouraging development of public transportation. Congestion charges, though, are not part of the reforms.

Dubai begins Trial on Buses with SCR

The Dubai Road Transport Authority (RTA) has begun a four-month trial using 10 Mercedes-Benz Euro IV buses fitted with BlueTec® urea - Selective Catalytic Reduction systems to reduce pollution. The diesel fuel in Dubai normally contains 500ppm sulfur but the RTA says they are "in the advanced stage of procuring 50ppm diesel and plan to introduce it for public buses in the first quarter of 2008".

AFRICA

Particulates in Sub-Saharan Africa

Two researchers from Columbia University in New York have monitored ambient PM2.5 and black carbon concentrations in Nairobi, Kenya, as part of a collaborative transportation planning exercise with the University of Nairobi.

The authors say that air quality is a serious and worsening problem in the rapidly growing cities of sub-Saharan Africa, but there is a lack of ambient monitoring data - particularly urban roadside concentrations for particulate matter. The objective of the monitoring was to collect pilot data on PM2.5 and black carbon concentrations encountered while driving in the Nairobi metropolitan area, and to compare those data to simultaneous 'urban background' concentrations measured in Nairobi but away from roadways. Results from this pilot study found that roadway concentrations of PM2.5 were approximately 20-fold higher than those from the urban background site, whereas black carbon concentrations differed by 10-fold. The authors say that if confirmed by more extensive sampling, these data would underscore the need for air quality and transportation planning and management directed at mitigating roadway pollution.

Source: van Vliet & Kiney, Impacts of roadway emissions on urban particulate matter concentrations in sub-Saharan Africa: new evidence from Nairobi, Kenya; Environmental Research Letters 2 045028 (2007) doi:10.1088/1748-9326/2/4/045028.

Cost of Particulate Pollution in South Africa

The South African Parliament's Committee on Environment and Tourism has been told that although South Africa as a whole does not have dramatic air quality problems, 24 municipalities had been identified as having air quality "hotspots". Most of the major health problems result from ground level air pollution in the form of particulates emitted by smaller industrial outlets, trucks and, in residential areas, by domestic fuel burning of cheap coal.

UNITED NATIONS / INTERNATIONAL

Light-duty PMP agreed by GRPE

On 17 January 2008 the UN-ECE's expert group on pollution and energy, GRPE, unanimously adopted amendments to ECE Regulation 83 to incorporate the PMP methodology for particulate mass and particle number measurement. The amendment will now go to WP29 (the UN's World Forum for the Harmonisation of Vehicle Regulations) in June 2008 for approval. The light-duty PMP group will remain open for another two years to allow experience to be gathered on the application of the procedures.

IMO Proposals for Emissions Reduction

The February meeting of the International Maritime Organisation (IMO) sub-committee on Bulk Liquids and Gases proposed a three-step reduction in NOx emissions from new engines for consideration by the IMO's Marine Environment Protection Committee (MEPC) in April 2008. The first step is the existing 17g/kWh standard. Emissions limits for new engines

would then be cut by between 16 and 22% in 2011, and by 80% by 2016. The 2016 limit would only apply in specially designated coastal areas, however. There was no agreement on NOx standards for existing engines because of "insufficient information and studies".

For SOx reduction, three options based on fuel sulfur reduction will be put to the MEPC. The first option envisages a 1% sulfur maximum to be applied globally from 2012 with a 0.5% fuel sulfur cap worldwide from 2015. The second foresees a 0.1% sulfur cap in designated emission control areas (Secas) from 2012, with no change from the current (4.50%) global standard in other areas. The third suggests a global cap of 3% from 2012, a Seca cap of 1% from 2010 and 0.5% from 2015 and "microemission control areas" with a 0.1% sulfur standard.

Submissions to the IMO meeting included one from the Helsinki Commission, a body created to protect the Baltic Sea environment, saying that tighter international regulations are needed to prevent a sharp increase in NOx emissions in the area. The submission was based on a study by research group ShipNODeff, which calculated that only the most challenging requirement - 80% reduction of emissions from marine diesel engines installed on ships on or after 1 January 2015 - would reverse the increasing trend of NOx emissions by 2030.

GENERAL

'Clean Diesels' at the Detroit Motor Show

A number of manufacturers introduced 'clean diesel' models or concepts at the North American International Auto Show in Detroit in January. The BMW Group introduced two models with urea-based SCR for NOx aftertreatment. Daimler showed its new Mercedes-Benz Vision GLK Freeside diesel concept, its first application of the BlueTec® system to a four-cylinder engine. In addition to an oxidation catalyst and a particulate filter, the system uses a urea-based SCR catalyst. Mitsubishi showed their Concept-RA diesel sports coupe featuring an emissions control system using a diesel oxidation catalyst, NOx trap catalyst and diesel particulate filter. Honda confirmed that their EPA-compliant clean diesels to be launched in the US in 2009 will generate and store ammonia within a two-layer catalytic NOx converter.

New Air Quality and Emissions Research

Two studies from the University of California-Davis examine the characteristics of particulates from light-duty gasoline-engined vehicles and from heavy-duty diesel trucks. Data include elemental carbon ratios from different technologies.

Sources: Journal of the Air and Waste Management Assoc., vol. 57, No.12, 2007, pp.1414-1428 and 1429-1438.

A paper from the C.N.R. Institute of Atmospheric Pollution in Rome examines the concentration and chemical composition of PM10 at three sampling stations in Rome and its surroundings. The researchers found that PM concentration at the traffic station was considerably higher than at the urban background and semi-rural stations; elemental carbon was detected as one of the chemical components responsible for this increase.

Source: Perrino et al, Influence of atmospheric stability on the mass concentration and chemical composition of atmospheric particles: A case study in Rome, Italy; Environment International, http://dx.doi.org/10.1016/j.envint.2007.12.006.

A new paper from EMPA, Switzerland, investigates the morphology, volatility, and structure of particles emitted by two modern 2-stroke scooters, one with direct injection and one carburetted. The authors conclude that the number concentration and size distribution of the particles emitted by 2-stroke scooters are roughly in the range of 4-stroke diesel engines, but the nature of the particles is different.

Source: Etissa, Mohr M, Schreiber & Buffat, Atmospheric Environment (ISSN 1352-2310) 42/1 183-195 (January 2008)

A study led by researchers at California's UCLA has revealed that the smallest particles from vehicle emissions may be the most damaging components of air pollution in triggering plaque build-up in the arteries, which can lead to heart attack and stroke.

Source: Araujo et al, Ambient Particulate Pollutants in the Ultrafine Range Promote Early Atherosclerosis and Systemic Oxidative Stress; Circulation Research, doi: 10.1161/CIRCRESAHA.107.164970.

A study conducted in Boston, USA, shows that children who live in neighbourhoods with heavy traffic pollution have lower IQs and score worse on other tests of intelligence and memory than children who breathe cleaner air. The researchers suggest that traffic pollution may exert harmful effects by causing inflammation and oxidative damage to the brain.

Source: Suglia et al, Association of Black Carbon with Cognition among Children in a Prospective Birth Cohort Study; Am. J. Epidemiol., 1 February 2008; 167: 280 - 286.

A study comparing 2 hour walks on a busy street and in a London park links exposure to diesel exhaust with asthma. Researchers found that exposure in the street induced greater changes than in the park. The changes were associated most consistently with exposures to ultrafine particles and elemental carbon.

Source: McCreanor et al, Respiratory Effects of Exposure to Diesel Traffic in Persons with Asthma; New England Journal of Medicine, 357:2348-2358, 6 December 2007.

The first comprehensive estimates of particulate emissions in China by size distribution and major components finds that industrial processes are the major sources of particles over all three size ranges

(TSP, PM10 and PM2.5), but residential biofuel use and transportation sources become increasingly important for PM10 and PM2.5.

Source: Zhang et al, Major components of China's anthropogenic primary particulate emissions; Environmental Research Letters 2 045027 (2007) doi:10.1088/1748-9326/2/4/045027.

Environmental Research Letters includes a paper that examines the barriers to including the effects of particulate matter on climate change. The author concludes that climate forcing by carbon particles is not limited to 'hot spots' and that despite scientific uncertainties, reducing all major sources of black carbon will reduce direct climate warming with a very high probability.

Source: Bond, Can warming particles enter global climate discussions?; Environmental Research Letters 2 045030 (2007) doi:10.1088/1748-9326/2/4/045030.

Planting trees in urban areas could cut particulate pollution in cities by as much as a quarter, according to a study which shows that trees are particularly good at capturing PM10 on their leaf surfaces.

Source: McDonald et al, Quantifying the effect of urban tree planting on concentrations and depositions of PM10 in two UK conurbations; Atmospheric Environment 41(38): 8455–8467.

Researchers from the Institute of Public Health in Copenhagen have shown that when high-efficiency particle air (HEPA) filters were used for 48 hours to clean the air in the apartments of 21 older non-smoking couples, their blood vessel function improved by about 8 %. The researchers now plan to investigate how particulate matter from wood stoves used to heat homes in Scandinavia and parts of the United States can affect health.

Source: Bräuner et al, Indoor Particles Affect Vascular Function in the Aged: An Air Filtration–based Intervention Study; Am. J. Respir. Crit. Care Med. 177: 419-425. doi:10.1164/rccm.200704-632OC Medicine, February 15, 2008.

FORTHCOMING CONFERENCES

6th International Symposium of Fuels & Lubricants

9-12 March 2008, New Delhi, India

Conference topics will include emissions regulations and control technologies, fuel additives and biofuels.

Green Ship Technology

11-12 March 2008, Rotterdam, the Netherlands

Details at www.greenshiptechnology.com

The programme will include future regulatory and technical solutions for eco-friendly shipping, EU proposals for improving environmental performance, and the use of alternative fuels and biodiesel.

Diesel Emissions Conference in Asia

11-12 March 2008, Shanghai, China

Details at www.integer-research.com/conference

The panel of 20 expert speakers has direct experience of the many important issues that affect the diesel emissions market: from governmental and international regulations, fuel quality, AdBlue supply, powertrain development and aftertreatment equipment technology.

Verbrennungsmotoren: Fahrzeugabgasemissionen

11-12 March 2008, Essen, Germany

Details at www.hdt-essen.de

11th International Conference on the Russian Automotive Industry

11-13 March 2008, Moscow, Russia

Details at http://www.adamsmithconferences.com/html/2008/transport/arc008.html

This is a general automotive conference but including presentations from Russian OEMs and a session giving an overview of Chinese OEM strategies.

International Advanced Mobility Forum (IAMF) & European Ele-Drive Transportation EET-2008,

11-13 March 2008, Geneva, Switzerland

Details at http://www.iamf.ch/en/

More than 130 presentations on the theme of clean mobility have been approved. The third day will be dedicated to comparing the electric drive train to other alternative solutions such as vehicles propelled by natural gas, biogas or bioethanol.

Auto FutureTech Summit

12-14 March 2008, Vancouver, BC, Canada

Details at www.autofuturetech.com

This will be held with the GLOBE 2008 Conference and Trade Fair. Sessions include 'Clean Diesel' and 'The Future of Biofuels'.

Le Véhicule Industriel, Moteur De Croissance

13 March 2008, Bourbon Lancy, France

Details at http://www.sia.fr/evenement_detail_vehicule_industriel_moteur_croissance_bienvenue_941.htm

This meeting organised by the Société des Ingénieurs de l'Automobile will be held at the Fiat Powertrain Technologies plant that produces Cursor 8,9,10 and 13 engines used by Iveco and others in industrial vehicles, machinery, standby generators, agricultural machinery and boats. The morning programme includes presentations on hybrids by Iveco Irisbus and Volvo – Renault Truck and in the afternoon there is a visit to the production site.

3rd International Conference & Exhibition on Ecological Vehicles and Renewable Energies

27-30 March 2008, Monte-Carlo, Monaco

Details at http://www.conference.evermonaco.com/

EVER'08 is intended to be a forum of specialists coming from both universities and industries, involved in R&D projects in the area of ecologic vehicles and of renewable energies.

Emission Relevant Sensors

31 March - 2 April 2008, Frankfurt-Oberursel, Germany

The first day of this forum from the Car Training Institute will be an introductory seminar "basic knowledge in emission sensor technology".

Charging & Downsizing Concepts

31 March - 2 April 2008, Stuttgart, Germany

Papers include EGR concepts for Diesel and Otto engines, downsizing for emissions reduction and the development of sensor materials for EGR.

Alternative Energies for the Automotive Industry

2-3 April 2008, Poitiers, France

Details at http://www.sia.fr/files/evenement/onglet/1934/Call%20for%20Papers%20AEA.pdf

SCR-System

8-10 April 2008, Bonn, Germany

Details at http://www.iir.de/scr-system

Key themes cover SCR technology and basic principles, alternative SCR systems (e.g. solid urea systems), legal requirements and future prospects.

2008 SAE World Congress

14-17 April 2008, Detroit, Michigan, USA

Transport Research Arena 2008

21-24 April 2008, Ljubljana, Slovenia

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

The event is organised jointly by the Conference of European Directors of Roads, the European Commission and the European Road Transport Research Advisory Council.

Innovation for Sustainable Production 2008

22-25 April 2008, Bruges, Belgium

Details at http://www.i-sup2008.org/

Conference sessions include production and application of nanomaterials, urban growth and air pollution, and methods for toxicity screening.

29th International Vienna Motor Symposium

24-25 April 2008, Vienna, Austria

Details at www.xn--vk-eka.at/veranstaltungen/veranst_symp_en.htm

The latest results in worldwide engine and powertrain development, future legislation and emissions control.

TECHNEX 2008: 2nd Global Technical Automotive Technology Conference

28-30 April 2008, New Delhi, India

The conference is organised by SIAM (the Society of Indian Automobile Manufacturers) in partnership with ECMA (the Emission Controls Manufacturers Association). It will include propulsion, materials and emissions and an exhibition organised in parallel with the conference. The conference will include sessions on "Light Duty Diesel Technology" and its implementation, when aftertreatment device manufacturers will share their thoughts and experience on diesel as clean technology.

European Patent Forum 2008: Inventing a Cleaner Future

6-7 May 2008, Ljubljana, Slovenia

Sessions include 'Patenting trends in clean technologies', technology transfer, patenting in small and large companies, clean technology diffusion into emerging countries and the IP market place.

Vehicle Inspections "Win/Win Approaches"

6-8 May 2008, Porto, Portugal

The conference is organised by CITA, the worldwide association of organisations involved in in-service vehicle roadworthiness inspections. Workshops will cover environment, operation and strategy.

Im Spannungsfeld zwischen CO2-Einsparung und Abgasemissionsabsenkung / Tension between CO2 savings and exhaust emission reduction

15-16 May 2008, Herrsching (Munich), Germany

Details at www.hdt-automotive.de

Diesel Particulates and NOx Emissions Course

19-23 May 2008, Leeds, UK

Details at www.engineering.leeds.ac.uk/cpd

The course covers diesel combustion and emissions, engine design and lube oil influences on NOx and PM, particulate and NOx aftertreatment and fuel injection and engine design trends.

Hart's World Refining & Fuels Conference

27-28 May 2008, Brussels, Belgium

The theme for this year's conference is Low-Carbon Fuels: A Life-Cycle Analysis.

Diesel Engines / Le Moteur Diesel

28-29 May 2008, Rouen, France

Details at: http://www.sia.fr/evenement_detail_diesel_engines_moteur_diesel_920.htm

Topics to be addressed include diesel combustion and new combustion processes, injection systems, pollution control, engine design and performance, and specific features of industrial engines.

International Liquefied Petroleum Gas Exhibition and Congress

28-30 May 2008, Milan, Italy

Details at www.aegpl-expo.com

The main theme for 2008 is "LPG, the clean, immediately available alternative energy form".

International Congress of Heavy Vehicles, Roadtrains and Urban Transport

28-31 May 2008, Minsk, Belarus

Details at http://www.fisita.com/events/diary?id=327

The International Congress of Heavy Vehicles, Road-trains and Urban Transport is organized by Academic Automotive Association under FISITA patronage, and by the support of the Government of the Republic of Belarus, the Belarusian National Technical University, and the Belarusian automotive industry.

4th Emission Control 2008

29-30 May 2008, Dresden, Germany

The main emphasis of this conference will be on measures to reduce emissions and energy and heat management. The emissions topics will include engine internal methods, alternative combustion, new technologies of aftertreatment, and exhaust emissions test methods and equipment.

Partikelfilternachrüstung von Dieselmotoren

5-6 June 2008, München, Germany

World Powertrain

10-11 June 2008, Vaals, Netherlands

Details at http://www.gpc-icpem.org/pdfs/vaals_gpc.pdf

The programme covers advanced engine design and performance, advanced powerplants and vehicles, and emissions and enabling Technology.

Diesel Emissions Europe 08

11-13 June 2008, Brussels, Belgium

Details at http://www.integer-research.com /Products/Services/?ServiceID=182&ckIndustryID=3

One of the main themes of the conference will be the commercial impact of the latest emissions standards on diesel truck manufacturers and emissions control equipment suppliers. The conference will combine top-level strategy presentations with case studies and panel discussions from the businesses and authorities that will continue to shape the future of diesel emissions reduction.

Benefits and Risks of Inhaled Engineered Nanoparticles

11-14 June 2008, Hannover, Germany

Details at www.inis-symposium.com

The symposium will cover the main areas of current concern and active research in the context of inhaled engineered nanoparticles, including physicochemical characteristics, measuring methods, bioavailability and potential sources of human exposure.

MinNOx: 2nd International IAV Conference on NOx Aftertreatment

19-20 June 2008, Berlin, Germany

Topics covered will include NOx aftertreatment solutions for Diesel cars, gasoline DI cars and heavy-duty applications, engine measures to reduce NOx emissions, OBD, catalyst and component development, urea infrastructure, and health effects.

ETH Conference on Combustion-generated Nanoparticles

23-25 June 2008, Zurich, Switzerland

Details at http://www.lav.ethz.ch/nanoparticle_conf/

Sessions will focus on areas including the formation of nanoparticles in IC-engines and in biomass combustion, exhaust aftertreatment technologies to eliminate nanoparticles and their possible secondary emissions, the impact of black carbon nanoparticles on global warming, legislation and health effects.

SAE International 2008 Powertrains, Fuels and Lubricants Congress

23-25 June 2008, Shanghai, China

Details at: http://www.sae.org/events/pfl/

Offers of papers are being solicited in the following technology areas: Advanced Power Systems, Combustion and Fuels, Control and Calibration, Exhaust Aftertreatment and Emissions, Lubricants and Powertrain Systems.

SAE Bio-fuels: Specifications and Performance Symposium

7-9 July 2008, Paris, France

Details at http://www.sae.org/events/training/symposia/biofuels/

This symposium will be organised in support of the needs of the motor industry and its alliances with representation from the US, Europe and Asia. All will address the question, "how will rapid growth in global biofuels affect the global specifications and performance of future fuels?"

5th International Conference on Environmental Catalysis

31 August - 3 September 2008, Belfast, N.Ireland

Details at http://www.qub.ac.uk/centacat/5icec/

Sessions cover automotive emissions control, catalysis for the production of clean fuels, catalysis for sustainable energy conversion and greener process intensification.

Materials Science and Engineering

1-4 September 2008, Nürnberg, Germany

Details at http://www.mse-congress.de/index.php?lg=en

Topic areas include nanostructured materials, functional and structural ceramics, functional microporous materials, advanced surface engineering, characterisation and processing.

Ricardo seminar: Diesel particulates and NOx control

2 September 2008, Shoreham-by-Sea, UK

Details at http://www.ricardo.com/seminars

The agenda covers legislative requirements, fundamentals of NOx and PM formation, engine and aftertreatment systems, particle measurement and the formation and control of non-regulated NOx species.

SAE Small Engine Technology Conference

9-11 September 2008, Milwaukee, WI, USA

Details at http://www.sae.org/events/set/

20th International AVL Conference "Engine & Environment"

11-12 September 2008, Graz, Austria

The theme for this year's conference is "120g CO_2/km – what about driving fun and costs? Engine & Environment 2008 will invite authorities from industry, academia and the political world to discuss solutions and strategies.

FISITA 2008 World Automotive Congress

14-19 September 2008, Munich Germany

Details at www.fisita2008.com

The topic area on future powertrain solutions includes strategies for future ultra-low exhaust emissions limits and strategies and engines for future fuels. The simulation and testing topic includes harmonisation of international legislation.

SIMEA: Automotive Engineering International Symposium

17-18 September 2008 (to be confirmed), Brazil

17th Aachen Colloquium "Automobile and Engine Technology"

6-8 October 2008, Aachen, Germany

Details at http://www.aachener-kolloquium.de/index_e.htm

The congress will provide a wide range of technical presentations addressing current challenges of the vehicle and powertrain industry.

7th International Motorcycle Conference: 'Safety – Environment – Future'

7-8 October 2008, Cologne, Germany

Details at http://www.ifz.de/e-events-conferences-7intmotorcycle.htm

Environmental aspects to be covered are motorcycle emissions, standards and measurement procedures.

SAE 2008 Commercial Vehicle Engineering Congress and Exhibition

7-9 October 2008, Rosemont, Illinois, USA

Details at http://www.sae.org/events/cve/

Abstracts are being invited on design, manufacture, operation and maintenance of heavy, medium, and light-duty commercial trucks, buses and military vehicles, construction, agricultural, forestry and utility equipment. This event will cover all on-road and off-road applications for commercial vehicles and include alternative fuels, emissions and global harmonisation.

International conference 'Environment & Transport in different contexts'

27-28 October 2008, Ghardaia, Algeria

Details at http://www.inrets.fr/services/manif/ghardaia-oct08/index-EN.html

The conference deals with the environment issues related to transport in different areas with a particular focus on the Southern countries. The main topics to be dealt with are transportation systems and environmental impacts, evaluation methodology, control technology and transportation policy.

Better Air Quality BAQ2008

12-14 November 2008, Bangkok, Thailand

Details at http://www.baq2008.org/

The BAQ 2008 theme is "Air Quality and Climate Change: Scaling up win-win solutions in Asia." This theme is directly related to the recommendation of the Intergovernmental Panel on Climate Change to integrate air quality management (AQM) and climate change mitigation strategies.

ICAT-08 International Conference on Automotive Technologies

13-14 November 2008, Istanbul, Turkey

Details at www.icatconf.org

The main theme of this conference will be "Alternative Technologies for the reduction of CO_2 emissions". Topics include Diesel Engine Development, Durability and Emissions, Advanced Diesel Emission Controls and Gasoline Direct Injection Engines.