



Newsletter

March - April 2005

INTERNATIONAL REGULATORY DEVELOPMENTS

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EUROPE

Tractor Emissions Directive published

The new European Directive on the emission of engines intended to power agricultural or forestry tractors, aligning the requirements with the 2004 NRMM (Non-Road Mobile Machinery) Directive, has been published as 2005/13/EC.

The Directive sets standards for various power-based categories of engine to come into force in 2005 or 2006 (Stage IIIA), 2009 to 2011 (Stage IIIB) and 2012 or 2013 (Stage IV). The limits are the same as those defined in the NRMM Directive for each category of engine.

Dutch Incentives for Filters

Following the publication of the European Commission's Staff Working Paper suggesting 5 mg/km PM as the level for pre-Euro 5 incentives, the Dutch Government has confirmed that from 1 June 2005, purchase of new diesel cars with particulate filters will attract a fiscal incentive (via car tax) of €600.

Particle Limits "will save billions"

According to a World Health Organisation study published in Berlin on 14 April, particulate pollution reduced average EU life expectancy by 8.6 months in 2000. WHO calculates that implementing the EU limit on ambient PM10 levels (which entered full effect in January) will save an average 2.3 months of life.

WHO estimates that reducing the effect on mortality of particulate emissions from vehicles and industrial emissions would benefit the European economy by between €58bn and €161bn, and that the cost of respiratory illnesses attributable to particulate emissions could be cut by €29bn per annum. This is quoted as the equivalent of preventing 80000 premature deaths and saving over 1m years of life in the EU. There are increasing signs that some EU countries are struggling to comply with the directive. In Germany several cities are already in breach of obligations, fuelling a furious political debate.

Traffic restrictions for Germany?

German environmental protection organisation Deutsche Umwelthilfe has launched test complaints at courts in the German cities that most frequently exceed the daily limit for small particles (PM10).

Deutsche Umwelthilfe wants to impose compliance with air quality regulations that came into force throughout Europe on 1 January 2005. The complaints have been lodged in a bid to impose

restrictions on traffic in Berlin, Munich, and Dortmund. Berlin had already recorded 16 breaches of the limit since the beginning of the year, Munich 20 and Dortmund 19.

Other countries have already taken action to help meet the PM10 requirements. Nine Italian cities have banned driving in city centres on selective Sundays and Italy plans to increase taxes on petrol and diesel to pay for new environmentally friendly buses. Austria offers a €300 tax incentive on diesel particulate filters; Germany and the Netherlands are also introducing incentives.

Deutsche Bank Research Report on Particulates

A report by Deutsche Bank Research says that although both the criticism of the German automobile industry and the current outcry regarding PM air quality thresholds being exceeded appear to be exaggerated, the industry has clearly underestimated public sentiment on this sensitive topic.

The report says that the problem stemmed from two misguided beliefs: one that the industry could solve the diesel soot problem using an alternative, more complex technology, the other that they could allay the concerns by a voluntary commitment to fit all new diesel cars with a filter by the end of 2008. The authors believe that consumer pressure will now drive the fitment of diesel particulate filters and suggest that city toll concepts should depend on, amongst other factors, the amount of pollutants emitted by the vehicle and the prevailing concentration of pollutants in the ambient air.

German Inland Waterway Ship with Soot Filter and NOx Treatment

The German Federal Environment Secretary is promoting environmentally-friendly inland waterway craft by agreeing funding of 2.2 million euros from the 'investment programme for the reduction of environmental impacts' for the construction of RMS Kiel, a new 'Futura concept' ship fitted with a soot filter and nitrogen oxide reduction system.

He said that fine particles not only play a role in the city centres, but also appear in data from the inland ports; for instance, in the Duisburg harbour older ships are responsible for about 40% of the entire nitrogen oxides and 20% of diesel soot emissions. The application of modern established technology reduces the health-endangering output of fine particles by up to 99% percent and nitrogen oxides by around 70%.

Report on the quality of Petrol and Diesel in the EU

A report on EU road fuel quality in 2003 released by the European Commission has confirmed a strong trend towards low sulfur (50 ppm) and sulfur-free (10ppm) petrol and diesel.

Italy and Portugal are yet to introduce separately marketed low (<50 ppm) or sulphur-free (<10 ppm) fuels but Greece has introduced low sulfur petrol and diesel and Belgium has introduced a <50 ppm petrol grade. Sulfur-free petrol was available in Austria, Germany, Ireland and Sweden, and Germany had moved completely over to low sulfur diesel.

Compromise on Marine Fuel Sulfur limits

The European parliament has reached a compromise with the Commission and Member States on the marine fuel sulfur directive, which is intended to reduce SO₂ and particulate emissions from sea-going ships. Under the compromise, all ships entering the Baltic Sea, the North Seas and the English Channel will have to burn fuel with sulfur content below 1.5% (the current average is 2.5 to 3%) in autumn 2007. The 1.5% limit also will apply to all ferries across the EU from May 2006. From 1 January 2010 there will also be a limit of 0.1% sulfur on fuel used by inland vessels and by sea-going ships at berth in EU ports. Use of abatement technologies will form a permitted alternative approach. There will be a review in 2008 to consider a second-phase limit of 0.5%.

CAFÉ report on Small-Scale Combustion

A report on Small Combustion Installations (SCI) prepared by AEA Technology for the CAFÉ (Clean Air for Europe) programme has been released by the European Commission.

'Costs and environmental effectiveness of options for reducing air pollution from small-scale combustion installations' notes that such installations are considered to be a significant source of a range of pollutants, the most important of which is particulate matter. This study was undertaken to:

- Assess the significance of different SCI pollutants
- Characterise SCI and fuels used across Europe
- Identify the range of options for reducing emissions
- Propose a range of feasible and cost-effective measures for consideration in the Thematic Strategy

The analysis highlighted several key issues:

- The high level of PM and NMVOC emissions from the residential sector due to the consumption of biomass and solid fuels.
- The contribution from industrial SCI to emissions of NO_x, PM and SO₂.

- The high level of emissions of NO_x from non-industrial SCI, due to the consumption of natural gas, and to a lesser extent, liquid fuels.

AEA conclude that the focus needs to be on options for reducing emissions of PM, particularly from the use of solid fuels (in the short term) and from biomass use. Two other priorities were identified - emissions from potentially unregulated industrial SCI, and NO_x emissions from non-industrial oil and gas.

Policy options assessed include regulatory product emissions standards; emissions limits for larger SCI; local measures such as restrictions on the use of solid fuels in urban areas; and fuel quality requirements.

France renews call for stronger 'UN Environment Organization'

France has re-launched a diplomatic initiative aimed at convincing the international community to create a new global environment organisation under the United Nations. The initiative is based on transforming the Nairobi, Kenya-based UN Environment Program into an autonomous UN agency with built-in financing and operational powers similar to UN agencies like the World Health Organisation.

French President Jacques Chirac proposed that the UNEO could serve as a coordinating centre for all existing multilateral environmental agreements, and could promote a sustainable development agenda. He suggested that the new organisation be equipped with an enforcement arm as well as a dispute settlement process and that it should have obligatory funding from all member states.

Preliminary Results of Public Consultation on Clean Air for Europe

Preliminary results of the public internet consultation on CAFÉ (Clean Air for Europe) have been published by the European Commission. The Commission says that the results broadly confirm the direction of policies already suggested by the EU executive.

Neighbourhood Air Quality was rated as 'satisfactory' by 52% of those who responded and 'poor' by 23.8%. For 'Air Quality in your city or nearest city' the responses were somewhat different: 39.2% satisfactory, 38.2% poor and 16.1% very poor. 47.2% felt that air quality in their neighbourhood had become worse over the last 5 to 10 years, with less than 20% recognising some level of improvement. However, the majority of respondents felt they were not well informed on air quality and its implications.

Only 2% were not concerned about the health impacts of air pollution and over 70% of respondees said that increasing life expectancy via improved air quality is

very important and we should spend 'substantial sums' on it. Over 60% of those responding said that new stricter limits should be established as soon as possible for the concentration of pollutants in the air people breathe and for pollution from sources such as cars, industry and domestic heating. Similar percentages supported financial incentives for less polluting activities. Some 41% said they would pay more for less polluting products and services.

Priority sources of air pollution for which further action is required were seen as: industrial production (79.6%); existing cars, trucks, buses (78.2%); new cars, trucks, buses (43.6%); energy production (53.0%); and aviation (42.0%).

Stricter emission standards for new vehicles were supported by 65.5% of those responding whilst 42.9% wanted stricter emission standards for existing vehicles. 72.8% wanted to promote less polluting vehicles and transport modes by subsidies or lower taxes, and banning the most polluting vehicles in some areas was supported by 54.1%.

'CARS 21' – European Automotive Industry Regulation

On 26 April the European Commission's Directorate-General for Enterprise organised a well-attended hearing of senior-level Industry and Society representatives. This hearing followed on from a public Internet Consultation on the Commission's CARS21 initiative, a Competitive Automotive Regulatory System for the 21st Century.

Consumer organisations, car manufacturers, fuel producers, the distribution and aftermarket sector, environmental and transport safety interest groups, technical services, trade unions and EU institutions exchanged views on the best regulatory framework for the European automotive sector in the future. The hearing is part of the European Commission's effort to include the views of those stakeholders not represented in the formal High Level CARS21 Group.

At its first meeting on 11 April, this High Level CARS21 Group agreed to draw up, by the end of the year, a roadmap identifying the public policy measures to be adopted in the automotive area in the next 10 years. This roadmap would provide for a stable regulatory environment and allow identification of initiatives and their timing, to minimise their negative interaction and cumulative impact.

The results of these initiatives will serve as a basis for the Commission's approach towards a future regulatory framework for this sector to be proposed next year. The Commission is expected to respond to the CARS21 report once it is published.

NORTH AMERICA

Canada adopts Off-Road Diesel Engines Standards similar to US

Environment Canada has issued final regulations aimed at cutting emissions from diesel industrial machines used in construction, mining, farming, and forestry. The Off-Road Compression-Ignition Engine Emissions Regulations set Canadian emissions standards in line with US rules.

Draft regulations were published for public comment in May 2004. The final version, published in the 23 February 2005 issue of the Canada Gazette, Part II includes modifications to section 12 in response to technical suggestions from the Engine Manufacturers Association to enable alternative standards for replacement engines when there is no appropriate current model-year engine available.

The new regulations will apply to engines of 2006 and later model years, and they are based on the US Environmental Protection Agency's Tier 2 and Tier 3 standards for off-road diesel engines. Canada intends to amend the regulations to incorporate the EPA's Tier 4 standards once they are finalized. The standards set maximum emissions levels for carbon monoxide, particulate matter, and combined non-methane hydrocarbon and nitrogen oxides emissions. They also set a smoke opacity standard.

EPA considers Highway Bill to Provide Funding For Diesel Retrofit Projects

EPA is pushing for a final Highway Bill to provide funds for industry to retrofit diesel engines to help meet the agency's air quality standards.

EPA's push is part of its efforts urging states to be more aggressive in forcing industry to clean up old diesel engines, which the agency says is a cost-effective way to help meet aggressive new federal air quality standards for ozone and fine particulate pollution. Engine makers, automakers and other transportation groups have been struggling to significantly increase the number of retrofit projects nationwide, and say that additional federal funds would dramatically boost the pace of retrofits. The funds are especially crucial, proponents say, because EPA's recent diesel rules only apply to new engines, thereby allowing old engines to continue emitting pollutants that have been linked to serious health problems such as cancer.

Scientific Advisory Panel Endorses Stricter PM2.5 Standard

The Clean Air Scientific Advisory Committee (CASAC) has said that it supports a recommendation by US Environmental Protection Agency staff to tighten the air quality standard for fine particles.

Committee members say that a scientific basis exists for lowering both the annual and 24-hour average standards for fine particles with diameters smaller than 2.5 microns (PM2.5). The group also called for some form of new standard for coarse particulate matter and generally backed a visibility standard. Under the terms of a consent decree, EPA is to issue a proposal regarding the results of its review of the particulate matter standards by 20 December 2005 and a final notice by 27 September 2006.

Canadian Voluntary Agreement on Greenhouse Gas Emissions

Canada's Natural Resources Minister has announced that an agreement on greenhouse gas emissions has been reached with car manufacturers.

Under the terms of a voluntary agreement car manufacturers will cut greenhouse gas emissions from new light-duty vehicles sold in Canada by 5.3 million tons by 2010, equivalent to a 25% improvement in fuel efficiency compared to today's levels. It does not, however, specify that fuel economy will be improved to achieve this. If the motor industry fails to comply with this voluntary agreement then mandatory reductions are likely to be imposed by the Canadian government.

California ARB Report on Emission Impacts of Ethanol in Gasoline

A draft report from the California Air Resources Board (ARB) summarises the emission impacts of using ethanol in gasoline. The results may also be relevant to European proposals to increase the proportion of biofuels used.

The report identifies a significant increase in evaporative emissions due to permeation, but also reduced CO emissions and especially 3% higher NOx emissions from ethanol-containing gasoline compared to non-oxygenated fuel meeting the same (Phase III RFG) standard.

EPA initiates Testing Programme for Ultra-Low Sulfur Diesel Fuel

EPA is launching a testing programme to assess the accuracy of procedures for measuring the sulfur content of diesel fuel and has asked the industry to

suggest options for addressing concerns that contamination of the low sulfur fuel could prevent compliance with the diesel rule's requirements.

At issue are two key industry concerns over implementation of a regulation that requires increasing amounts of highway vehicle diesel fuel to meet a sulfur content limit of 15 parts per million (ppm) beginning in 2006. Industry officials, including pipeline companies, have raised concerns that an existing 2ppm enforcement 'testing tolerance' in the rule is too small to account for variations in sulfur content measurement techniques. In addition, the industry has argued that possible contamination of clean fuel during transport through pipelines and fuel terminals that also handle higher sulfur diesel could prevent significant quantities of clean fuel from complying with the sulfur limit by the time the fuel reaches the pump.

SOUTH AMERICA

Biofuel in Diesel to be Mandatory in Brazil by 2008

Brazil's Congress has passed a law (Congressional Bill No. 11.097) that authorizes the voluntary sale of biodiesel fuel for the next three years and that will make it mandatory for distributors to add biodiesel to all diesel fuel in January 2008.

The blends called for include 'B-2 biodiesel', which is 2% biofuel and 98% regular diesel; and 'B-5 biodiesel', with 5% biofuel. The biofuel will consist of vegetable oil and sugar-cane ethanol. Brazil has a ready supply of both, since it is the world's second largest producer of soy and the largest producer of sugar and sugar-based ethanol. By 2008, when B-2 biodiesel becomes mandatory, vegetable oil producers will need to make 800 million litres per year to supply the market.

Peru sets Timeline to reduce Sulfur in Diesel Fuel

Peru has published a decree calling for a substantial reduction in the sulfur content in diesel fuel. Supreme Decree 012-2005-PCM gives the Minister of Energy and Mines (MEM) 45 working days to draft a plan for achieving the final goal of between 50 and 350ppm as the maximum limit of sulfur in diesel fuel.

MEM's short-term plans involve importing diesel with a lower quantity of sulfur, but longer-term MEM estimates that it needs at least US\$ 300 million to improve the state-owned refinery to meet the targets. According to MEM, Peru imports some of the world's dirtiest crude oil – that from Ecuador has a sulfur content of 0.9%, nearly double the sulfur content of fuel produced in Colombia and Venezuela.

ASIA PACIFIC

New Chinese Emissions Standards

The State Environmental Protection Administration (SEPA) of China has, on 27 April 2005, promulgated five new national standards on vehicle pollution.

They include Limits and Measurement Methods for:

- Pollutants from light-duty vehicles (Phase 3 to come into force on 1 July 2007, and Phase 4)
- Crankcase emissions of heavy-duty vehicles equipped with spark-ignition engines
- Evaporative emissions of heavy-duty vehicles equipped with spark-ignition engines
- Noise from motorcycles and mopeds at accelerated speed.

The 3 latter standards will come into effect on 1 July 2005. The 9 current emission standards and measurement methods Stage 2 light-duty vehicles will be replaced by the new standards.

In addition to lowering limit values and adding OBD requirements, the new standards include requirements for implementation and supervision, and prescribe new fuel property specifications "suitable to China's conditions of vehicle fuel characteristics."

Proposed New Japanese Standards

The Japanese Central Environmental Council's Automobile Experts Sub-committee of the Air Quality Committee has issued proposed new emissions limits for both diesel and gasoline cars and trucks. Since the vehicle and engine manufacturers have agreed to the proposal before it was released, no changes to the limit values are expected after the comment period.

Percentage reductions shown in the following table are from 2005 standards

Diesel	PM	NOx	NMHC	CO	Date in Effect
Passenger Car (g/km)	0.005 (-62%)	0.08 (-43%)	0.024 (-0%)	0.63 (-0%)	2009
Trucks, Buses					
Light-Weight GVW ≤1.7t (g/km)	0.005 (-62%)	0.08 (-43%)	0.024 (-0%)	0.63 (-0%)	2009
Middle-weight GVW 1.7-3.5t (g/km)	0.007 (-53%)	0.15 (-40%)	0.024 (-0%)	0.63 (-0%)	1.7-2.5t 2010 2.5-3.5t 2009
Heavy-weight GVW >3.5t g/kWh	0.01 (-63%)	0.7* (-65%)	0.17 (-0%)	2.22 (-0%)	3.5-12t 2010 >12t 2009

*challenge target about 1/3 of 0.7 (-88%)

Gasoline	PM	NOx	NMHC	CO	Date in Effect
Passenger Car (g/km)	0.005 (New)	0.05 (0%)	0.05 (-0%)	1.15 (-0%)	2009
Trucks, Buses					
Light-Weight GVW ≤1.7t (g/km)	0.005 (New)	0.05 (0%)	0.05 (-0%)	1.15 (-0%)	2009
Middle-weight GVW 1.7t - 3.5t (g/km)	0.007 (New)	0.07 (0%)	0.05 (-0%)	2.55 (-0%)	2009
Heavy-weight GVW >3.5t (g/kWh)	0.01 (New)	0.7 (0%)	0.23 (-0%)	16.0 (-0%)	2009

The new particulate limit for gasoline-engined vehicles applies only to vehicles having three characteristics:

- Lean Burn plus
- Direct Injection and
- NOx Adsorption Reduction-type Catalyst

The new standards also indicate the intention to consider a further tightening of the NOx standard for heavy diesel trucks and buses by introducing a so called 'challenge target'. It is intended that in 2008, a technological review will be carried out, taking into account the improvement of the air quality, the measures taken for CO₂ reduction and other factors that might influence the situation at that time. Based on this review, new target values and the date for their implementation will be determined.

The Ministry anticipates that most diesel vehicles this year will be equipped with a diesel particulate filter, although there will be some limited use of SCR with oxidation catalysts on trucks larger than 12 tons. In 2009, they anticipate widespread use of DPFs, DOCs and SCR with some introduction of HCCI engine technology. They also expect use of NOx adsorber technology. In parallel with the tighter vehicle standards, gasoline and diesel fuel sulfur levels must be reduced to a maximum of 10ppm by 2007, although the oil industry already announced that all gasoline and diesel fuel would meet these limits by 1 April 2005.

Tokyo Retrofit Scheme judged a Success

From 1 October 2003 the Tokyo Metropolitan Government and three neighbouring prefectures (Saitama, Chiba and Kanagawa) required older vehicles to be retrofitted with diesel particulate control devices. About 400000 diesel vehicles in Japan have been retrofitted with aftertreatment technology. About 340000 are fitted with Diesel Oxidation Catalysts and about 60000 with Diesel Particulate Filters. The Tokyo Metropolitan Government considers the program to have been a major success based on the substantial improvement in air quality that has occurred.

Data from a very heavily travelled tunnel show an average reduction per vehicle of 49% in carbon emissions and 58% in SOF emissions from 2001 to 2003. Similar reductions have been measured along busily travelled roads. Subsequent studies in 2004 showed that the reductions in the tunnels have now climbed to 68% and 84% for EC and SOF, respectively. EC reductions at the major traffic intersection have improved to 44% and total suspended PM has come down an average of 29% as measured by 34 monitoring stations across Tokyo. These dramatic improvements seem to be the result of the targeted retrofit effort, the improvement in fuel quality and the acceleration of the new vehicle standards at the national level.

Beijing plans Checks on Private Cars

The Xinhua News Agency reports that Beijing's Environmental Protection Bureau plans to take measures to check private cars in the Chinese capital to protect the air quality in Beijing. The check will be realised through the adoption of stricter exhaust gas emission standards.

Beijing is expected to adopt Euro 3 emission standards this year, with the Euro 4 standard to be adopted by 2008. Automobile emissions will be put under more rigorous supervision and control this year. Motor vehicles that meet emission standards usually have a yellow or green tag pasted on their front windows after an annual inspection. However, cars without such tags are often seen on the roads. This year, the municipal environmental protection bureau will team up with local traffic management authorities to guard against vehicles without such tags on the road. People driving such cars will be fined 200 Yuan.

The city also plans to phase out 3800 old buses and 20000 taxis, both blamed as major pollution sources, by the end of this year. All new buses and taxis must meet Euro 3 emission standards.

India Short of Low Sulfur Diesel

Oil suppliers in India will only be able to supply low-sulfur diesel to two-thirds of the country by a national deadline of 1 April. The rest of the country will have to wait another three to six months for cleaner diesel.

The regulations require firms to sell diesel and gasoline having a sulfur content of no more than 350ppm in India's 11 largest cities and 500ppm in the rest of the country. The Ministry of Petroleum and Natural Gas said there was no problem to supply cleaner gasoline and diesel to the country's largest cities by 1 April, but there would be delays in supplying low sulfur diesel to parts of eastern India and to the western state of Rajasthan.

GENERAL

Health Effects Institute poised to begin Major New Inquiry of PM Risk to Drivers

The US Health Effects Institute (HEI), a research group that focuses on health effects of mobile source pollutants, is launching a major new effort to identify the most toxic components of fine particles (PM) that may indicate what industry sectors EPA and US States may target in current and future air regulations.

An electricity company research group recently unveiled preliminary study results that suggest PM from motor vehicles may be more harmful to human health than PM from power plants. HEI, which is funded jointly by EPA and industry, is poised to announce a multi-million dollar, five- to ten-year grant to investigate which components of PM appear to present the most risk. The sponsors hope some information will become available for consideration as EPA develops new PM standards for a 2012 deadline and for State and local air officials as they submit implementation plans for existing PM standards.

High Exhaust Levels inside School Buses

Children on school buses collectively inhale as much or more exhaust emitted from those buses as does the rest of the city's population, according to a new analysis by researchers at the University of California. The results highlight the problem of exhaust from the vehicle leaking into the cabin, particularly among older buses.

The study, scheduled to appear in the 15 April issue of Environmental Science and Technology found that for every million grams of pollutants emitted by the bus, 27g would be inhaled by all 40 riders, or 0.67g per child. The highest levels of self-pollution were found with the two older buses, particularly when the windows were closed. The intake fraction for a 1975 model diesel bus measured 94g of pollution inhaled per million grams emitted, a level 3.4 times greater than average. The authors say that in a single day, a child riding a school bus will breathe in anywhere from 7 to 70 times more exhaust from that bus than a typical Los Angeles resident will inhale from all school bus emissions in the area.

Lead author Julian Marshall, a PhD student at the University of California, Berkeley's Energy and Resources Group said that "Although environmental regulators focus on controlling the amount of exhaust emitted by vehicles and other sources, knowing how much of a pollutant is inhaled is a better indicator for related health impacts....As a policy matter, it seems clear from this analysis that reducing emissions from school buses should be a very high priority."

FORTHCOMING CONFERENCES

Spark Ignition Engine Combustion short course

9-13 May 2005, Leeds, UK

This course provides a fundamental understanding of the combustion processes associated with Spark Ignition engine design. The first three days cover fundamentals before progressing to advanced production-ready and potential future concepts including gasoline direct injection and homogeneous charge compression ignition.

SAE Fuels and Lubricants Conference

11-13 May 2005, Rio de Janeiro, Brazil

Details at <http://www.sae.org/>

Topics will include Combustion & emission formation processes in SI and Diesel engines; Large stationary Diesel engines; In-use emissions performance and technology trends; Automotive catalyst and converter technologies for LEV and beyond; Aftertreatment for gas direct injection and Diesel; Lubricants and fuels.

2005 JSAE Annual Congress

18-20 May 2005, Yokohama, Japan

Technical areas include Powertrains, Fuels and lubrication, Environment, Diesel exhaust emissions control, and Advanced gasoline engine systems.

Harts World Fuels Conference Europe 2005

23-25 May 2005, Brussels, Belgium

Details at:

<http://www.worldfuelsconferences.com/2005events.html>

The Europe 2005 World Refining & Fuels Conference will look at the New Energy Age and define Global Energy and Transport Trends.

AECC will be chairing the Plenary Session "Meeting Euro IV & V Requirements: The Diesel Vehicle Technology of Today & Tomorrow", where representatives from the automotive and transport fuel industry will provide an update on how industry is meeting Euro IV and V requirements. Experts will also provide insight into European Commission activities on Euro V and VI policy proposals; the feasibility and viability of the SCR-Urea system in Europe; and the trends in dieselization.

Diesel Particulates and NOx Emissions short course

23-27 May 2005, Leeds, UK

This course concentrates on the engine technology for low emissions, their fuel requirements and after-treatment techniques. It does not cover particulate measurement and analysis techniques, but does cover particle size analysis and problems with the US heavy-duty transient test with very low emission diesel engines. A range of lectures is given by industrial

companies on their recent low emission engine research into diesel particulates and NOx reduction techniques as well as on their views on engine technology requirements for future emissions legislation.

Beograd 2005 EAEC European Automotive Congress

30 May - 1 June 2005, Belgrade, Serbia & Montenegro

Details at www.jumv.org.yu/eaec2005/prog2.html

Main topics include advanced propulsion and powertrain; energy, emissions, ecology, environment; safety; automotive logistics; and advanced engineering techniques and tools.

Engine Expo 2005

31 May - 2 June 2005, Stuttgart, Germany

Details at: www.engine-expo.com

14th Symposium 'Transport & Air pollution'

1-3 June 2005, Graz, Austria

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

The symposium will focus particular attention on issues relating to transport emissions (all modes), atmospheric transport and diffusion, air chemistry, and integrated air quality modelling. A focus will be put on PM10 (emissions, air quality measurements, source appointment) and PM size distribution; Vehicle emissions and control technologies; and street scale, intra-urban scale and regional dispersion processes. The symposium will include the COST 346 final Conference dealing with emissions and fuel consumption of heavy-duty vehicles.

UITP Mobility & City Transport Congress

5-9 June 2005, Rome, Italy

The Congress will examine how the sector will respond to mega trends in society in a sustainable way. It will focus on public transport's role as the connection between the social, environmental and economic pillars that can stimulate growth in the future: personal and social growth, environmental care and business growth.

VDI Congress Trucks and Buses – Solutions of reliability, sustainable environment and transport efficiency

9-10 June 2005, Böblingen, Germany

In 2005 the first vehicles that satisfy Euro 4 exhaust gas regulations will come to the market, but what solutions are being offered for regulations after that?

Euro 4 & 5: strategies for buyers & supplier

14-15 June 2005, Brussels, Belgium

Fleet owners will meet and discuss the new situation - where a major factor in buying decisions will be the

type of environmental technology installed - with truck manufacturers, fuel distributors and service companies who supply them. Presenters will include representatives of the European Commission.

VDI - Testing and Simulation – Measurement and Trials Technology.

16-17 June 2005, Würzburg, Germany

The focus will be on the interplay between testing/simulation, trials and calculation, as well as new measurement and testing procedures, applications and data management.

Systèmes d'échappement

21-22 June 2005, Paris, France

Details at www.car-training-institut.de

The 1st Car Training Institute (CTI) Forum on Exhaust Systems, comprises presentations in French and English on DOC, catalysed DPF, SCR regeneration etc.

Engine Emissions Measurement

20-24 June 2005, University of Leeds, UK

Professional development course on gas analysis, regulated and non-regulated emissions measurements, transient emissions, diesel particulate analysis and advanced analytical techniques for emissions measurement.

Non-CO2 Greenhouse Gases (NCGG-4) Science, Control, Policy, Implementation

4-6 July 2005, Utrecht, the Netherlands

Details at www.ncgg4.nl

The symposium will focus on the non-CO2 greenhouse gases. The symposium will be conducted in parallel sessions, focussing on the main themes: Sources, sinks and inventories; Monitoring and modelling and Control and policy implementation.

International Conference on Environment and Transport

1-5 August 2005, Nagoya, Japan.

Details at: <http://www.cleanairenet.org/caiasia/1412/article-58966.html>

As part of EXPO 2005 AICHI; a wide range of discussions will take place among various participants, including policymakers responsible for environment and transport issues from fourteen Asian countries, representatives from international organisations, local governments, industry, academia, NGOs and other stakeholders. The conference is expected to facilitate the exchange of technologies and information among participants, and to serve as a forum for discussion.

EUROMAT 2005 – European Congress on Advanced Materials and Processes

5-8 September 2005, Prague, Czech Republic

Topics include Catalytic and sensoric properties of nanomaterials; Powder & ceramics processing; Materials characterisation; and Coatings & surface engineering.

17th AVL “Engine & Environment” Conference

8-9 September 2005, Graz, Austria

The conference will show if and how modern powertrains fulfilling both legislative requirements and customer expectations in different vehicle segments can be made available at reasonable cost.

AVL Kongress: Motor und Umwelt

9-10 September 2005, Graz, Austria

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.

PTNSS Kongress 2005 - The Development of Combustion Engines

25-28 September 2005, Bielsko-Biala / 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.

14th Aachen Colloquium

4-6 October 2005, Aachen, Germany

Details at: <http://www.rwth-aachen.de/ac-kolloquium>

Main topics include new engines and engine concepts; diesel engine and injection technology exhaust control systems; and DI gasoline technology.

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

11-12 October 2005, Wiesbaden Kurhaus, Germany

Details at:

www.symposium-development-methodology.com



NEWSLETTER

March - April 2005

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.

27th International Vienna Motor Symposium

27-28 April 2006, Vienna, Austria