



Newsletter

May - June 2013

INTERNATIONAL REGULATORY DEVELOPMENTS

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EUROPE

Euro 3 Proposal for Mopeds issued

The European Commission's comitology proposal for the Euro 3 stage for mopeds has been issued and is now in the Parliamentary Scrutiny procedure.

Part of the agreement on the new Euro 4 and 5 Regulation for powered 2-wheelers was that a new Euro 3 stage for mopeds would first be introduced through comitology. As anticipated, the proposal modifies the test procedure to a weighted cold and hot start test (30% cold, 70% warm) using the current cycle with the following limits:

Component type-approval and conformity of production	
CO (g/km)	HC + NOx (g/km)
1 ⁽¹⁾	1,2
⁽¹⁾ 3.5 g/km for 3-wheel mopeds (L2e) and light quadricycles (L6e).	

The requirements will apply from 1 July 2014.

European Commission Contract on Real World Emissions of Diesel Hybrids

The European Commission has issued a tender for the development of a method, including both testing and statistical methodology, for assessing the real world emissions of hybrid diesel light-duty vehicles.

To meet the legal requirement for the Commission to present a method which reflects emissions 'under normal driving conditions' for all cars, including hybrid diesels, the Commission wants to bring forward legally binding real-world emissions testing methodology and reliable statistical evaluation methods no later than 2017. As of 2014 this methodology will already be used for consumer information, in parallel with the NEDC test. The primary objective of this work is therefore to develop an emissions testing method based on PEMS, applicable for hybrid diesels. A secondary aim of this assignment is providing data and background information which can be used to widely inform stakeholders and the public on the environmental performance of Euro 5 and Euro 6 (NEDC type-approved) Diesel Hybrid technology.

Report on the Consultation on Options for Revision of EU Air Pollution Strategy

The European Commission's DG Environment has issued the report on their consultation on options for revising the EU Thematic Strategy on Air Pollution and related policies.

Respondents were asked to rank measures to address emissions from road transport. The top-ranking option was to introduce with minimum delay the new test procedure to ensure that 'real world' emissions of Euro 6 light-duty diesel vehicles are as close as possible to the type-approval limit values. The second-ranking option was to improve in-service

compliance with emissions standards. For NRMM, the top-ranking option was for a more stringent Stage V standard and the second-highest was to 'ensure that approval emissions tests reflect... emissions in real world circumstances'. A majority of NGO respondents and over 40% of government and individual expert respondents supported two options to address emissions from small and medium combustion installations (i.e. those below 50 MW). Regarding the shipping sector, the extension of existing SECAs and promotion of new NECAs (NOx Emissions Control Areas) were chosen by at least 50% of government, NGO and expert respondents.

Just over 90% of general public respondents and over 80% of government, NGO and individual expert respondents supported strengthening emissions controls to ensure Member States' compliance with current air quality legislation, although few business respondents supported this option.

Report on the Consultation on options for revision of the EU Thematic Strategy on Air Pollution and related policies, Ecorys Nederland BV et al for DG Environment; 18 June 2013, <http://ec.europa.eu/environment/air/pdf/TSAP%20Consultation%20report.pdf>.

Commission Activities on Inland Waterway Vessel Emissions

With the publication of a report on emissions reduction from inland waterway vessels, the European Commission's Directorate-General for Transport (DG-MOVE) says that a policy paper revising their action programme for river and canal transport should emerge in the next few weeks. The paper will aim to boost the uptake of cleaner vessels. Last year, an EU report showed the sector was making "poor progress" in reducing emissions of air pollutants such as NOx compared with road transport. By 2020, road freight could produce less pollution per tonne, it concluded.

The consultancy study by Panteia supports incentives for LNG, alongside measures to cut emissions from existing engines through retrofitting. The study will also inform the revision of emissions limits set by the Non-Road Mobile Machinery (NRMM) Directive, which applies to new inland waterway vessels.

Contribution to Impact assessment of measures for reducing emissions of inland navigation, Panteia, <http://ec.europa.eu/transport/modes/inland/studies/doc/2013-06-03-contribution-to-impact-assessment-of-measures-for-reducing-emissions-of-inland-navigation.pdf>.

European Council Decision supporting a Baltic Sea NOx Emissions Control Area

On 17 May 2013 a European Council Decision was issued concluding that the EU and Member States should support the submission to IMO of the proposal by HELCOM (the intergovernmental organisation of the nine Baltic coastal countries and the EU), to

designate the Baltic Sea as a NO_x Emission Control Area (NECA), at the latest by the March 2014 meeting of the IMO Marine Environment Protection Committee. The Council Decision says that the Baltic Sea NECA will be an important contribution to the reduction of air pollution, especially as several Member States in the Baltic Sea region do not meet the standards set by the Ambient Air Quality Directive. Investment costs are mitigated due to some ship-owners having already opted to equip their new ships with NECA compliant engines to enable their ships to enter the North American NECA. A Baltic Sea NECA is expected to result in a 16% reduction in NO_x emissions from shipping in 2020 and 46% in 2030. It is expected that all ships will meet NECA requirements in the Baltic only around 2040-50, with a third equipped by 2030. This is because the IMO's NECA provisions apply only to ships built after 2016.

Draft Regulation on Port Fees suggests Environmental Performance Criterion

On 23 May 2013 the European Commission published a proposal for a Regulation on market access to port services that could result in ships with superior environmental performance paying less to enter EU ports. The proposal suggests that fees could vary according to vessel's type, fuel and activity (e.g. short-sea shipping). Objective, transparent and non-discriminatory criteria would have to be used to promote more efficient use of the port infrastructure, high environmental performance, energy efficiency or CO₂ efficiency of transport operations.

The proposal is at http://ec.europa.eu/danmark/documents/alle_emner/transport/130523_296_havne.pdf.

European Commission proposes Eco-design Limits for Solid Fuel Boilers

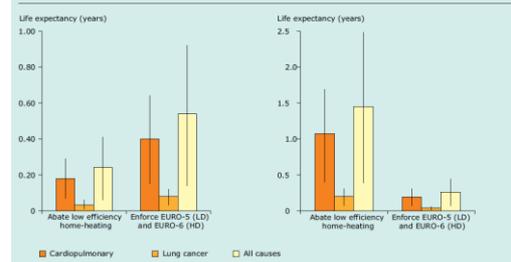
A working draft of the EU Regulation on eco-design requirements for solid fuel boilers proposes PM limits of 20 mg/m³ for biomass boilers and 40 mg/m³ for fossil fuel boilers of up to 1000 kW. The limits would apply to four categories of boilers defined in the Regulation from 4 years after the rule's entry into force. In addition to the specific PM requirements, solid fuel boilers will have to comply with a 'seasonal space heating energy efficiency' of not less than 77% plus emissions ≤10 mg/m³ for organic gaseous compounds, ≤300 mg/m³ CO, and ≤200 mg/m³ NO₂.

EEA/JRC Report on Environment and Human Health

The European Environment Agency (EEA) and the European Commission's Joint Research Centre (DG-JRC) have issued a new report on the environment and human health, outlining a number of

environmental issues with a direct influence on people's health and well-being. Thematic chapters cover chemicals, outdoor air, indoor air, nanotechnology, and climate change. The report includes information on the effects on the reduction in premature deaths and increase in life expectancy resulting from the introduction of Euro 5 and Euro VI.

Figure 3.4 Potential increase of life expectancy in Lombardy (left) and Malopolska (right) by abatement of inefficient residential heating with solid-fuel combustion and by abatement of road transport exhaust emissions



Environment and human health, EEA Report No.5/2013; www.eea.europa.eu/publications/environment-and-human-health/view.

ICCT Report says that EU Real-World CO₂ Gap has widened

The gap between manufacturers' declared fuel efficiency and performance in real driving has widened according to a new study by the ICCT, the International Council on Clean Transportation. The research found that 'real-world' EU CO₂ emissions for new cars are about 25% higher on average than carmakers say, compared with 10% a decade ago.

ICCT says that the observed increase of the gap is most likely due to a combination of factors:

- increasing application of technologies that show a higher benefit in type-approval tests than under real-world driving conditions (e.g. start-stop technology),
- increasing use of 'flexibilities' in the type-approval procedure (for example, during coast-down testing),
- external factors, e.g. increased air conditioning use.

From Laboratory to Road, Peter Mock, John German, Anup Bandivadekar, Iddo Riemersma, Norbert Ligterink, and Udo Lambrecht; ICCT (27 May 2013), www.theicct.org/sites/default/files/publications/ICCT_LabToRoad_20130527.pdf.

First Report on Vans CO₂ Emissions

The first provisional data on the CO₂ emissions of light commercial vehicles, published by the European Environment Agency (EEA) show that vehicles sold in the EU in 2012 emitted an average of 180.3 g/km CO₂. This is slightly higher than the 175 g/km target that has to be met by 2017. Some three quarters of the 1.1 million new vans were sold in France, Germany, Italy, Spain and the UK. Diesel vehicles represent 97% of the newly registered vehicle fleet. Just over 1% used LPG or natural gas and electric vehicles represent 0.5% of vehicles sold.

The vans CO₂ data is at www.eea.europa.eu/data-and-maps/data/vans#tab-european-data.

EEA Reports on Emissions in the EU

Twelve EU Member States exceeded air pollutant limits in 2010 under the National Emissions Ceilings Directive (NEC). In 2011, these limits were breached by eight Member States, provisional data shows. The limits cover NO_x, non-methane volatile organic compounds (NMVOC), SO₂ and ammonia.

The NO_x limit was the most commonly breached - analysis of the official 'final' 2010 data confirms eleven Member States exceeded their NO_x ceilings for that year. Provisional data shows seven of them continued to breach this ceiling in 2011, in some instances by significant amounts. High levels of NO_x were, EEA says, largely caused by road transport.

NEC Directive status report 2012, EEA Technical Report No. 6/2013, www.eea.europa.eu/publications/nec-directive-status-report-2012.

A second EEA report says that many air pollutant emissions in Europe are below internationally agreed limits, except for NO_x. Emissions of three air pollutants, including PM_{2.5}, are only slightly above the targets for 2020. Nevertheless, Europe can go further than the emissions reductions that have already been achieved but needs to think beyond purely technical measures, working towards a structural shift in the economy and promoting international cooperation.

The Gothenburg Protocol to the UNECE Convention on Long-Range Transboundary Air Pollution (LRTAP) contains emissions reduction commitments that have to be met from 2010 and onwards for NO_x, non-methane volatile organic compounds (NMVOCs), SO_x and ammonia. In addition to the emissions reduction commitments for individual countries, the protocol also specifies reduction commitments for the EU as a whole. The Protocol was recently updated to include five targets for 2020, including one for PM_{2.5}.

The report includes emissions over the period 1990-2011 for SO_x, NO_x, NMVOCs, NH₃, CO, PM, heavy metals and persistent organic pollutants (POPs). Between 2010 and 2011, emissions of most main air pollutants continued to fall, including NO_x, SO₂, NMVOCs and CO. For all pollutants except NO_x, the EU's emissions were below the respective reduction commitments in 2011. For ammonia, NMVOC and PM_{2.5}, EU emissions levels in 2011 were already very close to the 2020 reduction commitments.

European Union emission inventory report 1990–2011 under the UNECE Convention on Long-Range Transboundary Air Pollution (LRTAP), EEA Technical Report No.10/2013; www.eea.europa.eu/publications/eu-emission-inventory-report-lrtap.

The EEA has also issued a report saying that air pollutant emissions could have been significantly lower if large European power plants operating in 2009 had met various EU standards. The report shows that considerable cuts in emissions are

possible, for example, emissions of NO_x from the selected plants could have been 36% lower in 2009 had they met forthcoming emissions limit values set in the Industrial Emission Directive (IED). Potential emissions reductions for SO₂ and dust were 66% and 64% respectively, according to the report.

Reducing air pollution from electricity-generating large combustion plants in the EU, EEA Technical Report No. 9/2013, www.eea.europa.eu/publications/reducing-air-pollution-from-electricity.

Another EEA report provides data on EU greenhouse gas (GHG) emissions submitted to the UN Framework Convention on Climate Change (UNFCCC). This concludes that EU GHG emissions fell by 3.3 % in 2011, largely due to a warmer winter. As a result the level of emissions was the lowest since 1990. The decrease was the third largest over this period.

The EU's total greenhouse gas emissions in 2011 were 18.4% below 1990 levels. When international aviation is included emissions have fallen by 17% in the EU since 1990. However, there was an increase in consumption of more carbon-intensive fuels such as coal, while hydroelectricity production and gas consumption decreased. The highest emissions reductions were from homes and commerce. Road transport emissions continued to decline in 2011 for the fourth consecutive year, but emissions from international aviation and shipping increased in 2011.

Annual European Union greenhouse gas inventory 1990-2011 and inventory report 2013, EEA Technical Report No.8/2013, www.eea.europa.eu/pressroom/publications/european-union-greenhouse-gas-inventory-2013.

Switzerland adds 19-37 kW Engines to List of DPF-equipped Engines

On 10 June 2013 the Swiss Federal Office for Environment (FOEN/BAFU) added engines in the 19-37 kW category to its list of engines that comply with the Ordinance on Air Pollution Control (OAPC) and so do not need to be retrofitted with particle filters.

The list of engine types that meet the requirements of the OAPC currently includes 41 engine families from 13 different manufacturers. This means that more than 370 different engine types are currently available which are able to comply with the requirements of the OAPC without needing to be retrofitted. In this most recent update, smaller engines with an output ranging from 19 to 37 kW that meet the limit of 1×10¹² particles/kWh have been included for the first time. The first engine families listed in this range are manufactured by Yanmar and are equipped with a DOC and DPF.

The listing is available at www.bafu.admin.ch/partikelfilterliste/11647/index.html?lang=en.

French Orders on Heavy-duty Eco-Tax and on Retrofits

The French Ministries of Finance and of Ecology have completed several actions to allow the effective implementation of the eco-tax on heavy-duty vehicles.

Two orders set the mileage rate of the national tax on goods transport vehicles for the years 2013 and 2014. The amount of the tax in 2013 varies within a scale of 8 to 14 cents per kilometre, depending on the category of vehicle. In 2014, according to the same principle, the amount of the fee will be increased, up to a maximum of 15.4 cents per km. Modulations of the mileage rates are set depending on the Euro emissions class of the vehicle, and can be increases or decreases. Thus in 2013, electric and Euro VI vehicles will get a 15% reduction in the eco-tax, while the most polluting vehicles will be increased by 20% from the base figure. In 2014, these modulations are reinforced for certain classes including a reduction of 40% in the amount of tax for electric vehicles. The level of increase remains unchanged for the most polluting vehicles. The entry into force of these orders is scheduled for 1 October 2013.

The French Order on Retrofits (Arrêté du 15 mai 2013 visant les conditions d'installation et de réception des dispositifs de post-équipement permettant de réduire les émissions de polluants des véhicules en service) has also been published in France's Official Journal.

The Order defines emissions requirements for the retrofit of Euro II, III, and IV base engines up to Euro III, IV, V, or EEV levels. In addition, retrofits to Euro III and IV levels require a minimum performance of 50% on PM and/or NO_x reduction. Retrofits to Euro V and EEV require also a PM reduction >90% and/or NO_x reduction >70%, according to the type of retrofit device installed. These efficiencies are to be measured on the European Transient Cycle (ETC).

The Order also includes requirements on NO₂ emissions. When the base engine NO₂ emissions measured on the ETC exceed 0.8 g/kWh, the retrofit device should not increase this level. Otherwise, an NO₂ limit of 0.8 g/kWh applies after retrofitting. Also ammonia emissions, in the case of a DeNO_x retrofit, need to comply with maximum levels allowed in appropriate Euro legislation.

North Rhine-Westphalia Pilot Project on Clean Inland Waterway Vessels

The state of North Rhine-Westphalia has launched a €40 000 pilot project to encourage shipping firms to install emissions control systems. The "Jan von Werth" - a passenger ship providing river cruises on the Rhine - is one of the first to take part in the project. The exhaust from one of the ship's two engines is now

passed through a particle filtration and deNO_x system. It is hoped the system will cut NO₂ emissions by 70% and fine particle emissions by 90%.

Andreas Brandt of the North Rhine-Westphalia Environment Agency says that "There are so many ships on the Rhine that the amount of air pollutants emitted by them is comparable to the amount of pollutants emitted by cars on the heavily used A3 autobahn in the east of Cologne". North Rhine-Westphalia's Environment Minister, Johannes Remmel, has called on the EU to come up with financial support programmes for ship operators to invest in low-emission technologies and is calling for stricter limits on emissions to be imposed.

Spanish Commercial Vehicle Scrappage Scheme claimed a Success

The Spanish Secretary of State for the Environment, Federico Ramos, has announced that the Ministry of Agriculture, Food and Environment has received nearly 5000 reservation requests to replace commercial vehicles with new models. The plan is included in the Plan to Promote Environment (PIMA Air) and committed funds now exceed €7.3 million.

Speaking at the opening of the conference "New measures to improve air quality and atmospheric protection" held at the International University Menéndez Pelayo (UIMP) in Santander, Ramos said the fleet of these vehicles is "very elderly" and that over 70% of those used in commercial distribution in Spanish cities are older than seven years, so they are one of the main causes of air pollution in large cities.

Commission rejects NO₂ Air Quality Delay for Madrid

The European Commission has rejected Spain's request for Madrid to be granted another five years to comply with EU annual NO₂ air quality limits because the Spanish authorities have not shown the possibility of complying by 2014.

Madrid has failed to comply with the 40 µg/m³ limit since 2010, when it was first introduced. NO₂ levels exceeded the limit at six monitoring stations in 2010. One of them exceeded the limit on 76 separate occasions. The maximum number of annual exceedances permitted is 18.

Bulgarian National Report on Air Pollution

The Bulgarian national report on the environment says that 51% of the population is affected by fine particulate matter air pollution. The highest concentrations in 2011 were measured in Pernik, Vidin and Vratsa, Western Bulgaria. Nearly 22% of the population is affected by NO₂ pollution, 17.4%, by ozone pollution, and 1.8% by sulphur dioxide.

Russian targets Natural Gas Fuel

On 13 May 2013, Russian Prime Minister Dmitry Medvedev signed a decree prepared by the Ministry of Energy that includes an order to develop a set of legal, economic and organisational measures to support the production and sale of motor vehicles and agricultural equipment fuelled by natural gas and to create technical regulations and a fuelling infrastructure for the fuel.

The Ministries of Industry, Regional Development, Transport and Energy are charged to submit a set of measures to the Government by 1 January 2014. The target is to achieve, by 2020, natural gas fuelling for up to 50% of the total number of pieces of equipment in cities with populations of more than 1 million; up to 30% for those with a population of over 300 000; and up to 10% in cities and towns with a population of over 100 000 people. The document envisages promotion of natural gas usage by tax benefits, tariff regulations and subsidies. It includes a recommendation to reduce the tax rates for vehicles that use natural gas as a motor fuel, from the start of 2014 until 2020.

NORTH AMERICA

US Tier 3 Rules published

On 21 May 2013, the US Environmental Protection Agency formally published the Proposed Rule on Tier 3 Motor Vehicle Emissions and Fuel Standards.

The proposals will establish more stringent vehicle emissions standards and reduce the sulfur content of gasoline beginning in 2017. The vehicle standards will reduce both tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles (See the previous edition of the AECC Newsletter for a summary of the proposals).

The Federal Register publication is at www.gpo.gov/fdsys/pkg/FR-2013-05-21/pdf/2013-08500.pdf.

Changes to US Heavy-duty Greenhouse Gas and Non-Road Rules

The US Federal Register of 17 June 2013 includes the Final Rule on some Heavy-Duty engine, vehicle and non-road equipment technical amendments.

The amendments to the Medium- and Heavy-Duty Greenhouse Gas Emissions and Fuel Efficiency rules reduce minor differences between the EPA and NHTSA programmes on matters such as early compliance, provide better alignment of testing to the market realities, and reduce some testing burdens.

The rule also separately amends several EPA regulations by adjusting the provisions of the replacement engine exemption, specifying multiple

versions of the SAE standard for demonstrating that fuel lines for non-road SI engines >19 kW meet permeation requirements, allowing the use of CARB ethanol-based test fuel for non-road SI engines ≤19 kW, and expanding EPA's discretion to allow greater flexibility under the 'Transition Program for Equipment Manufacturers' related to the Tier 4 standards for non-road diesel engines.

The full rule is at www.gpo.gov/fdsys/pkg/FR-2013-06-17/pdf/2013-11980.pdf.

US Climate Action Plan includes further Heavy-duty Vehicle GHG Standards

On 25 June 2013, US President Barack Obama laid out a package of measures aimed at curbing climate change, including plans for the nation's first-ever limits on CO₂ emissions from power plants and an expansion of renewable energy projects.

One section of the plan covers 'building a 21st-century transportation sector'. This says that Heavy-duty vehicles are currently the second largest source of greenhouse gas emissions within the transportation sector. The Administration will, in partnership with industry leaders and other key stakeholders, develop post-2018 fuel economy standards for heavy-duty vehicles. The plan also says that the Department of Transportation will work with other agencies to further explore strategies for integrating alternative fuel vessels into the US-flagged maritime fleet.

Canadian Alignment with US Standards

On 7 June 2013 Canada's Environment Minister, Peter Kent, announced that the government intends to align its transportation-related air pollution emissions standards with the US Tier 3 standards for new cars and light trucks. The proposal will also reduce the permissible sulfur content of gasoline.

Under the Regulatory Cooperation Council announced by Canadian Prime Minister Harper and US President Obama, the two countries have agreed to tightly align their regulatory work on light-duty vehicle emissions. A notice announcing the Government's intention was published in the 8 June 2013 issue of the Canada Gazette, Part I. The details of the planned regulations will be developed in consultation with stakeholders.

The Canada gazette announcement is at www.gazette.gc.ca/rp-pr/p1/2013/2013-06-08/pdf/g1-14723.pdf.

The government also published, on 4 May 2013, an interim order modifying the operation of the 'passenger automobile and light truck greenhouse gas emission regulations'. The amendments allow emergency vehicles to be exempted from the N₂O and methane standards but also align the methods for demonstrating compliance with the N₂O and methane standards with the latest version of those of the US.

This gives manufacturers the option of certifying vehicle test groups to less stringent emission levels than the prescribed standards by treating them as CO₂ equivalent emissions that must be included in the calculations of their fleet average performance.

Details of the amendments are at www.gazette.gc.ca/rp-pr/p1/2013/2013-05-04/pdf/g1-14718.pdf.

Canada's Minister of Transport, Infrastructure and Communities has announced the adoption of stricter emissions requirements for ships in Canadian waters, aligning the requirements with those of the USA for the North American Emission Control Area (ECA).

The amendments bring into force new requirements for vessels under Annex VI of the International Maritime Organization's (IMO) Convention for the Prevention of Pollution from Ships (MARPOL). This sets an initial 1% limit on the sulfur content of marine fuel, followed by a 0.1% limit that will come into effect in 2015. It also sets lower NO_x standards for vessels in the NO_x Emission Control Area (NECA). New standards will also require smaller new marine diesel engines installed after 1 January 2016 to be certified to meet either the US "Category 2" standards, or an equivalent international standard.

In addition a new air emissions regime for Canadian vessels operating in the Great Lakes and St. Lawrence waters will allow compliance with the new SO₂ emissions requirements to be determined by a firm's fleet overall. Between 2013 and 2020, the standard will progressively reduce allowable SO₂ emissions until they match those of the ECA. By 2020, individual vessels must meet the sulfur limits.

Further background information is available at www.tc.gc.ca/eng/mediaroom/backgrounders-vessel-pollution-regulations-7162.html.

Canada tightens Air Quality Standards

On 24 May 2013, Environment Canada released new, more stringent, Canadian Ambient Air Quality Standards (CAAQS). The standards introduce lower short-term limits for particulate matter and ground level ozone, and for the first time include a long-term annual target for fine particulate matter (PM_{2.5}). The standards will be set as objectives under the Canadian Environmental Protection Act, 1999.

Under the new CAAQS, the 8-hour standard for ozone is to be reduced from the current 65 ppb to 63 ppb in 2015 and 62 ppb in 2020. For PM_{2.5}, the 24-hour standard, currently 30 µg/m³, is to be reduced to 28 µg/m³ in 2015 and to 27 µg/m³ in 2020. The new annual standard for PM_{2.5} will be set at 10 µg/m³ in 2015, reducing to 8.8 µg/m³ in 2020.

The new standards are the first step towards the implementation of Canada's new Air Quality Management System (AQMS), which was agreed by

provincial, territorial and federal environment ministers at the Canadian Council of Ministers of the Environment. Additional work is now under way by the federal, provincial and territorial governments to develop air quality standards for NO₂ and SO₂.

US Diesel Emissions Reduction Report

The US Environmental Protection Agency (EPA) has issued its second report to Congress on the highlights of the country's Diesel Emissions Reduction Program.

The report says that since 2008 the programme has funded projects that provided immediate health and environmental benefits. From 2008 to 2010, EPA awarded grants that led to the retrofitting, replacement or repowering of more than 50 000 vehicles and equipment in a variety of industries. EPA estimates that these projects will reduce emissions by at least 203 900 tons of NO_x and 12 500 tons of PM over the lifetime of the affected engines, resulting in estimates of up to 1 400 fewer premature deaths and fewer hospital visits.

In May 2013, EPA announced that for the 2013 fiscal year, up to \$9 million (approx. €6.8 million) was available through the programme for projects to reduce air pollution from older school or transit buses, heavy-duty diesel trucks, marine engines, locomotives, and other diesel engines. That call is now closed and selection of projects will be completed by the end of August 2013.

The report on the programme is at www.epa.gov/cleandiesel/documents/420r12031.pdf.

California fines Companies for Sale of Illegal Scooters and Aftermarket Exhausts

The California Air Resources Board (CARB) has announced that Vance & Hines Performance LLC has been fined \$500 000 (approx. €390 000) for violations of air quality laws related to the sale of illegal aftermarket motorcycle exhaust systems in California. Akrapovic America LLC, has also been fined \$88 000 (approx. €68 000) for a similar offence.

CARB has also announced that Piaggio Group Americas, Inc. has been fined \$175 000 (approx. €136 000) after it was discovered that a number of Aprilia brand motorcycles were offered for sale in California without first receiving official emissions certification. In addition, various Aprilia models had been manufactured with easily adjustable calibrations that were not disclosed to the ARB during the certification process. As well as the fine for Piaggio, CARB has announced that it has reached a settlement of \$285 000 (approx. €222 000) with Sears Holdings Management Corporation over the sale in 2011 of 713 Motovox brand 'stand-up' scooters that were, at the time, powered by uncertified engines.

Yamaha has revealed to CARB that 96 all-terrain vehicles sold in California, covering several engine families and models, were unintentionally mislabelled with incorrect manufacturing dates and model year designations. Yamaha also reported that it unintentionally imported and sold 23 portable generators in California that were not in compliance with emissions standards for small off-road engines. As a result the company has been fined \$44 625 (approx. €34 700). In March 2013 Yamaha was fined \$2 205 000 for importing and selling uncertified off-highway vehicles.

In the latest action, Thermo King has been fined \$213 200 (approx. €166 000) for continuing to sell its eDPF (diesel particulate filter) for auxiliary power units after the conditional verification expired and before receiving full verification.

New York State delays Enforcement of Rules on Replacement Catalysts

The New York State Department of Environmental Conservation has announced that it will not enforce its requirement for aftermarket catalysts to meet Californian requirements until after 1 January 2014.

The requirement for new aftermarket catalytic converters installed, sold, offered for sale or advertised in the New York State to meet the requirements of the California Code of Regulation was due to begin from 1 June 2013, but to ensure a smooth transition the department says that it will “exercise its authority to utilise enforcement discretion” by not enforcing the provisions until the start of 2014. Nevertheless, the department expects all regulated parties to use best efforts to comply with the provisions during the intervening period.

Details at: www.dec.ny.gov/docs/air_pdf/218discretion.pdf.

US-EPA announces Grants for Research on Organic Aerosols

The US Environmental Protection Agency (EPA) has announced more than \$4.3 million (€3.25 million) in grants to 13 institutions to study and improve the understanding of how certain organic compounds form in the atmosphere. The research will help improve air quality management systems and climate change models.

Researchers will have access to National Oceanic and Atmospheric Administration (NOAA) and National Science Foundation (NSF) resources such as aircraft and towers to capture information about organic aerosols at multiple heights in the air and on the ground at the same time. The Southeastern Aerosol Research and Characterization (SEARCH) Network, a collection of air quality monitoring stations throughout the south-eastern United States developed by the

Electric Power Research Institute (EPRI) and Southern Company will be collecting ground measurements, and providing access to current and historical air quality data and analyses.

Mexico adopts Fuel Economy Regulation and Air Quality Reporting Requirements

The Government of Mexico has officially published its regulation on the fuel economy and CO₂ emissions for new light-duty vehicles, mandating a fleet average new car fuel economy of 14.9 km/litre in 2016.

The 2016 target of Regulation NOM 163, published on 21 June 2013, mirrors that of the US standard. At the same time Semarnat, the Mexican environmental secretariat, announced that a further regulation is being developed for 2017 model year to maintain alignment with the US.

NOM 163 is available (in Spanish) at http://dof.gob.mx/nota_detalle.php?codigo=5303391&fecha=21/06/2013.

Semarnat has also announced that directives on light- and heavy-duty vehicle emissions are due to be upgraded in due course and that there are plans to launch a national programme to strengthen vehicle inspections as part of their 6-year strategy to improve air quality. The fuel quality regulation (NOM 086) is also due to be upgraded by 2015.

The Mexican authorities have also introduced mandatory air quality monitoring and reporting requirements. From July 2013, local authorities in cities with populations of more than 500 000 are required to monitor air quality and reduce air pollution. They will also be required to submit mandatory reports on their efforts to the federal government. Mexico currently has 28 networks for the measurement of air quality, but a report from Tierramérica, a UN/World Bank project, says that only 18 of them provide valid and reliable information.

28% of US Trucks are fitted with DPFs.

More than 28% of all trucks registered in the United States are now equipped with advanced ‘new technology’ clean diesel engines, including Diesel Particulate Filters, according to new data compiled by R.L. Polk and Company for the Diesel Technology Forum (DTF). This amounts to some 2.5 million trucks. The report says that all diesel trucks meeting US 2010 standards are fitted with SCR and DPFs.

US-EPA Proposals on Additional Pathways for Renewable Fuels

The US Environmental Protection Agency (EPA) has proposed allowing additional biofuel pathways such as biogas to qualify for its renewable fuel standard (RFS) cellulosic production targets.

The rule allows several fuels to qualify as cellulosic fuel: renewable diesel, renewable naphtha, renewable electricity for use in Electric Vehicles when produced from landfill gas, and renewable compressed natural gas (CNG) and liquefied natural gas (LNG) from biogas. EPA also proposes allowing butanol that meets the 50% life cycle greenhouse gas emission reduction threshold (compared to fossil fuels) to qualify as advanced biofuel.

The proposed rule was published on 14 June 2013 and is available at www.gpo.gov/fdsys/pkg/FR-2013-03-05/pdf/2013-04929.pdf.

CENTRAL & SOUTH AMERICA

Rio de Janeiro launches Public-Private Partnership for Electric Vehicles

In Brazil, the Rio de Janeiro State Government has signed a multilateral Memorandum of Understanding for a public-private partnership to accelerate the deployment of electric vehicles in the state. The partners are the Renault-Nissan Alliance, Petrobras Distribuidora, Light, Ampla and Rio Negocios.

The project is part of the Rio Capital Energy Program, coordinated by the State Department of Economic Development, Energy, Industry and Services of Rio de Janeiro. The participants will study the possibility of producing electric vehicles in the state, as well as the entire infrastructure necessary for running such cars. São Paulo and Rio de Janeiro are currently rolling out pilot programmes that use the Nissan Leaf electric vehicle as part of the cities' taxi fleets.

ASIA PACIFIC

Seoul, South Korea, takes Action on Particles

The Seoul (South Korea) Metropolitan Government has announced plans to equip Heavy-duty vehicles with particulate reduction devices and introduce a warning system against ultrafine particles as part of efforts to clean up the air and promote public health.

Seoul saw a high density of PM_{2.5} with its annual average coming to 23 µg/m³ last year, and aims to bring the figure to the level seen in 'advanced cities' by 2024. As a result, the Seoul government decided to invest 157.1 billion won (€105 million) for 28 anti-pollutant projects. By next year, some 1150 heavy vehicles such as trucks and construction equipment will have "a device that helps reduce its emissions and nitrogen oxides", the officials said.

The city will also buy a set of equipment to measure and analyse the pollutants more precisely and introduce a warning system starting in October 2013 to provide citizens with relevant information in real

time and to help them prepare for the pollutant levels. Other projects include support for low-emission home heating boilers and an environmentally-friendly heating system in 800 public rental houses.

South Korea tightens Rules on Fuel Economy Reporting

On 30 April 2013, South Korea issued new rules that will reduce the acceptable margin of error on fuel consumption. It will also impose fines on carmakers that overstate their vehicles' fuel economy.

The Ministry of Trade, Industry and Energy imposed more stringent guidelines to calculate fuel consumption. This will lead to a 3-5% drop in a vehicle's reported average overall fuel economy (i.e. an increase in fuel consumption). Hyundai's mid-sized Sonata sedan, for example, will now have a fuel efficiency rating of 11.4 km/litre compared to the current 11.9 km/litre, the ministry said in a statement. The measures are to take effect from the second half of this year.

China's State Council approves Measures on Pollution Reduction

At a celebration of World Environment Day (5 June 2013), China's Vice-Minister of Environmental Protection, Li Ganjie, pledged that the country will set higher anti-pollution standards and implement stricter measures to achieve better air quality. Measures will include promoting clean energy and setting up warning systems to monitor and forecast smog.

Then in a meeting chaired by Premier Li Keqiang, the State Council approved 10 anti-pollution measures. In a statement posted on its website on 14 June 2013, the Council said that China will strictly control high energy-consuming and polluting industries, adjust its energy structure and enhance control of PM_{2.5} in dense population areas and key large cities,

The measures include reducing emissions per unit of GDP in key industries by at least 30% by the end of 2017; using legal action to force industries to upgrade pollution controls and establish or revise industry-level emissions standards; accelerating the installation of pollution control equipment on small, coal-fuelled refineries; and strengthening enforcement and the collection of fees and penalties that companies pay based on their emissions.

China agrees Fuel Standards and Sinopec reduces Sulfur in 'Ordinary' Diesel

The Chinese government has agreed new fuel quality standards with the oil and motor industries. National Standard V petrol, equivalent to Euro 5 requirements, will be effective from 2017, lowering the maximum sulfur content from the current 50 ppm to 10 ppm. For

diesel fuel, it was confirmed that National Standard III, which is equivalent to Euro 3 diesel with a maximum of 350 ppm S, will become effective nationwide from July 2013, including diesel for non-road applications. Euro 4 (50 ppm) diesel is planned for introduction by the end of 2014.

Meanwhile Chinese oil company Sinopec has, from the end of May 2013, reduced the sulfur content of its 'ordinary' diesel for agricultural, industrial and shipping use. 'Ordinary' diesel makes up nearly half of the nation's diesel consumption. Sinopec reduced the sulfur content to a maximum of 350 ppm, bringing it into line with the minimum standard for diesel produced for cars and trucks, it said in a press release on 17 June 2013. Previously the sulfur content could be up to 2000 ppm. The new standard also means a quality change in Sinopec's diesel exports.

Philippines Petrol to contain 10% Ethanol

The Energy Secretary of the Philippines, Carlos Jericho Petilla, says that the Department of Energy (DOE) will order all petrol products in the country to contain a 10% ethanol blend.

Petilla confirmed that the DOE will issue a draft circular on the matter by the end of 2013. DOE had previously set a deadline of February 2012 for making E10 obligatory but this was extended as oil companies stated that the local market does not have enough supplies of ethanol. DOE is also expected to stop the usage of lower-octane gasoline (RON 81 and 87) from 1 July 2013 and to remove the terms unleaded, lead-free, and similar names when marketing gasoline products.

Indian Supreme Court Petition seeks improved Emissions Standards

The Indian Supreme Court has issued notice to the central government of a public interest petition to take "immediate and adequate steps to prescribe stringent emission standards on all parameters such as particulate matter, nitrogen oxide, sulfur dioxide, carbon monoxide for both petrol and diesel vehicles so as to control and reduce air pollution and protect the health and well-being of citizens".

The petition filed by an economist, Dr. Arvind Gupta, says "the data available from the WHO shows that Indian cities are almost 10 times more polluted than other cities of the world which is a serious infraction of the fundamental rights of the citizens of India. WHO estimates that more than two million people die every year from breathing in tiny particles present in polluted air. PM₁₀...can penetrate into the lungs and may enter the bloodstream and cause heart disease, lung cancer, asthma and acute lower respiratory infections."

The petition continues that "the WHO Air Quality Guidelines for Particulate Matter 2005 in its question and answer actually records New Delhi along with Karachi, Kathmandu and Beijing as the most polluted cities in the world. The prime culprit for this alarming rise in the levels of RSPM (*Respirable Suspended Particulate Matter*) and other pollutants is the extensive use of diesel-fired car engines which have proliferated extensively on Indian roads, thanks to the encouragement of Government policies. The executive and the legislature have failed in their duties in safeguarding the fundamental rights of the citizens to a pollution-free environment."

The petitioner seeks a direction for taking adequate steps immediately to prescribe emissions standards in line with Euro V/5 on all parameters for diesel and petrol vehicles uniformly throughout India.

MIDDLE EAST

Israel adopts New Air Quality Standards

Israel has adopted stricter ambient air quality standards, including the country's first limits for respirable particulate matter.

The new regulations set a limit of 25 µg/m³ for PM_{2.5}, and gradually reduce the ambient air quality limits for NO₂, SO₂, methylene chloride, and ozone. There is a two-year transition period before the new standards take full effect. There will be a five-year updating mechanism that will allow the limits to be either reduced or increased. Benzene, 1,3-butadiene, cadmium, formaldehyde, trichloroethylene, and mercury are also included in the list of stricter standards, to be updated every three years.

Tzur Galin, head of the Israeli Environment Ministry's Air Quality and Climate Change Division, said that the new standards are based on estimates that full compliance will annually save about 700 lives and 8 billion shekels (€1.7 billion) in hospitalisations and other government-funded health care.

UNITED NATIONS

IMO proposes postponing Tier III NOx Limits

Members of the International Maritime Organisation's Marine Environment Protection Committee (MEPC) meeting in London from 13 to 17 May 2013 supported a proposal by Russia to postpone the entry into force of a Tier III limit on NOx emissions from ship engines.

If ratified at the next MEPC meeting in March 2014, the decision would delay from 1 January 2016 to 1 January 2021 the introduction of the Tier III NOx limit under MARPOL Annex VI Regulation 13 for engines of new ships when sailing in NOx Emissions Control Areas (NECAs). The decision was made

despite a correspondence group report which saw no need for a delay as it said the technologies needed to meet new NO_x standards are available.

Environmental non-governmental organisations Transport & Environment (T&E) and Seas at Risk have criticised the decision. T&E's clean shipping officer Antoine Kedzierski, said that "Two years before the entry into force of the next emissions limit, the IMO punishes those who have chosen to invest in clean innovation in order to comply and rewards those who have cynically waited and lobbied for postponement." The NGOs called on the European Union to take action on its own to limit NO_x emissions.

In addition, the MEPC also approved, with a view to subsequent adoption, draft amendments to the 2008 NO_x Technical Code, concerning use of dual-fuel engines. They also adopted guidelines concerning non-identical replacement engines not required to meet the Tier III limit and a unified interpretation on the "time of the replacement or addition" of an engine for the applicable NO_x Tier standard.

Separately, the US has tabled a proposal on air pollution and energy efficiency standards for both new and existing ships.

Agreement on New UN Regulations

At the June 2013 meeting of the UN's World Forum for the Harmonization of Vehicle Standards (WP.29) the new Hydrogen Vehicle global technical regulation (gtr) was agreed. Under the 1958 UN Agreement, WP.29 agreed a proposal for the 04 series of amendments to Regulation No. 96 on Diesel emissions from NRMM and agricultural tractors.

GENERAL

AECC participates in 'Cleaner Air for All' Green Week Conference

The European Commission's Directorate General for Environment held its annual Green Week in Brussels from 4 to 7 June 2013. Green Week is Europe's largest annual conference on environment policy and is open to the public at large. In the context of 2013 as the Year of Air, the theme for the event was "Cleaner Air for All".



38 conference sessions were held over the week, covering all aspects of air quality policy and issues in Europe. Key sessions covered pollutant source identification, health effects, regional challenges and solutions, air quality and climate change, the future of vehicle emissions regulation, zero emission waterborne transport, urban air quality, industrial emissions, and more. Session 1.4 on the first day featured a presentation by AECC's Executive Director

Dirk Bosteels on emissions control technologies for mobile pollution sources.

On the evening of the opening day, a high-level session discussed how the European emissions control industry represented by the AECC members contributes to "Innovating for Cleaner Air". Participants heard speeches from the Environment Commissioner, Mr Potočník, and from Commission Vice-President & Industry Commissioner, Mr Tajani, as well as two presentations from AECC given by the AECC President and NGK Europe President Mr Matsuda, and BASF Vice-President for Mobile Emissions Catalysts and AECC Executive Committee member Mr Susterac. The session was moderated by international consultant Michael Walsh.

Both AECC presentations stressed the developments achieved so far and areas where the industry can contribute to help the EU meet its air quality targets. A special focus was put on Gasoline Particle Filter (GPF) technologies to control particles emissions from Direct Injection Gasoline vehicles in real-world driving conditions and combined systems such as three-way catalysts coated on GPFs and Selective Catalytic Reduction (SCR) coated on Diesel Particulate Filters.

Mr Potočník and Mr Tajani welcomed the valuable contributions from the emissions control industry, "an innovative and 'green' industry that helps to improve EU citizens' health and to maintain the EU industry competitiveness".

At the end of the event, both commissioners were given a tour of the AECC exhibition on emissions control technologies that had been set up in a dedicated 160 m² room for the duration of Green Week to give participants a chance to study real-scale emissions control technologies. AECC also had a stand in the main Green Week exhibition hall.



AECC Presentations at ETH Nanoparticles and Cambridge Particles Conferences

On 24 June 2013 in Zürich, AECC's Cécile Favre presented the particle emissions results of AECC's test programme on small hand-held (SHH) equipment at the 17th ETH Conference on Combustion Generated Nanoparticles.

The test programme was conducted on six different machines representative of the European and US market, with engine capacities ranging from 22 to 72 cm³ and power outputs of between 0.6 and 4 kW. The selection included both 2- and 4-stroke machines using different engine technologies. Particulate Mass and Particle Number were measured using PMP-based procedures, particulate composition was analysed for elemental and organic carbon content, and the particle size distribution was assessed on two machines that used different technologies.

The annual Cambridge Particles Meeting was held at Cambridge University, UK, on 24 May 2013. AECC's John May presented a summary of PM and PN results from AECC's test programmes on a range of Euro 3 to Euro 5 petrol vehicles. This included overall results on the NEDC and CADC (Artemis) tests as well as the first results on the new world-harmonised cycle (WLTC). In addition, the results from fitment of an experimental GPF to one vehicle were shown.

Both presentations are now on the AECC website at www.aecc.eu/en/Publications/Publications.html.

New Delphi Emissions Booklet

Delphi has announced the publication of an updated 2013-14 edition of its passenger car and motorcycle emissions standards booklet. Besides the traditional printed and electronic (PDF) editions the company has also launched it as an interactive app available for download on iTunes for iPad users.

The pdf version is available at <http://delphi.com/pdf/emissions/Delphi-Passenger-Car-Light-Duty-Truck-Emissions-Brochure-2013-2014.pdf>, and the app is at <https://itunes.apple.com/us/app/delphi-emissions/id635386428?mt=8>.

Report on Potential for Alignment of Heavy-duty Fuel Efficiency Programmes

A report on the potential for improved alignment between the major heavy-duty vehicle efficiency programmes around the world has been produced by the American Council for an Energy-Efficient Economy and the International Council on Clean Transportation (ICCT).

The findings indicate that improved regulatory alignment in test cycles and loaded vehicle test weight provisions would pave the way for further alignment in areas like regulatory timing, testing methods, and stringency. The potential implication of the work is that moving toward aligned heavy-duty vehicle policy could help accelerate technology development and promote greater technology adoption in the global market.

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World Bank Report on Transport Greenhouse Gas Emissions

A new World Bank report says that growing transport greenhouse gas emissions in Europe and in the Europe and Central Asia (ECA) region pose a challenge in creating a low-carbon future, as economic development has been paralleled with a modal share increasingly dominated by roads. The paper reviews recent trends in transport and GHG emissions in the ECA region to provide an overview of climate friendly transport policies for the road, rail, and air transport modes.

The report can be downloaded from <http://documents.worldbank.org/curated/en/2013/02/17759822/controlling-greenhouse-gas-emissions-generated-transport-sector-eca-policy-options>.

Report on the Global Emissions Control Market

Frost & Sullivan has publicly launched their analysis of the global market for emissions control catalysts.

Frost & Sullivan says that the emergence of heavy-duty diesel vehicle regulations has strengthened the requirement for emission control catalysts in diesel engines, subsequently causing momentum to the global emission control catalyst market. "The continuously revised regulatory roadmap for both mobile and stationary engines has accelerated the development of solutions with better emission reduction capabilities, and widened the market's application scope," said Frost & Sullivan analyst Soundarya Shankar. "Asian countries' adoption of Euro standards has further fuelled market growth."

The report also concludes that to decrease PGM quantities in catalysts without compromising on performance, catalyst manufacturers are focusing on innovation in substrate and wash-coat technology. They are also creating customized solutions for different regions based on regulatory trends, fuel quality, and driving conditions to appeal to a larger consumer base.

Details of 'Global Market for Emission Control Catalysts' are at www.frost.com/c/10057/sublib/display-report.do?id=NBBC-01-00-00-00.

Worldwide Fuel Specifications Handbook

Hart Energy has announced the availability of the IFQC 'Worldwide Fuel Specifications 2013' handbook. It contains fuel specifications for more than 150 countries and provides key fuel properties, with gasoline and diesel broken down by grade.

For further information see www.ifqc.org.

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FORTHCOMING CONFERENCES

Tropospheric Aerosol - Formation, Transformation, Fate and Impacts

22-24 July 2013, Leeds, UK

Details at www.rsc.org/ConferencesAndEvents/RSCConferences/FD165

This discussion aims to explore emerging knowledge of atmospheric aerosol systems, assessment of the usefulness of existing frameworks, and development of robust aerosol system descriptions.

International Conference on Remote Sensing, Environment and Transportation Engineering (RSETE2013)

26-28 July 2013, Nanjing, China

Details at www.rsete2013.org

The main topics are remote sensing; energy, environment and sustainable development; environmental pollution and protection; and transportation engineering.

Aerosol and Particle Measurement Short Course

University of Minnesota, Minneapolis, USA

19-20 August 2013: Measurement Principles and Basic Instrumentation.

21 August 2013: Diesel and Engine Emissions

Details at www.cce.umn.edu/aerosol

Environment and Health – Bridging South, North, East and West

19-23 August 2013, Basel, Switzerland

Details at <http://www.ehbasel13.org>

Conference topics will include assessing exposure to indoor and ambient air pollution, methodological challenges for global environmental epidemiology, linking science and policy through impact assessment, and indoor and outdoor environmental interventions to improve health.

25th International AVL Conference “Engine & Environment” 2013

5-6 September 2013, Graz, Austria

Details at www.avl.com/engine-environment-2013

ECT 2013: Implementation and Challenges of Pan India Emission Norms

6-7 September 2013, New Delhi, India

Organised by ECMA, the Indian sister association of AECC, this International Seminar is all about the Long-term Vision for a Sustainable Environment. The seminar will have world-renowned speakers from Government, OEM's and international experts on emissions related technologies sharing their vision, knowledge and experiences for the future.

MODEGAT III: 3rd International Symposium on Modelling of Exhaust Gas Aftertreatment

8-10 September 2013, Bad Herrenalb/Karlsruhe, Germany

Details at www.modegat.org

The symposium purpose is to support the exchange of state-of-the-art and novel modelling and simulation techniques, fundamental mechanistic studies, experimental model validation and technical applications of modelling and simulation.

ICE 2013 - 11th International Conference on Engines & Vehicles

15-19 September 2013, Capri, Naples, Italy

Details at www.sae-na.it

The topics of the conference will be fuel injection and combustion processes, powertrain technology, alternative and advanced power systems, exhaust aftertreatment and emissions, fuels and lubricants, and air handling, intake, and exhaust.

Sustainable2Wheels 2013: Clean Air - It's your move!

18 September 2013, Brussels, Belgium

Details at www.sustainable2wheels.eu

Sustainable 2Wheels seeks to draw together European businesses, policymakers and citizens to explore how 2-wheel transport solutions can contribute to cleaner, greener, healthier living

environments. It will feature interactive discussions around policy areas such as the 7th Environmental Action Plan and European Urban Mobility Policy.

16th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction

29 September-2 October 2013, Rhodes, Greece

Details at <http://pres13.cperi.certh.gr/index.php/en>.

The aim of the conference is to review the latest development and applications of process integration for energy conservation, pollution reduction and related topics.

22nd Aachen Colloquium

7-9 October 2013, Aachen, Germany

Details at www.aachen-colloquium.com

The congress provides a wide range of technical presentations addressing current challenges of the vehicle and powertrain industry. Programme-related test vehicles, prototypes and aggregates from participating companies and institutions are presented on the ika test track.

19th Small Engine Technology Conference

8-10 October 2013, Taipei, Taiwan

Details at <http://www.setc2013.tw/index.html>

The conference programme will aim to cover new energy sources such as hybrid and electric drives, fuel cells and solar cells as well as components such as transmissions and drivetrains and fuel supply systems, fuels and lubricants, together with environmental impacts, emissions, aftertreatment and life cycle & recyclability.

2013 ASME Internal Combustion Engine Division Fall Technical Conference

13-16 October 2013, Dearborn, Michigan, USA

Details at www.asmeconferences.org/ICEF2013

Conference tracks are large bore engines; fuels; advanced combustion; emissions control systems; instrumentation, controls, and hybrids; numerical simulation; and engine design and applications.

CECE-CEMA Summit: Towards a Competitive Industrial Production for Europe

16-17 October 2013, Brussels, Belgium

Details will be at www.cece-cema-summit.eu

During the two day public event, members of the construction and agricultural machinery industries will debate with EU policy makers how to maintain a competitive industrial production sector in the EU.

Busworld 2013

18-23 October 2013, Kortrijk, Belgium

Details at www.busworld.org

Clean Power for Transport Conference

21 October 2013, Brussels, Belgium

Details at http://ec.europa.eu/transport/themes/urban/events/2013-10-21-cpt-conference_en.htm

At the conference, European Commission Vice-President Siim Kallas, Rimantas Sinkevičius Minister of Transport and Communications, Lithuania, and other high-level speakers will discuss the Clean Power for Transport Package which the Commission adopted on 24 January 2013. In the afternoon, three panel sessions will look at the potential of alternative fuels for growth and jobs, at alternative fuels in the world and at investment into alternative fuels.

SAE/KSAE 2013 International Powertrains, Fuels & Lubricants Meeting

21-23 October 2013, Seoul, South Korea

Details at www.sae.org/events/pfi

It is intended that papers will cover fuels, combustion management, emissions reduction, advanced powertrains, engine downsizing, advanced fuel delivery, valvetrain optimization and engine control including OBD.

8th Conference on Gaseous Fuel Powered Vehicles

22-23 October 2013, Stuttgart, Germany

Details at www.iav.com/en/events/iav-tagung/8th-conference-gaseous-fuel-powered-vehicles-propulsion-systems-towards

The conference is intended to cover new developments in the fields of natural gas/biogas/LPG and hydrogen drivetrains, market development and general political conditions, development trends in the fields of engine management, hybridisation, components, exhaust-gas aftertreatment and safety technology, and the generation and distribution of gaseous fuels.

1st IMarEst Shipping Emissions Conference

22-23 October 2013, Limassol, Cyprus

Details at www.imarest.org/OurEvents/EventListings/EmissionsConference/22-23October2013.aspx

The new Chapter 4 to MARPOL Annex VI makes the Energy Efficiency Design Index (EEDI) mandatory for new ships and dates are also approaching for NOx and SOx requirements. Key themes of the conference include emissions regulation, the emerging energy mix, the case for methanol, hybrid propulsion and energy efficiency.

Diesel Emissions Conference & DEF Forum USA 2013

22-24 October 2013, Atlanta, USA

Details at www.integer-research.com/dec-usa-2013

The conference will bring together over 250 attendees from across the diesel emissions supply chain to gain

vital information and to participate in discussions on the legislative issues that shape the industry and the optimum strategies to meet such demanding standards.

3rd Aachen Colloquium China

5-6 November 2013

Details will be at www.aachen-colloquium-china.com

Commercial Vehicle Megatrends Europe 2013

12 November 2013, Brussels, Belgium

Details at <http://cvmeurope2013.automotiveworld.com>

Topics will be fuel efficiency, emissions reduction and market outlook.

Automotive Megatrends Europe 2013

13 November 2013, Brussels, Belgium

Details at <http://ameurope2013.automotiveworld.com>

Topics will be powertrain, safety and connectivity.

SAE 2013 Fuels, Lubricants and Aftertreatment Symposium: Achieving Fuel Economy and GHG Targets

18-21 November 2013, Long Beach, California, USA

Details at www.sae.org/events/file

The maturity of biofuels technology, the refinement of aftertreatment, and the evolution of lubricants and lubricating fluids can be critical tools in achieving and exceeding regulatory targets in the US and globally. The symposium will focus on these changing and growing technologies and their impact on fuel economy and emissions reductions objectives.

Homologation Conference

25-26 November 2013, Munich, Germany

Details at www.tuev-sued.de/automotive/veranstaltungen/fachtagung-homologation-2013

The conference is intended to provide a forum for an exchange of experiences, for providing updates on new developments in the area of vehicle homologation, type certification and type approval worldwide, and to assist with questions relating to homologation during the course of daily work.

Internal Combustion Engines: Performance, Fuel Economy and Emissions

27-28 November 2013, London, UK

Details at www.imeche.org/events/C1370

This conference from the Institution of Mechanical Engineers provides a forum for IC engine experts looking closely at developments for personal transport applications, though many of the drivers of change apply to light- and heavy-duty, on- and off-highway, transport and other sectors.

4th IMarEST Ship propulsion Systems Conference – Efficiency and Compliance

27-28 November 2013, London, UK

Details at

<http://www.imarest.org/OurEvents/EventListings/ShipPropulsionSystems/27-28November2013.aspx>

Key themes will include future developments in slow and medium speed engines, fuel alternatives, and the effect of operational practice on CO₂ emissions

The Spark Ignition Engine of the Future

4-5 December 2013, Strasbourg, France.

Details at www.sia.fr/evenement_detail_spark_ignition_engine_of_1181.htm

This SIA international Conference intends to provide the opportunity to exchange points of view and information on the potential of the future spark ignition engine to respond to the main challenges of mobility, CO₂, emissions and hybridization.

Air Quality Monitoring – New Technologies, New Possibilities

10-11 December 2013, London, UK

Details at <http://aamg-rsc.org/2013/07>

Deadline for Abstracts: 13 September 2013

The meeting will focus on the challenges of helping regulations and strategies evolve to make the best use of resources and new instrumentation, including that for NO₂ and particulate matter.

10th ACEM (Motorcycle Industry) Conference

29 January 2014, Brussels, Belgium

Details will be at www.acem.eu

11th Green Ship technology Conference

March 2014, Oslo, Norway

Details will be at www.informamaritimeevents.com/event/greenshiptechnology

Deadline for Abstracts: 16 August 2013

14th Stuttgart International Symposium "Automotive and Engine Technology"

18-19 March 2014, Stuttgart, Germany

Details at www.fkfs.de/english/company/events/stuttgart-symposium-2014

The conference is organized by the FKFS (Stuttgart Research Institute for Automotive and Automobile Engine Technology)

8th International Exhaust Gas and Particulate Emissions Forum

1-2 April 2014, Ludwigsburg, Germany

Details at www.abgas-partikel-forum.com/index.html

SAE World Congress

8-10 April 2014, Detroit, Michigan, USA

Details at www.sae.org/events

Deadline for abstracts: 1 September 2013

FISITA 2014 World Automotive Congress

2-6 June 2014, Maastricht, the Netherlands

Details at www.fisita2014.com

Deadline for abstracts: 1 August 2013.

Congress topics will include clean and efficient engine technologies, new energy powertrains, and new mobility and vehicle concepts.

SAE 2014 Heavy Duty Diesel Emissions Control Symposium

17-18 September 2014, Gothenburg, Sweden

Details will be at www.sae.org/events

As new fuel and vehicle technologies – like electricity and biofuels – are introduced to drive road transport we will need to assess emissions arising 'beyond the tailpipe'. The 2013 LowCVP Conference will focus on how the changes in how we power our vehicles will impact on policy makers, vehicle and energy suppliers and also address what will need to be done to engage consumers in the process.