AECC

Newsletter

November - December 2015

INTERNATIONAL REGULATORY DEVELOPMENTS

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EUROPE

Parliament's Environment Committee opposes RDE Agreement

On 14 December 2015 the Environment Committee (ENVI) of the European Parliament voted on a motion for a resolution to oppose the second RDE legislative package agreed in TCMV by EU Member States on 28 October 2015 (*see AECC Newsletter of September-October 2015*).

The motion in ENVI stated that the draft Commission Regulation would result in a de facto blanket derogation from applicable emission limits, which is not compatible with the aim and content of the Euro 6 Regulation (EC) No 715/2007 and exceeds the implementing powers.

The motion for a resolution was passed by 40 votes to 9, with 13 abstentions. It will now be put to a vote by the full Parliament at the 18-21 January 2016 plenary session in Strasbourg.

This vote followed an exchange of views with the European Commission on RDE at the ENVI Committee meeting of 10 November 2015.

The Christian Democrats (EPP) group supported the agreement but nevertheless MEP Florenz (Germany) asked about the on-cost related to more stringent Conformity Factors (CF) than the agreed 2.1 in 2017 and 1.5 in 2020. MEP Belet (Belgium) said the values of CF are not necessarily contested as such by the Parliament but the way they were agreed, clearly is.

Amongst the Socialist (S&D) group, strong criticisms were expressed. MEP Groote (Germany) the former Rapporteur of the Euro 6 co-decision Regulation said the 2007 political agreement was for 80 mg/km NOx in normal conditions of use. "What do laws mean if they can be changed?" he asked. MEP Groote also called for more transparent automotive tests. MEP Dalli (Malta) asked why it was so difficult for OEMs to meet the Euro 6 emissions limits agreed eight years ago. Technology exists, she said, and some cars can already meet the 80 mg/km on the road. And MEP Dance (UK) again challenged the legal basis for amending the 80 mg/km target via comitology.

In the Liberals (ALDE) group also a number of comments were rather negative. MEP Gerbrandy (Netherlands) challenged the tone of the Commission's press release welcoming the agreement as a "huge success" even though it was ultimately far less ambitious than the original Commission's proposal. He wondered why the Commission was not blaming the Member States for the weak CF agreed. He also stressed that the agreement is not providing fair competition grounds for those car manufacturers that are already complying but instead it is offering more leadtime to the laggards. Finally he asked whether RDE performance of cars will be made publicly available during the monitoring phase. MEP Bearder (UK) noted that Environment Commissioner Vella told the Parliament a week before during plenary debates on the National Emission Ceilings (NEC) Directive that all sectors need to play their part and contribute to better air quality. She also asked about the effect of a CF of 1.5 on the ability for Member States to achieve their national air quality target.

MEP Girling (UK) of the Conservative (ECR) group understood the need for time in relation to vehicle manufacturing cycle but wondered about the basis for the setting of CF agreed. As the Rapporteur on the NEC Directive, she does not support blocking the procedure because of delay to air quality benefit.

For the Greens, MEP Eickhout (Netherlands) challenged both the delay for implementing the Euro 6 standard on the road and the political deal on CF under a comitology process that is supposed to be limited to adaptation to technical progress. He reminded that the Commission had estimated that the error margin for PEMS measurement was 0.18, not 0.5, therefore the final CF of 1.5 is clearly a political deal, not a technical value. Later, MEP Jávor (Hungary) compared the CF of 2.1 with a step back from Euro 6 to Euro 5.

In his reply, the Commission's representative Mr Cozigou noted that according to OEMs, 30 to 50% of existing diesel vehicles will need to be modified to meet a CF of 2.1. He added that a CF of 2.1 already means halving today's on-road emissions as existing Euro 6 vehicles emit in average 4 times the NOx standard on the road. The major benefit on air quality will come from the introduction of RDE requirements, even with a CF of 2.1, not from lowering the CF value.

Industry Commissioner calls on Parliament to support RDE Package

On 30 November 2015 Industry Commissioner Elżbieta Bieńkowska said after the Competitiveness Council meeting that the Commission would have liked the RDE agreement reached on 28 October 2015 by the Technical Committee on Motor Vehicles (TCMV) to be more ambitious but she believed the agreement still meant significant progress.

She called on support from both the European Parliament and the Council, who have a 3-month scrutiny period. "Currently, the real NOx emissions by diesel cars are on average 400 mg/km. We will move down to 168 mg/km from September 2017, then to 120 mg/km from January 2020. So we are more than halving the real amount of NOx emissions and we have an annual revision clause from 2020 to be able to tighten the screws further", she said.

Ms Bieńkowska also announced that a legislative proposal for more European oversight, effective control

mechanisms, as well as better quality and greater independence of vehicle testing is to be expected in early 2016.

Parliament Inquiry Committee on Automotive Emissions Measurements

On 17 December 2015 the European Parliament in its plenary session decided to set up a committee of inquiry into emission measurements in the automotive sector.

The 45-member committee will investigate the alleged failure of the European Commission to keep test cycles under review, the alleged failure of the Commission and Member States' authorities to take proper and effective action to oversee enforcement and to enforce the explicit ban on 'defeat devices', the alleged failure of the Commission to introduce tests reflecting the real-world driving conditions, the alleged failure of Member States to lay down provisions on effective, proportionate and dissuasive penalties applicable to manufacturers for infringements, and whether the Commission and the Member States had evidence of the use of 'defeat mechanisms' before the VW scandal emerged in September 2015.

The committee will report its findings within twelve months of starting work, with interim results due after six months. The decision was approved by 354 MEPs to 229 against, with 35 abstentions.

Position of Committee of the Regions on Automotive Emission Tests

On 20 November 2015 the Commission for Environment, Climate Change and Energy of the European Committee of the Regions (CoR) adopted a declaration setting out its position on the automotive emission tests' scandal.

CoR's Environment Commission (ENVE) members welcome the new emissions tests in real-world driving conditions but deplore that Member States allowed car manufacturers to exceed more than two times the emission limits required by EU law as of 2017. CoR ENVE members believe this relaxation of rules should not be accepted, as the CoR has previously underlined the crucial importance of addressing air quality problems at source.

They also call for local authorities to be entitled to a fair share of compensation to be paid by companies found to be responsible so as to enable cities and regions to implement clean-air programmes.

The CoR ENVE declaration is at http://cor.europa.eu/en/news/Documents/ENVE-statement-automotive-emission-tests-scandal.pdf.

NGOs call for EU Action on Vehicle Emissions Regulation Enforcement

On 9 November 2015 a group of 38 environmental Non-Governmental Organizations (NGOs) sent a letter to Donald Tusk, Jean-Claude Juncker, and Martin Schulz, the respective presidents of the European Council, Commission and Parliament, calling for EU action to "protect citizens from air pollution and the manipulative and fraudulent behaviour of carmakers".

The NGOs, including Greenpeace, Transport & Environment and Friends of the Earth, call for immediate action such as undertaking an immediate, independent and transparent EU-level investigation into the "dieselgate" scandal; establishing EU oversight in the process of type-approval for motor vehicles; strengthening the enforcement of environmental legislation at EU and Member State level; and ensuring that fraudulent companies are suspended from the EU lobby register until it has been demonstrated that they comply with EU law.

The letter is at www.greenpeace.org/eu-unit/Global/eu-unit/reports-briefings/2015/NGO%20open%20letter%20on%20emissions%20scandal.pdf.

Trilogue on Pot-Pourri Proposal

On 19 November 2015 the presidency of the European Council and the European Parliament held a second negotiating trilogue meeting on the review of the Euro 5&6 Regulation, the so-called "pot-pourri" proposal.

After the meeting, the Council published a statement on the Real-Driving Emissions (RDE) tests, specifically on the establishment of Conformity Factors (i.e. for the future revision of CFs, after 2021). The Council proposes to guarantee the full involvement of both co-legislators – the Council and the European Parliament – to replace the existing comitology procedure, which only provides them with a right to veto a proposal voted by the Commission's Technical Committee on Motor Vehicles (TCMV). However, this issue will need to be discussed further, possibly in a next trilogue meeting.

New Directive on Emissions from Medium Combustion Plants published

On 28 November 2015 Directive (EU) 2015/2193 on the limitation of emissions of certain pollutants into the air from Medium Combustion Plants (MCP) was published in the Official Journal.

The Directive applies to combustion plants, including a combination formed by two or more new medium combustion plants, with a total rated thermal output between 1 and 50 MW. MCPs are used for a wide variety of uses, including domestic heating and cooling, electricity generation and providing steam for industrial

processes. The approximate number of MCPs in the EU is over 140 000.

The new Directive sets limits for emissions of SO_2, NOx and dust, and defines rules to monitor emissions of CO.

New MCPs must comply with the emissions limits from 20 December 2018. Existing MCPs above 5 MW have to meet the emissions limits by 1 January 2025 while smaller ones, between 1 and 5 MW have until 1 January 2030 to comply. Extended compliance deadlines until 2030 may be granted to some plants.

EU Member States have until 19 December 2017 to transpose this new Directive into their respective national legislations.

Directive (EU) 2015/2193 is at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.313.01.0001.01.ENG.

Council Position on National Emission Ceilings

On 16 December 2015 the Environment Ministers of the EU agreed in a Council meeting on a general approach for the proposed Directive to reduce National Emission Ceilings (NEC).

The current NEC Directive sets national limits for the emissions of four pollutants: SO_2, NOx, Volatile Organic Compounds (VOC) and ammonia. The Council's position for the new Directive also contains caps for a new pollutant, fine Particulate Matter, but not for methane as proposed by the Commission. Methane was left out of the scope because of concerns about overlaps with future measures on climate and energy linked to emissions of greenhouse gases.

The national reduction commitments for each pollutant, from 2020 to 2029 are identical in both the Council's position and the revised Gothenburg protocol. However the reduction commitments from 2030 are new. The Council proposes some additional flexibility for Member States, such as the possibility to average annual emissions with emissions of the preceding and following years. The possibility to compensate for the non-compliance regarding one pollutant with an equivalent reduction of another for a limited time is also proposed for some cases.

This agreement will serve as a basis for negotiations with the European Parliament who voted its position on this file in October 2015.

Parliament Report on Sustainable Urban Mobility

On 2 December 2015 the European Parliament adopted a resolution on sustainable urban mobility.

The report was drafted by MEP Karima Delli (Greens, France) and calls, above all, for a 50% reduction in the "conventional" automobile fleet by 2030, before its complete disappearance by 2050, as defined in the 2011 White Paper on Transport.

It encourages the authorities in the Member States to draw up sustainable urban mobility plans which give priority to low-emission transport modes, including electric traction and vehicles powered by alternative fuels (second- and third-generation biofuels, hydrogen based on renewables, Compressed Natural Gas (CNG), and Liquefied Natural Gas (LNG)), and which include intelligent transport systems; it supports the establishment of traffic zones and intermodal platforms where priority is given to public transport.

The report also encourages the competent authorities to take preventive measures to improve air quality in towns and cities and to guarantee that pollutant concentrations do not exceed the levels set in the World Health Organization guidelines; to that end, it supports local setting-up of Low-Emission Zones.

The non-binding, own initiative report was adopted by 483 votes for, 82 against, and with 37 abstentions.

The report is at www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+P8-TA-2015-0423+0+DOC+PDF+V0//EN.

EEA 2015 Air Quality in Europe Report

On 30 November 2015 the European Environment Agency (EEA) published the 2015 edition of its report on Air Quality in Europe.

The report presents an overview and analysis of air quality in Europe, with a focus on the latest year for which there are available and processed data, namely 2013. It reviews the progress made towards meeting the requirements of the Air Quality Directives. It also gives an overview of the latest findings and estimates on population exposure to the air pollutants with the greatest impacts on health in Europe, as well as an overview of the effects of air pollution on human health and on ecosystems.

The analysis indicates that air quality policies have delivered many improvements nevertheless air pollution remains the single largest environmental health risk in Europe. EEA estimates that $PM_{2.5}$ long-term exposure is responsible for more than 403 000 premature deaths in the EU while NO_2 long-term exposure is responsible for 72 000 premature deaths.

The EU daily limit value for PM_{10} was exceeded in 22 of the 28 EU Member States, and the target value for $PM_{2.5}$ was exceeded in 7 Member States. A total of 17% of the EU urban population was exposed to PM_{10} levels above the daily limit value and approximately 61% was exposed to concentrations exceeding the stricter WHO guidelines for PM_{10} in 2013. Regarding $PM_{2.5}$, 9% of the urban population was exposed to $PM_{2.5}$ levels above the EU target value (which changes to a binding limit value from 2015 onwards) and

approximately 87% was exposed to concentrations exceeding the stricter WHO guidelines in 2013.

The annual limit value for nitrogen dioxide (NO_2) was widely exceeded across Europe in 2013, with 93% of all exceedances occurring close to roads. A total of 19 of the 28 EU Member States recorded exceedances of this limit value at one or more stations. Of the EU urban population, 9% lives in areas in which the annual EU limit value and the WHO guidelines for NO_2 were exceeded in 2013.

The EU ozone (O_3) target value for the protection of human health was exceeded in 18 of the 28 EU Member States in 2013 with 15% of the EU-28 urban population living in EU limit exceedances areas. Conformity with the WHO O_3 guideline was observed in less than 3% of all stations, corresponding to 98% of the total urban population in 2013 living in WHO guideline exceedances areas.

The main source sectors contributing to emissions of air pollutants in Europe are transport, energy, industry, the commercial, institutional and households sector, agriculture and waste.

The transport sector is the largest contributor to NOx emissions, accounting for 46% of total EU-28 emissions. Transport also remains a very important source of greenhouse gases (GHG) within the EU; in 2012, GHG emissions from transport were 20% above their 1990 levels.

Transport also contributed to 13% and 15% of the total PM_{10} and $PM_{2.5}$ primary emissions, respectively, in the EU Member States in 2013. EEA estimates that nearly 90% of total PM emissions from road traffic will come from non-exhaust sources by 2020.

EEA Report No 5/2015 is at
www.eea.europa.eu/publications/air-quality-in-europe-2015.

EEA Transport and Environment Reporting Mechanism (TERM) Report

On 14 December 2015 the European Environment Agency (EEA) released its TERM 2015 report on transport indicators tracking progress towards environmental targets in Europe evaluating 15 years of transport and environmental policy integration.

The report analyses the evolution of the transport sector (freight and passenger) and its pressures on the environment since 2000, including the impacts of the economic recession in 2008.

Despite existing policies addressing greenhouse gas (GHG) emissions, the transport sector is the only main European economic sector in which GHG emissions have increased since 1990 (by almost 20%); all other sectors have achieved reductions in emissions. Transport emissions accounted for almost one quarter of the EU's total GHG emissions in 2013 (one fifth excluding international aviation and maritime emissions), with passenger cars contributing almost 45% and heavy-duty vehicles a further 20% of the transport sector's emissions. Road transport emissions have increased by almost 17% while rail transport (-49%) and inland navigation (-35%) are the only two modes of transport for which GHG emissions have decreased since 1990.

Compared with the target path to meet the 2050 goal, the trend in GHG emissions is presently on track. However, to reach the mid-term indicative goal of 2030, a further reduction of 10% needs to be achieved.

The TERM 2015 report concludes that a fundamental decarbonisation of the transport sector will require not just technological solutions but also policies that stimulate significant behavioural changes, including the correct pricing of transport externalities and planning approaches that stimulate the use of sustainable modes of transport.

EEA TERM report 2015 is at
www.eea.europa.eu/publications/term-report-2015.

EEA Report on CO_2 from New Passenger Cars and Vans in 2014

On 26 November 2015 the European Environment Agency (EEA) published its annual report “Monitoring CO_2 emissions from new passenger cars and vans in 2014”.

The report confirms that average CO_2 emissions of a new car sold in 2014 were 123.4 g/km, significantly below the 2015 EU target of 130 g/km. Similarly, the average CO_2 emissions from vans sold in 2014 were 169.1 g/km, below the 2017 limit of 175 g/km. The report shows that almost all manufacturers achieved their individual emissions targets set for 2014.

In 2014, 12.5 million new passenger cars and 1.5 million vans were sold in the EU. Of these, diesel vehicles remained the most sold vehicles in Europe, constituting 53% of car sales and 97% of van sales. In 2014, the average diesel car emitted 123.2 g/km of CO_2, just 2.5 g/km less than the average gasoline car.

Renault, Peugeot, Citroën and Toyota continue to produce most of the lowest-emitting cars. Nissan made the greatest improvement between 2013 and 2014. The average CO_2 emissions from their passenger vehicles decreased by almost 16 g/km. This performance relates to an increased number of electric vehicles in the share of new cars sold, as well as sales of smaller vehicles and the improved performance of conventional vehicles.

Of the larger van manufacturers, the Dacia fleet had the lowest average CO_2 emissions (132 g/km), followed by Peugeot (147 g/km), Citroën (148 g/km) and Renault (149 g/km).

EEA indicated nevertheless that the CO_2 emissions data presented are based on measurements performed in the laboratory using the standard European vehicle test cycle. Such measurements may not reflect real-world driving performance, EEA says.

EEA Technical Report No 16/2015 is at www.eea.europa.eu/publications/monitoring-emissions-cars-and-vans.

MEPs call for a CO_2-based Eurovignette for Trucks

Fourteen MEPs sent on 18 November 2015 a letter to EU Transport Commissioner Violeta Bulc urging the European Commission to make a legislative proposal in early 2016 that will enhance heavy-goods vehicle transport contribution to the EU climate and energy goals.

MEPs request a proposal for amendments to the Eurovignette Directive that phases out time-based vignettes, proceeds towards the full and mandatory internalisation of external costs and that enables the differentiation of tolls based on the energy efficiency or CO_2 emissions of trucks.

The letter was sent by German MEP Ismail Ertug (SPD) and signed by 13 other MEPs from all main political groups.

EEA Inventory Report on Greenhouse Gas Emissions

On 27 November 2015 the European Environment Agency (EEA) published its report "Annual European Union greenhouse gas inventory 1990-2013 and inventory report 2015".

The report presents Greenhouse Gas (GHG) emissions between 1990 and 2013 for the EU 28 individual Member States and economic sectors. The report is part of the European Union's official 2015 submission to the United Nations Framework Convention on Climate Change.

Total GHG emissions (excluding LULUCF – Land Use Land Use Change and Forestry) in the EU-28 amounted to 4477 million tonnes CO_2-equivalent in 2013, which is 21.2% below the 1990 level – the lowest level since 1990. GHG emissions decreased by 1.9% between 2012 and 2013.

Over 80% of the GHG emissions reduction in 2013 stemmed from lower CO_2 emissions from electricity production in thermal power stations. Primary energy consumption declined overall, with fossil emissions decreasing for all fuels and particularly for solid fuels. The consumption of renewable energy continued its long-term trend of higher share in the energy mix.

The overall EU GHG emission trend is dominated by the two largest emitters, Germany (21%) and the UK (13%), accounting for more than one third of total EU-28 GHG emissions in 2013. France and Italy were the third and fourth largest emitters in 2013, with a share in the EU total of 11% and 10% respectively.

EEA Technical Report No 19/2015 is at www.eea.europa.eu/publications/european-union-greenhouse-gas-inventory-2015.

Germany investigates Diesel NOx Emissions

On 11 November 2015 the German federal motor transport authority "Kraftfahrt-Bundesamt" (KBA) announced that it was extending its investigations into the suspected manipulation of NOx emissions to more than 50 car models from 23 domestic and foreign manufacturers.

The KBA said the tests were prompted by a combination of Volkswagen admitting they had rigged the emissions tests as well as "verified indications from third parties regarding unusual pollutants emissions."

The choice of vehicle models was based on the registrations statistics in Germany as well as third-party emissions test results.

DUH files Lawsuits for "Clean Air in Germany"

On 19 November 2015 the Non-Governmental Organization Deutsche Umwelthilfe (DUH) announced that it filed a lawsuit, together with British NGO ClientEarth, against several German Federal States who need to do more in the area of clean air planning.

The affected cities are Cologne, Bonn, Aachen, Dusseldorf, Essen, Gelsenkirchen, Frankfurt/Main and Stuttgart. With this measure, DUH intends to commit the Federal States in question to change their clean air plans. The aim is to include all appropriate measures in the plans so that the NO_2 limit values, which have been valid for many years, are complied with as soon as possible.

The DUH has also applied for compulsory enforcement measures to be taken against the Bavarian and the Hessian Ministries of the Environment due to limit exceedances in Munich, Darmstadt and Wiesbaden. Final judgements have already been issued there, but they have not been complied with, DUH said.

"We will use judicial means to achieve clean air. Extensive driving bans on diesel cars, diesel taxis and polluting public transport buses are an appropriate measure to quickly comply with limit values, even in cities like Stuttgart", said DUH Managing Director Jürgen Resch.

He emphasized that it is urgent that Low Emission Zones (LEZ) be developed further. In this context, DUH demands the introduction of a blue sticker to label

vehicles with low exhaust values in real operation. In addition, all public transport buses must be fitted with particle and NOx reduction systems which function in real operation. According to DUH, there are many thousands of modern buses that do not have either a particle filter on board or effective NOx exhaust gas cleaning systems under normal conditions. Last, DUH also demands that diesel taxis mainly in use at present be replaced with natural gas, LPG or gasoline hybrid taxies, and that it becomes binding to use particle filters in construction machines.

Funding for DPF Retrofit of Cars and Vans in Germany

On 23 December 2015 Germany notified the European Commission that it is making funding available for the retrofit of passenger cars and light-commercial vehicles with Diesel Particulate Filters (DPF).

260€ is offered per vehicle for the retrofit of pre-Euro 5 diesel cars initially registered before end of 2006 or vans registered up to 16 December 2009. The DPF must be retrofitted between 1 January 2016 and 30 September 2016 and must correspond either to a particulate reduction level PM 01 (i.e. 100 mg/km) or PM 0 to PM 4 (i.e. 100 to 5 mg/km) as defined in the Road Traffic Licensing Regulations (Straßenverkehrs-Zulassungs-Ordnung or StVZO).

New B20/B30 Biodiesel Standard

The German Institute for Standardization (DIN) has published a new DIN EN 16709 standard that allows the use of biodiesel blends up to 20 or 30%, depending on the engine type and manufacturer warranty.

The standard is only intended for captive fleets. The biodiesel component has to comply with EN 14214 and the diesel component with EN 590.

The current European diesel fuel standard, EN 590, only allows up to 7% FAME biodiesel. Work is also in progress on EN 16734, a standard similar to EN 590 but which would cover blends up to B10.

The DIN EN 16709:2015 standard is at www.beuth.de/en/standard/din-en-16709/233448723.

UK Air Quality Plans for NO_2

On 17 December 2015 the UK Department for Environment, Food & Rural Affairs (Defra) presented the Government's Air Quality plans for NO_2 in the UK.

The Defra notes that over recent decades, air quality has improved significantly. Between 2005 and 2013 emissions of nitrogen oxides have fallen by 38% and particulate matter has reduced by more than 16%.

Nevertheless, in order to bring the UK into legal compliance and to reduce concentrations of NO_2 below 40 µg/m^3 Clean Air Zones will be introduced in five cities. Under these plans, by 2020 the most polluting diesel vehicles - old polluting buses, coaches, taxis and lorries - will be discouraged from entering the centres of Birmingham, Leeds, Southampton, Nottingham and Derby. Newer vehicles that meet the latest emission standards, and private cars, will be unaffected.

The Mayor of London has a well-developed strategy for improving air quality by 2025, including the implementation of an Ultra-Low Emission Zone by 2020, retrofitting of buses and licensing new taxis to be zero-emission capable from 2018. The UK Government will continue to support and monitor the delivery of the Mayor's plans.

Defra says that one of the main reasons UK cities continue to face air quality problems is the failure of diesel vehicles to deliver expected emission reductions in real world driving conditions. The Real-Driving Emissions (RDE) agreement recently secured by the UK Government will introduce more stringent emissions testing across the EU, ensuring that vehicles live up to their low emission credentials.

The documents include 38 zone plans, a UK overview, a list of national measures and a technical report.

The UK Air Quality plans are at www.gov.uk/government/collections/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2015.

UK Parliament Inquiry on Vehicle Type-Approval

On 16 November 2015 the UK Parliament's Transport Select Committee announced it is launching inquiry to examine whether the vehicle type-approval testing is fit for purpose.

Following the disclosure of the Volkswagen's NOx and CO_2 scandals, the Committee would like to hear evidence on the effectiveness of the current arrangements for type-approval; negotiations on World-wide Light-vehicle Test Procedure (WLTP) and Real-Driving Emissions (RDE); the appropriateness of the current drive cycle and how a move to RDE tests will change testing; the gap between emissions detected in test and real world conditions; comparisons with other jurisdictions (especially the US and markets in Asia); the range of metrics considered in type testing, whether the levels set represent a reasonable level of ambition and a reasonable pace of change, and the evidence base that underpins how levels have been set; the role of type-approval in driving change in levels of safety, emissions, and performance; and on the appropriateness of the overall principles that determine the approach being taken on type-approval.

The deadline for submissions was 7 December 2015. However, the Committee said it will accept submissions after this date.

Poland referred to EU Court of Justice over poor Air Quality

On 10 December 2015 the European Commission decided to refer Poland to the Court of Justice of the EU over persistently high levels of dust particles that pose a major risk to public health.

In Poland, the daily limit values for the airborne particles (PM_{10}) have been persistently exceeded in 35 out of 46 air quality zones for at least for the last five years, including 2014, the Commission said. Additionally, in nine zones the annual limit values have also been persistently exceeded. The PM_{10} pollution in Poland is predominantly caused by household heating. The legislative and administrative measures taken so far to limit this persisting non-compliance have been deemed insufficient by the Commission.

The decision follows an additional reasoned opinion which was sent to Poland in February 2015.

NORTH AMERICA

US EPA notifies Volkswagen of additional Clean Air Act Violations

On 2 November 2015 the US Environmental Protection Agency (EPA) issued another Notice of Violation (NOV) of the Clean Air Act to the Volkswagen group, alleging that VW installed a defeat device that increases NOx emissions in certain VW, Audi and Porsche light-duty diesel vehicles equipped with 3.0 litre V6 engines for model years 2014 through 2016.

EPA and the California Air Resources Board (CARB) have both initiated investigations based on VW's alleged actions. This second NOV is based on vehicle emission testing performed by the EPA's National Vehicle and Fuel Emissions Laboratory, CARB's Haagen-Smit Laboratory, and Environment Canada's River Road Laboratory. According to EPA, when the vehicle senses that it is undergoing a Federal emissions Test Procedure (FTP), it operates in a low NOx "temperature conditioning" mode. Under that mode, the vehicle meets emission standards. At exactly one second after the completion of the initial phases of the standard FTP, the vehicle immediately changes a number of operating parameters that increase NOx emissions and indicates in the software that it is transitioning to "normal mode," where emissions of NOx increase up to nine times the EPA standard, depending on the vehicle and type of driving conditions. In other tests where the vehicle does not experience driving conditions similar to the start of the FTP, the emissions are higher from the start, consistent with "normal mode".

VW's software on these vehicles includes one or more Auxiliary Emission Control Devices (AECD) that the car manufacturer failed to disclose, describe and justify in their applications for certificate of conformity.

Affected models include Volkswagen Touareg (MY 2014), Porsche Cayenne (MY 2015), Audi A6 Quattro (MY 2016), Audi A7 Quattro (MY 2016), Audi A8 (MY 2016), and Audi Q5 (MY 2016). The NOV covers approximately 10 000 diesel passenger cars already sold in the US since MY 2014. In addition, the NOV covers an unknown volume of 2016 vehicles.

On 19 November 2015 VW officials informed EPA that the defeat device has existed in all of its US 3-litre diesel models since 2009. On 25 November 2015 CARB sent an In-Use Compliance letter notifying Volkswagen, Audi and Porsche to start the recall and repair illegal emissions software in all 3-litre diesel vehicles, model years 2009-15, sold in California. This action resulted from admission by officials at Audi, manufacturer of all the engines involved, that the vehicles contain three undisclosed auxiliary emissions control devices.

ARB Technology Assessment of Heavy-Duty Hybrid Vehicles

On 13 November 2015 the California Air Resources Board (ARB) released a draft technology assessment on Heavy-Duty Hybrid (HDH) vehicles.

The report is intended to provide a comprehensive assessment of the current state and projected development over the next five to ten years of HDH vehicle technologies for Class 2b through Class 8 vehicles (gross vehicle weight above 8500 pounds, i.e. >3.85 tons). The assessment describes the potential for emission reductions, the market penetration of hybrids in medium-duty and heavy-duty trucks and buses, and the next steps for achieving these emission reductions from hybrids in the on-road heavy-duty arena. Hybrid technologies are currently available commercially or as demonstration projects for a wide range of heavy-duty vehicle classes, covering vocations ranging from pick-ups and delivery vans, to parcel and package delivery step-in vans, to transit buses and refuse haulers.

The report anticipates that the heavier classes of vehicles operating in rural/intra-city and regional delivery, including drayage trucks, can be the next group of vehicles that will be hybridized in greater number. It is also anticipated that plug-in hybrids will see increased deployment in utility/bucket truck applications, with increased use of electric power take-offs (ePTO).

The costs for HDH vehicles are currently higher than comparable conventional vehicles. The incremental difference in cost can range from about $8000 to $10 000 (€7500 - €9300), about 20-25% of vehicle purchase cost, for the lighter-class (Class 2b) vehicles

to about $200 000 (€185 000), about 40-50% of vehicle purchase cost, assuming baseline costs of $525 000 (€490 000) for a Class 8 natural gas transit bus and $400 000 (€370 000) for a diesel one.

Fuel economy improvements for HDH vehicles have been reported to range from about 10% to 50-70%, depending on the level of hybridization, hybrid architecture, and duty cycles. However, NOx emissions reduction benefits are less clear, especially for HDH diesel vehicles. If the hybrid system is well designed and integrated, coupled with judicious placement in the vocations with appropriately matched duty cycles, NOx emissions from a HDH vehicle can be lower compared to a comparable conventional vehicle, the report says.

The report is available at www.arb.ca.gov/msprog/tech/techreport/hybrid_tech_report.pdf.

US EPA Study on Air Pollution at Chicago Rail Station

On 5 November 2015 the US Environmental Protection Agency (EPA) released an air quality study that documents elevated concentrations of particulate matter ($PM_{2.5}$) in ambient air on train platforms at Union Station in Chicago.

EPA studied air quality at Union Station over a three-week period during June and July 2015. The concentration of $PM_{2.5}$ on the train platforms was 23 to 96% higher than concentrations recorded on nearby streets. The highest concentrations of $PM_{2.5}$ occurred during rush hours. Highest particulate concentrations were found near locomotives.

Short-term options to improve air quality on the train platforms include optimizing the existing ventilation systems above the station and changing operational procedures. Long-term options include installation of additional ventilation systems and measures to reduce particulate emissions, EPA concludes.

The EPA report is at www2.epa.gov/sites/production/files/2015-11/documents/union-station-air-monitoring-study-20151104_0.pdf.

US EPA reprioritizes IRIS Agenda

On 15 December 2015 the US Environmental Protection Agency (EPA) posted the Integrated Risk Information System (IRIS) Multi-year Agenda that reprioritizes the existing 2012 agenda.

This multi-year agenda indicates the top priority chemical assessments that the IRIS program will focus on in the next few years. As part of this reprioritization, EPA has decided not to finalize the reassessment of vanadium pentoxide (V_2O_5). Instead, it will be incorporated into a broader assessment of vanadium-containing compounds.

The IRIS agenda is at www.epa.gov/iris/iris-agenda and the status of reassessment of V_2O_5 is at http://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=125.

CENTRAL AMERICA

Low Sulfur Fuels in Mexico

On 30 October 2015 Mexico published an emergency fuel quality standard, NOM-EM-005-CRE-2015.

This emergency standard is an interim measure on the path to establishing permanent fuel quality standards in Mexico for both gasoline and diesel fuels. The emergency standard will be in force for six months and is expected to be extended for an additional six months.

Maximum diesel sulfur value of 15 ppm is required now in Mexico City, Guadalajara, Monterrey, and the Border Region, and starting 1 December 2015 in 11 major transportation corridors.

Starting 1 July 2018, 100% of the on-road diesel supplied must comply with the 15 ppm sulfur diesel standard. Until that date, the maximum sulfur limit outside the specified regions is 500 ppm. Off-road diesel will continue to have a limit of 500 ppm sulfur, unless it is imported into the country, in which case it must also meet the 15 ppm sulfur limit.

All regular and premium gasoline fuels in Mexico City, Guadalajara, and Monterrey and all premium gasoline in the full country must comply with a 30 ppm sulfur average content and an 80 ppm sulfur maximum. Starting 31 January 2016, all regular and premium gasoline in the full country must comply with the 30 ppm average / 80 ppm maximum sulfur limits. Until that date, the maximum sulfur limit for regular gasoline outside of the three metropolitan regions is 1000 ppm.

The Regulatory Energy Commission (CRE) fuels working group is considering a national 10 ppm average gasoline sulfur standard for inclusion in a finalized, permanent fuel quality standard.

The emergency standard also includes specifications on aromatics, olefins, benzene, oxygenates, and minimum cetane.

The emergency standard (in Spanish) is at www.dof.gob.mx/normasOficiales/5848/cre/cre.html.

ASIA

India to implement Bharat Stage VI earlier than planned

On 27 November 2015 the Ministry of Road Transport & Highways of India issued a draft notification for implementation of Bharat Stage (BS) V and BS VI norms for the automobile sector, covering the four wheeler category.

BS V norms are based on the passenger car Euro 5 and heavy-duty Euro V standards for the respective vehicle categories; while BS VI is based on Euro 6 and Euro VI.

The Ministry proposed to advance the date for implementation of the higher level emission standards. As per the roadmap earlier laid down by the Auto Fuel Policy, BS V norms were to be implemented from 1 April 2022 and BS VI from 1 April 2024. However the Minister of Road Transport & Highways is keen that the road transport sector should take a lead role in reducing the harmful effects of emissions on environment and climate change. Accordingly, the Ministry therefore proposed to implement BS V norms from 1 April 2019, for new types of both light- (<3.5t) and heavy-duty (>3.5t) vehicles. BS V will apply to all new vehicles on 1 April 2020.

BS VI norms were proposed to be implemented from 1 April 2021 for new types and from 1 April 2022 for all new vehicles.

On 6 January 2016 the Indian Government eventually decided to move forward the implementation of BS VI emissions standard to 1 April 2020 directly from BS IV, therefore leapfrogging BS V. Final notifications are still to be issued.

Draft norms for 2- and 3- wheeler categories are also to be notified shortly, again with advanced timelines.

Temporary Ban on Large Diesel Vehicle Sales in New Delhi

On 16 December 2015 the Supreme Court of India passed an order banning the registration in Delhi and the surrounding region of Sport-Utility Vehicles and other diesel cars with an engine capacity of 2-litre or more until 31 March 2016.

The decision was made in an attempt to tackle persisting smog in the city. The Court also prohibited trucks from passing through the city to reach other states and banned all trucks over 10 years old from the capital. It doubled the environmental compensation charge on commercial vehicles entering the region to 1400 rupees (€19) for light commercial vehicles and Rs 2600 (€35) for heavy vehicles.

Other measures include a demand for all taxis in Delhi to replace diesel with natural gas, as well as a broad, immediate ban on burning solid waste.

In January 2016 the judges will also consider to levy a green tax on all diesel cars sold in the country.

Implementation of China's Air Pollution Prevention and Control Action Plan

On 20 November 2015 the Clean Air Alliance of China (CAAC) released a report on "Investment Requirements and Potential Effects of Implementing China's Air Pollution Prevention and Control Action Plan (2013-2017)".

The report takes a look at how much financial resources the national as well as regional governments would need in order to fully execute and meet air quality targets. In addition, the report analyses what social, economic, and public health impacts can result from implementing these action plans.

Four areas of focus are covered in the report: China entirely, the Beijing-Tianjin-Hebei region (also called Jingjinji Region), Yangtze River Delta and Pearl River Delta. The report is meant to serve as a scientific guide for these regions, as well as other regions to comply with the Action Plan by 2017.

The report is at http://en.cleanairchina.org/product/7468.html.

Red Alerts for Air Pollution in Beijing

On 8 December 2015 China's capital city government issued its first ever "red alert" for pollution as Beijing was shrouded in heavy smog.

A red alert is triggered when the Chinese Government believes air quality will surpass a level of 200 on an air quality index that measures various pollutants for at least three days. The US government deems a level of more than 200 "very unhealthy".

As a result, half of private cars were ordered off the streets on an odd/even license plate basis. All outdoor construction work was ordered to stop, schools were urged to close, and traffic restrictions were put in place. Construction waste, excavation transport vehicles, cement trucks, gravel transport vehicles and other large-scale vehicles were prohibited on roads.

This was followed by a second "red alert" issued in Beijing on 18 December 2015.

Beijing 6 Emissions Standard

On 26 November 2015 the Beijing Environmental Protection Bureau started soliciting public opinion about its sixth phase of automobile emissions standard due to be implemented starting 1 December 2017.

The new standard covers light vehicles, heavy vehicles and heavy motors and was drafted according to the world's strictest emissions standards, the Bureau said.

Currently, vehicles in Beijing need to meet the Beijing 5 standard, which went into effect in 2013 and is equivalent to Euro 5. With the draft Beijing 6 standard based on California LEV III's ULEV70 bin, emissions from light vehicles will be cut by 40%. Beijing 6 requirements for heavy-duty vehicles will be based on Euro VI, including the limit on Particle Number, and will reduce emissions by 50%.

More info is available at www.bjepb.gov.cn/bjepb/413526/331443/331937/333896/4380939/index.html.

ICCT Report on Beijing's Motor Vehicle Emission Control Programs

On 5 November 2015 the International Council on Clean Transportation (ICCT) released a summary overview and cost-benefit analysis of Beijing's vehicle emission control programs, including new-vehicle emission standards, fuel quality standards, in-use vehicle emission control efforts, and other programs, such as alternative fuel vehicles and population control.

Beijing's early implementation of the China 5/V emission standards and ultra-low sulfur fuel standards have yielded immediate emission reductions from the in-use vehicle fleet. However, with vehicle demand growing inexorably, emissions will soon start to increase again unless more stringent standards are implemented. With the introduction of the Beijing 6/VI standards, emissions from on-road vehicles would continue to decline through 2030. Furthermore, the Beijing 6/VI standards are extremely cost-effective. A conservative estimate of the benefits of the Beijing 6/VI standards indicates that, in 2040, they would outweigh the costs by a factor of 4 to 1, with most of the benefit coming from better public health.

The paper offers three main conclusions: 1) Beijing's vehicle emission control program has delivered significant environmental and health benefits, but the implementation of Beijing 6/VI will be key in helping Beijing prevent long-term emission growth; 2) Accelerating the pace of emission control in the areas surrounding Beijing will maximize the regional environmental impact – Beijing should focus on cooperating with the surrounding Jing-Jin-Ji (Beijing-Tianjin-Hebei) capital region to push for additional emission control programs; and 3) Beijing's vehicle emission control experience can be an inspiration for other cities.

The ICCT report is at http://theicct.org/sites/default/files/publications/Beijing_Emission_Control_Programs_201511%20.pdf.

Stage IIIA Standard for Non-Road Mobile Machinery in Hong Kong, China

On 16 November 2015 the Environmental Protection Department (EPD) of Hong Kong, China reminded that from 1 December 2015 non-road vehicles, as well as mobile machines and equipment such as crawler cranes, excavators and air compressors, must be approved or exempted by the EPD and bear an approval label or exemption label issued by the EPD.

According to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, new machines must comply with the EU Stage IIIA emission standard and newly registered on-road vehicles must comply with Euro V. Owners of existing NRMM can apply for exemption before 30 November 2015.

Anyone who sells or leases a regulated machine for local use, or uses a regulated machine in specified activities or non-road vehicle in specified locations, without the EPD's approval or exemption label is liable to a fine of up to HK$ 200 000 (€24 000) and imprisonment for up to six months, EPD said.

UNITED NATIONS

COP21 Paris Agreement on Climate Change

On 12 December 2015 the 195 nations gathered in Paris, France for the 21st Conference of the Parties (COP21) signed an agreement to combat climate change and unleash actions and investment towards a low carbon, resilient and sustainable future.

According to the United Nations Framework Convention on Climate Change, the Paris Agreement brings for the first time all nations into a common cause based on their historic, current and future responsibilities. The agreement's main aim is to keep a global temperature rise this century well below 2°C and to drive efforts to limit the temperature increase even further to 1.5°C above pre-industrial levels.

To reach these ambitious and important goals, appropriate financial flows will be put in place, thus making stronger action by developing countries and the most vulnerable possible, in line with their own national objectives.

The Paris Agreement covers all the crucial areas identified as essential for a landmark conclusion, namely mitigation (reducing emissions fast enough to achieve the temperature goal), a transparency system and global stock-take (accounting for climate action), adaptation (strengthening ability of countries to deal with climate impacts), loss and damage (strengthening ability to recover from climate impacts), and support (including finance, for nations to build clean, resilient futures).

As well as setting a long-term direction, countries will peak their emissions as soon as possible and continue to submit national climate action plans that detail their future objectives to address climate change. Countries will submit updated climate plans, called Nationally Determined Contributions (NDCs), every five years.

The Paris Agreement underwrites adequate support to developing nations and establishes a global goal to significantly strengthen adaptation to climate change through support and international cooperation. Governments decided that they will work to define a clear roadmap to achieve the goal of jointly providing $100 billion annually by 2020 for mitigation and adaptation.

The Paris Agreement will be deposited at the UN in New York and be opened for one year for signature on 22 April 2016. It will enter into force after 55 countries that account for at least 55% of global emissions have deposited their instruments of ratification.

The Paris Agreement is at http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf.

Sweden adopts Amendment to Gothenburg Protocol

On 23 November 2015 the UNECE announced that Sweden has been the first Party to accept the 2012 amendments to the 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol) under the UNECE Convention on Long-Range Transboundary Air Pollution (CLRTAP).

The amended Gothenburg Protocol includes national emission reduction commitments for main air pollutants to be achieved in 2020 and beyond. It is the first legally binding agreement containing obligations to reduce short-lived climate pollutants, notably fine particulate matter ($PM_{2.5}$), black carbon and ground-level ozone precursors: nitrogen oxides and volatile organic compounds.

UNECE said Sweden's acceptance of the amendments will also pave the way for other Parties to the CLRTAP to follow suit. The 2012 amendments to the Gothenburg Protocol will enter into force once two thirds of the Parties to the original Protocol have accepted them.

Commitments to reduce Short-Lived Climate Pollutants

On 4 December 2015 governments and industry leaders in the Climate and Clean Air Coalition (CCAC) committed to further essential advances in reducing short-lived climate pollutants (SLCP) such as black carbon, methane, and hydrofluorocarbons that have a global warming potential many times that of CO_2.

Amongst concrete commitments made at the COP21 SLCP Focus Day in Paris, supporters of the Global Green Freight Action Plan agreed to deepen their engagement and pledged to double the number of green freight programmes (new, or enhance existing) by 2018.

World Meteorological Organization's Greenhouse Gas Bulletin

On 9 November 2015 the World Meteorological Organization (WMO) released its Greenhouse Gas Bulletin reporting on atmospheric concentrations of greenhouse gases (GHG) in the atmosphere.

Radiative forcing – the warming effect on climate – because of long-lived GHG such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) from industrial, agricultural and domestic activities, increased by 36% between 1990 and 2014, WMO said.

Atmospheric concentrations of CO_2 – the most important long-lived GHG – reached 397.7 parts per million (ppm) in 2014. In the Northern hemisphere CO_2 concentrations crossed the symbolically significant 400 ppm level in 2014 spring, when CO_2 is most abundant. In spring 2015, the global average concentration of CO_2 crossed the 400 ppm barrier.

The WMO GHG bulletin is at www.wmo.int/media/content/greenhouse-gas-concentrations-hit-yet-another-record.

GENERAL

Changes in AECC Staff

AECC's Technical Director John May retired at the end of 2015 after 12 years of tremendous contribution to AECC, including to the bimonthly AECC Newsletter.

On 1 October 2015 Dr Joachim Demuynck joined the AECC team as Scientific Officer. Joachim will support and extend AECC's capabilities beyond John May's retirement.

NOx Accreditation Initiative

On 30 November 2015 Emissions Analytics, a UK company specialised in real-world, on-road vehicle emissions measurement, announced that it will launch a NOx accreditation initiative early 2016.

The scheme will measure the NOx performance of passenger cars in real-world driving conditions and, according to Emissions Analytics, "will help buyers clearly identify the cars emitting the lowest quantities of harmful pollutants, allow manufacturers to demonstrate their vehicles' clean credentials, and provide data to policymakers on progress in the drive to improve air quality."

The accreditation scheme is intended to complement the forthcoming Real-Driving Emissions (RDE) regulation for new vehicle certification.

The ratings will be published and publically available for all, including manufacturers, consumers, local and national governments, and fleet operators. The rating scheme will formally launch in early 2016, with the publication of the first test results, covering vehicles launched in the previous year.

ICCT Report on Future Vehicle Emissions Testing and Compliance

On 23 November 2015 the International Council on Clean Transportation (ICCT) published a report on the future of vehicle emissions testing and compliance.

This study compares the vehicle testing and compliance schemes in the EU and the US, and reveals that the fundamental difference between them is not so much the actual vehicle testing itself but the strong focus on independent conformity testing coupled with enforcement authority in the US. In the EU, by contrast, this element of independent re-testing is largely absent from the regulations, and the involved regulatory bodies are more restricted with respect to their enforcement authority.

The study also identifies measures that could be introduced in the EU to improve the current vehicle emissions testing and compliance scheme. Specific recommendations include:

- Introducing the World-wide Light-vehicle Test Procedure (WLTP) as well as regional specifications that go beyond the WLTP itself (such as an ambient test temperature of 14°C in the EU instead of the 23°C foreseen in the WLTP);

- Introducing a testing and target scheme regarding the efficiency of vehicle air conditioning systems;

- Strengthening the road load determination procedure by ensuring that measurement results become publicly accessible and by introducing independent conformity testing for road load coefficients;

- Establishing a European type-approval authority, acting as a neutral party between vehicle manufacturers and technical service companies and with the authority to demand the recall of a vehicle model or issue penalties if significant deviations were found as part of conformity testing, thereby ensuring a maximum level of independence and credibility;

- Introducing a real-world adjustment factor for vehicle fuel consumption and CO_2 emission figures;

- Putting a stronger focus on in-use conformity testing of series vehicles, complemented by on-road PEMS testing not only for air pollutant emissions but also for fuel consumption and CO_2;

- And further developing consumer websites, by providing an EU-wide platform for vehicle owners to report everyday experience regarding fuel consumption.

The ICCT report is at http://theicct.org/sites/default/files/publications/ICCT_future-vehicle-testing_20151123.pdf.

DUH Report on NOx Emissions of Euro 6 Diesel Renault Espace

On 24 November 2015 the Deutsche Umwelthilfe (DUH) published the results of NOx emissions investigations conducted at the Biel University in Switzerland on a Euro 6b 1.6l diesel Renault Espace fitted with a Lean NOx Trap (LNT).

Tests included cold- and hot-start NEDC cycles on a chassis dyno operated in either 2- or 4-wheel mode.

The Euro 6 NOx limit of 80 mg/km was achieved only on 2 tests, in cold-start condition after a preconditioning of three extra-urban parts (EUDC) of NEDC. When the tests were performed in warm conditions, NOx emissions reached between 1083 and 2061 mg/km, 13 to 25 times the Euro 6 limit.

Renault issued a press statement on the same day saying that Espace complies with applicable regulations, just as all Renault vehicles. The car manufacturer added that the test procedures used are not compliant with European regulations. The report shows variations in test findings which are not conclusive and require “additional measurements”, Renault added. Finally, Renault said it endeavours to fully understand the tests in detail especially in light of the findings published in August 2015 by the independent German institute ADAC which tested the Espace model and concluded that it complied with regulations.

This new report by DUH follows an earlier one on NOx emissions from the Euro 6 1.6l diesel Opel Zafira fitted with SCR (*see AECC Newsletter for September-October 2015*).

The test report is at www.duh.de/uploads/media/ENG-B434_unofficial_translation_Renault_Espace.pdf.

ICCT Pocketbook on European Vehicle Market Statistics

On 25 November 2015 the International Council on Clean Transportation (ICCT) published its 2015/16 edition of the pocketbook on European vehicle market statistics which offers an annual statistical portrait of passenger car and light-commercial vehicle fleets in Europe from 2001 and, beginning with the 2014 edition, of the heavy-duty fleet as well.

The emphasis is on vehicle technologies, fuel consumption, and emissions of greenhouse gases and other air pollutants.

New passenger car registrations in the EU increased slightly in 2014, to about 12.5 million; though they remain about 20% below pre-economic crisis level.

Overall, hybrid-electric vehicles were 1.4% of new car sales in 2014, but in some Member States their market share was significantly higher − 3.7% in the Netherlands, for example, and 2.3% in France. Plug-in hybrids and battery-electric vehicles accounted for 13.8% of all new car sales in Norway in 2014, and in the first quarter of 2015 their market share further increased to 22.9%.

In 2014, about 17% of all new car sales were Euro 6 vehicles, though the variation among manufacturers is wide: for some manufacturers as much as half of sales

are Euro 6-compliant vehicles, while others have as yet no significant Euro 6 fleet.

Diesel cars account for 53% of new car sales in the EU, but less than 1% of light-duty sales in the US. The SCR technology or a combination of SCR and LNT is applied in 67% of all Euro 6 equivalent diesel vehicles in the US, while manufacturers in the EU tend to use LNT technology.

The pocketbook refers to recent ICCT analysis of data for 32 Euro 6 diesel cars that showed that while all 32 vehicles passed the Euro 6 NOx limit in the current NEDC test procedure, only ten cars met the same limit when tested in the more realistic WLTC test procedure, with remarkable differences between vehicle manufacturers rather than aftertreatment technologies.

The ICCT pocketbook is at http://theicct.org/sites/default/files/publications/ICCT_EU-pocketbook_2015.pdf.

Automotive Sector Investors Group calls for tight Emissions Tests

On 6 November 2015 the Institutional Investors Group on Climate Change (IIGCC), a group of 118 investors with around €12 trillion of assets under management, sent an open letter to key EU policy makers calling for tighter emissions testing procedures.

IIGCC notes that "robust testing of vehicle emissions is critically important to ensure that car manufacturers are fulfilling legislative requirements and public health is protected; and that investors need to be reassured that testing is reliable so they are in a position to allocate capital to those entities that are best placed to deliver enduring value to shareholders."

In particular the group asks to go beyond the new WLTP test cycle and requires an on-road CO_2 emissions test procedure. They ask for the introduction of on-road pollutant emissions test as soon as possible with Conformity Factors "not overly generous". IIGCC also calls for either strengthened requirements for national type-approval authorities or an independent European type-approval authority.

Finally IIGCC urges European institutions to set 2025 CO_2 emissions standards at an ambitious level fully in line with the EU's 2030 and 2050 climate and energy objectives; at a level which will require a step-change in innovation across vehicle classes.

IIGCC concludes that "European competitiveness does not depend on how well cars perform in laboratory testing. European competitiveness depends on how well car manufacturers and their value chains prepare for more stringent future emissions standards applying on the road."

HEI Report on Lung Cancer Risk with old Diesel Exhaust Exposure

On 24 November 2015 the Health Effects Institute (HEI) published a report on "Diesel emissions and lung cancer: an evaluation of recent epidemiological evidence for quantitative risk assessment".

The HEI expert panel conducted an intensive review and analysis of two recent studies of mine and trucking industry workers exposed to exhaust from older diesel engines and concluded that the studies met high standards of scientific research and could be useful for estimating lung cancer risks due to exposures to older diesel engine exhaust. The panel noted, however, that efforts to apply these studies to estimate human risk at today's ambient levels will need to consider the study's limitations, and the much lower levels of particulate emissions from newer diesel technology engines.

The HEI report is at http://pubs.healtheffects.org/view.php?id=446.

Frost & Sullivan Study on Euro 7

On 30 October 2015 research and consulting organization Frost & Sullivan released a new study titled "Comparative Analysis of Automotive Original Equipment Manufacturers' Powertrain Strategies for Euro 7 Compliance".

The study analyses how European automotive OEMs are expected to comply with Euro 7 emissions standards. A technology roadmap provides insight about expected modifications of gasoline and diesel engines. According to the authors, Euro 7 will focus on Particle Number (PN) and On-Board Diagnostics (OBD).

The key findings of the study include:

- LNT, low-pressure EGR, and SCR penetration is expected to increase in diesel engines; VVT, VGT, and GDI to see increased penetration in gasoline engines.

- Euro 7 is, according to Frost & Sullivan, expected to be phased in around 2019 or 2020, with more stringent values for NOx, CO, and PN.

- For passenger vehicles, SCR, EGR, and LNT in different configurations are expected to be key aftertreatment options for Euro 6b compliance. More advanced DPF, GPF, and DOC are expected to be adopted by the introduction of Euro 7. The downsizing trend is expected to continue for 2016, with more engines adopting boosting technology to meet power requirements.

- For diesel engine technology, engine downsizing has been a popular trend among European OEMs, with several 2014 and 2015 engines reduced to less than 2.0 l. Moving forward, diesel engine downsizing is likely to slow – mainly in order to meet NOx limits – but a

marginal increase in the average diesel engine displacement is expected by 2020.

- Euro 7 test cycles will play an important role in tailpipe, low ambient temperature, and idling speed emissions; exhaust gas opacity; and the proper functioning and regeneration of aftertreatment systems. Among the areas of key interest for OEMs to meet norms are exhaust systems' evaporative emissions and crankcase emissions; OBD is also expected to be key in meeting Euro 7 targets.

The study can be purchased at www.frost.com/sublib/display-report.do?id=M9AD-01-00-00-00.

SwRI Consortium on Aftertreatment Technologies

On 16 December 2015 the Southwest Research Institute (SwRI) announced that its consortium on Advanced Combustion Catalyst and Aftertreatment Technologies (AC^2AT) will focus on four research projects in 2016.

In 2015, the first year of the 4-year consortium, progress was made in the understanding of the complex nature of emissions from today's high-performance, high-efficiency gasoline and diesel engines. Second-year goals include modelling emission control systems that use urea and Selective Catalytic Reduction (SCR) as well as characterizing the chemistry of emissions from advanced combustion systems. SwRI engineers will evaluate techniques for treating low-temperature exhaust gas emissions and model how ash emissions associated with oil ingestion affect aftertreatment components.

PSA and T&E to cooperate on Real-World Fuel Economy and Emissions

On 23 November 2015 PSA Peugeot Citroën and the Non-Governmental Organization Transport & Environment (T&E) announced that they have agreed to work together to measure and publicize real-world fuel economy figures as a first step by spring 2016, and pollutant levels including NOx as a second step with Euro 6 passenger vehicles by spring 2017.

The procedure will measure real-world fuel economy for each of PSA's main passenger vehicle models with tests on open public roads near Paris in real driving conditions, with segments to include urban, extra-urban and highway driving.

The procedure will be included in PSA's quality processes. The process, its correct execution and the tests results' measurement will be audited and validated by an internationally recognized independent third party. Discussions are underway with Bureau Veritas concerning the execution of this programme.

ICCT Report on EU Heavy-Duty Market and CO_2 Emissions

On 2 December 2015 the International Council on Clean Transportation (ICCT) published an overview of the heavy-duty vehicle market and CO_2 emissions in the EU.

According to ICCT, Heavy-Duty Vehicles (HDVs) represent only 4% of the on-road fleet in the EU but are responsible for 30% of on-road CO_2 emissions.

The report is meant to inform EU's current strategy for controlling CO_2 emissions from HDVs by presenting current data on freight movement and HDV sales and statistics in the EU.

The share of CO_2 emissions from HDVs is growing in the EU. The best available data show that real-world efficiency of HDVs has been relatively flat in the EU for more than a decade. However, introducing CO_2 standards could change that trajectory, as it is starting to do in the US market. Noting the many similarities between the EU and US HDV markets, it is likely that many technologies US manufacturers are starting to adopt such as improved aerodynamics for trailers, automatic tire inflation, and improved engine efficiency, could likewise be applied in the EU.

Next steps resulting from this work are to study, at a more detailed level, the baseline, CO_2 reduction potential and cost-effectiveness from available and emerging HDV efficiency technologies.

The ICCT report is at www.theicct.org/sites/default/files/publications/ICCT_EU-HDV_mkt-analysis_201512.pdf.

International Zero Emission Vehicles Alliance

On 3 December 2015 the International Council on Clean Transportation (ICCT) announced that thirteen North-American states and European governments have agreed to strive to make all new passenger vehicles in their jurisdictions Zero Emission Vehicles (ZEVs) by no later than 2050.

The governments, which are participants in the international ZEV Alliance, include Germany, the Netherlands, Norway and the UK in Europe; California, Connecticut, Maryland, Massachusetts, New York, Oregon, Rhode Island and Vermont in the US; and Québec in Canada. British-Columbia, Canada joined the international ZEV Alliance on 10 December 2015.

The International ZEV Alliance made this announcement during COP21 to highlight ZEVs as a key strategy to solving the climate crisis and to encourage further investments in ZEV technologies. ZEVs in use today include battery-electric, plug-in hybrid, and fuel cell vehicles. Members of the

International ZEV Alliance, which represent about half of the electric vehicles sales worldwide, are committed to accelerating the global transition to ZEVs.

BP Technology Outlook

On 2 November 2015 oil company BP released its Technology Outlook which predicts a secure and sustainable energy future through application of existing and new technologies.

BP finds that applying today's best technologies to discover oil and gas resources could significantly increase 'proved reserves' from 2.9 trillion barrels of oil equivalent to 4.8 trillion barrels – nearly double the 2.5 trillion barrels required to meet projected cumulative global demand through to 2050.

The publication suggests that liquid fuels will continue to dominate global transportation through to 2035 and beyond, largely due to their high energy density. The average fuel efficiency of new light-duty vehicles is expected to improve by 2-3% per year as a result of increased hybridization and improved powertrains, combined with advanced fuels and lubricants.

By 2050, electric vehicles could be approaching cost-parity with the internal combustion engine, due to advances in battery technology, while fuel cell vehicles could still have further to go.

The BP Technology Outlook is at www.bp.com/content/dam/bp/pdf/technology/bp-technology-outlook.pdf.

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FORTHCOMING CONFERENCES

Stickoxide: Ist der Diesel noch zu retten?

14 January 2016, Frankfurt, Germany

www.dechema.de/752_+Stickoxide+-p-20039140.html

The special colloquium will inform and educate about the current state of the NOx problem. Presentations will address the spatial and temporal distribution of NOx in Germany and Europe and the Euro standards, local NOx measurements, emission inventories and their deficits. Furthermore, motor sources of NOx, diesel engines emission control methods and remaining shortcomings will be discussed, as well as toxicological and epidemiological studies on health effects of NOx.

Ultra Low NOx Gas Turbine Combustion

18-22 January 2016, Leeds, UK

www.engineering.leeds.ac.uk/short-courses/power-process/ultra-low-NOx-gas-turbine-combustion/index.shtml

The course covers fundamentals of NOx formation; CO emissions, film cooling, flammability, flame propagation, weak extinction and flashback; premixed low NOx combustors and the importance of fuel/air mixing; and practical lean ultra-low NOx combustors.

Motorische Stickoxidbildung - Nachhaltige Mobilität in Städten und im Fernverkehr

27-28 January 2016, Heidelberg, Germany

www.hdt.de/nox

Topics of the conference include Euro 6 requirements, NOx emissions development, diesel emissions, gasoline vs. diesel engines, Real-Driving emissions (RDE) measurement, municipalities and associations viewpoint, and exhaust aftertreatment potentials.

9th International Exhaust Gas and Particulate Emissions Forum

23-24 February 2016, Ludwigsburg, Germany

www.forum-emissions.com/index.html?lang=en

The AVL Forum will focus on further development of spark-ignition and compression-ignition combustion processes including hybrid solutions and the use of conventional and alternative fuels. In all of this, capturing real-driving emissions is as important as quantifying lowest emissions during steady-state and transient operations via measuring techniques.

6th Integer Emissions Summit & ARLA 32 Forum Brazil 2016

1-2 March 2016, São Paulo, Brazil

www.integer-research.com/conferences/ies-brazil-2016

The conference will provide an in-depth insight into the latest research, developments, technologies and opinions on all aspects of Diesel emissions reduction in Brazil.

AVL Workshop Real Driving Emissions

15 March 2016, Pfungstadt, Germany

Info will be at www.avl-fahrzeugmesstechnik.de

1st Integer Emissions Summit & AdBlue® Forum Asia Pacific 2016

6-7 April 2016, Seoul, South Korea

www.integer-research.com/conferences/ies-apac-2016

Discussion will cover what challenges lie ahead for the heavy-duty commercial vehicle manufacturers in Asia Pacific who have achieved almost near-zero emissions targets, what key issues are affecting AdBlue® business in Asia Pacific, how Asia Pacific will continue to lead the marine emissions control technology market, what the future of off-highway emissions regulations is and how it will impact the Asia Pacific industry, and how emissions control regulations and technology innovations will shape the on- and non-road industries.

31st BAUMA 2016

11-17 April 2016, Munich, Germany

www.bauma.de

31st edition of the world's leading trade fair for construction machinery, building material machines, mining machines, construction vehicles and construction equipment.

SAE 2016 World Congress & Exhibition

12-14 April 2016, Detroit, Michigan, USA

www.sae.org/congress

6th European Transport Research Conference – Moving Forward: Innovative Solutions for Tomorrow's Mobility

18-21 April 2016, Warsaw, Poland

www.traconference.eu

The conference topics address the main challenges in transport and mobility of people and goods with respect to energy, environment, safety and security as well as socio-economic issues.

7th AVL Large Engines TechDays

19-20 April 2016, Graz, Austria

www.avl.com/large-engines-techdays

Forum for information, exchange and discussion for the large engine industry community, representing manufacturers, suppliers and users.

37th International Vienna Motor Symposium

28-29 April 2016, Vienna, Austria

www.xn--vk-eka.at/index_en.htm

The conference will discuss latest results in worldwide engine and powertrain development, fuel cell, hydrogen and infrastructure, fuels and components, drivetrain electrification, connectivity, autonomous driving, hybrid technology, Real Driving Emissions (RDE), CO_2 reduction, and exhaust emissions control.

9th Integer Emissions Summit & AdBlue® Forum China 2016

10-12 May 2016, Shanghai, China

www.integer-research.com/conferences/ies-china-2016/

The conference will address Asia's unique emissions control challenges and examine cost-effective, regulation compliant emissions reduction strategies.

5th International Exhaust Emissions Symposium

19-20 May 2016, Bielsko-Biała, Poland

www.bosmal.com.pl/News/7/167/5th+Emissions+Symposium.html

Main topics of the symposium include emissions legislation - for all automotive sectors, fuel economy, new methods of PM testing, compounds which are potential candidates for emissions regulation, emissions test equipment (including PEMS), emissions reduction technology, aftertreatment system and catalyst technologies for the various automotive sectors, emissions simulation, powertrain development and electrification, IC engine test method development, vehicular fuel development, alternative fuels, fuel additives and fuel blends, gaseous fuels: CNG & LPG, engine oil development, commercial vehicles, heavy-duty and off-road engines and vehicles, and synergies and shared challenges/solutions for the automotive sectors.

21st International Transport and Air Pollution (TAP) Conference

24-26 May 2016, Lyon, France

http://tap2016.sciencesconf.org

The aim of TAP 2016 will be "Towards energy transition and cleaner transport" and their implication to air quality, with an emphasis on the exhaust and non-exhaust emissions from transport modes, emission control and technologies, transport, energy consumption and greenhouse gas emissions, urban and suburban air quality, and transport policies and mobility challenges towards cleaner cities. Modes addressed include road, rail, air, waterborne, and cross-modality.

SIA Powertrain: The clean compression ignition engine of the future

1-2 June 2016, Rouen, France

www.sia.fr/evenements/12-sia-powertrain-rouen-2016

The topics to be addressed include new Diesel engines for passenger cars, commercial vehicles, heavy-duty trucks, off-road, industrial applications, and range extenders; downsizing, fuel injection technology, combustion processes, turbocharging, air & EGR management systems and exhaust aftertreatment; electrification and hybridization; innovative concepts for emissions and CO_2 reduction; engine, vehicle tests & calibration techniques; new fuels and lubricants; future emission regulations; environment and air quality; eco-mobility; and worldwide market evolution.

Diesel Particulates and NOx Emissions - UK

6-10 June 2016, Leeds, UK

www.engineering.leeds.ac.uk/short-courses/automotive/diesel-particulates-NOx-emissions-UK/index.shtml

The course consists of lectures on engine design for low emissions, on the influence of fuel and additive composition on emissions, and on the influence of lubricating oil on emissions. A range of presentations is also 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.

6th Freiburg Workshop "Air Pollution and models"

7-8 June 2016, Freiburg, Germany

www.ivu-umwelt.de

28th International AVL Conference "Engine & Environment"

9-10 June 2016, Graz, Austria

www.avl.com/engine-environment-2016

The topic of the conference is "Powertrains for the Chinese market: a challenge for the global automotive industry".

20th ETH Conference on Combustion Generated nanoparticles

13-16 June 2016, Zurich, Switzerland

http://nanoparticles.ch

The conference serves as an interdisciplinary platform for expert discussions on all aspects of nanoparticles, freshly emitted from various sources, aged in ambient air, technical mitigation aspects, impact of particles on health, environment and climate and particle legislation.

Diesel Powertrains 3.0

14-15 June 2016, Leipzig, Germany

www.fev.com/fev-conferences/fev-conference-on-diesel-powertrains-30.html

The international conference will highlight current developments in the Light-Duty Diesel Powertrain segment with a widespread list of topics, offering multiple interesting paths for best compliance with upcoming demands.

FAD Real Driving Emissions Workshop

16-17 June 2016, Dresden, Germany

Info will be at www.fad-diesel.de

Engine Emissions Measurement

20-24 June 2016, Leeds, UK

www.engineering.leeds.ac.uk/short-courses/automotive/engine-emissions-measurement/index.shtml

The course is directed at both emissions legislation compliance and at engine and catalyst development for low emissions. The course also covers the fast growing area of in-vehicle emissions measurement for real world driving emissions measurement. Several areas are covered that are currently not regulated in Europe but are in the USA and may be regulated in future in Europe. This includes VOC speciation for ozone forming potential evaluation as well as air toxics and PAH speciation of diesel articulates for carcinogenic toxic emissions evaluations.

12th Integer Emissions Summit & AdBlue® Forum Europe 2016

21-23 June 2016, Brussels, Belgium

www.integer-research.com/conferences/ies-europe-2016

The conference will address emissions control strategy and technology for the on-road, non-road and marine sectors.

6th International Conference on MinNOx

22-23 June 2016, Berlin, Germany

www.iav.com/MinNOx

MinNOx has become an internationally established conference, focusing on minimizing nitrogen oxide emissions from combustion engines using exhaust gas aftertreatment.

3rd International Specialist Conference: Sensors for Exhaust Gas Cleaning and CO_2 Reduction

28-30 June 2016, Leipzig, Germany

www.sv-veranstaltungen.de/site/fachbereiche/2nd-international-specialist-conference-sensors-for-exhaust-gas-cleaning-and-co2-reduction/?lang=en

Top issues include opportunities and risks of the modification of exhaust gas systems with delete kits, capacitive soot sensors: particle filter OBD monitoring, new ePM sensor for the recognition of particle emissions, new NOx sensor design for OEM applications, and sensor technology in exhaust gas cleaning of medium-speed large motors.

FISITA 2016 World Automotive Congress

26-30 September 2016, Busan, South Korea

www.fisita2016.com

FISITA 2016 will focus on energy-efficiency, safety, eco-friendly technology, and connectivity.

25th Aachen Colloquium

10-12 October 2016, Aachen, Germany

www.aachener-kolloquium.de

9th Integer Emissions Summit & DEF Forum USA 2016

25-27 October 2016, Chicago, USA

www.integer-research.com/conferences/ies-usa-2016

The conference will host dedicated streams examining the regulatory and emissions reduction challenges for heavy-duty commercial vehicles, off-highway vehicles, light-duty vehicles and passenger cars, marine vessels, and DEF Forum.