



# Newsletter

September - October 2014

## INTERNATIONAL REGULATORY DEVELOPMENTS

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## EUROPE

### Euro 6 starts for New Homologations

On 1 September 2014 the Euro 6 standard entered force for new Type-Approvals of M1, M2, and N1 Class I vehicles. The Euro 6 requirements for N1 Class II and III and N2 vehicles will follow in one year.

The new “Euro 6b” standard includes Euro 6 emission limits and flex-fuel vehicle low temperature emission testing with biofuel. Key changes include further reduction in the NOx standard for Diesel cars, lowered from the Euro 5 limit of 180 mg/km to 80 mg/km, and the introduction of a particle number standard for gasoline direct injection vehicles.

Euro 6 Emission Limits																
Category	Class	Reference mass (RM) (kg)	Limit values													
			Mass of carbon monoxide (CO)		Mass of total hydrocarbons (THC)		Mass of non-methane hydrocarbons (NMHC)		Mass of oxides of nitrogen (NO <sub>x</sub> )		Combined mass of hydrocarbons and oxides of nitrogen (THC + NO <sub>x</sub> )		Mass of particulate matter (PM) (1)		Number of particles (PN)	
			L <sub>1</sub> (mg/km)	C <sub>1</sub> (mg/km)	L <sub>2</sub> (mg/km)	C <sub>2</sub> (mg/km)	L <sub>3</sub> (mg/km)	C <sub>3</sub> (mg/km)	L <sub>4</sub> (mg/km)	C <sub>4</sub> (mg/km)	L <sub>2</sub> + L <sub>4</sub> (mg/km)	C <sub>2</sub> + C <sub>4</sub> (mg/km)	L <sub>5</sub> (mg/km)	C <sub>5</sub> (mg/km)	L <sub>6</sub> (#/km)	C <sub>6</sub> (#/km)
M	—	All	1 000	500	100	—	68	—	60	80	—	170	4,5	4,5	6,0 × 10 <sup>11</sup>	6,0 × 10 <sup>11</sup>
N <sub>1</sub>	I	RM ≤ 1 305	1 000	500	100	—	68	—	60	80	—	170	4,5	4,5	6,0 × 10 <sup>11</sup>	6,0 × 10 <sup>11</sup>
	II	1 305 < RM ≤ 1 760	1 810	630	130	—	90	—	75	105	—	195	4,5	4,5	6,0 × 10 <sup>11</sup>	6,0 × 10 <sup>11</sup>
	III	1 760 < RM	2 270	740	160	—	108	—	82	125	—	215	4,5	4,5	6,0 × 10 <sup>11</sup>	6,0 × 10 <sup>11</sup>
N <sub>2</sub>	—	All	2 270	740	160	—	108	—	82	125	—	215	4,5	4,5	6,0 × 10 <sup>11</sup>	6,0 × 10 <sup>11</sup>

Key: PI = Positive Ignition, CI = Compression Ignition  
 (1) A limit of 5,0 mg/km for the mass of particulate emissions applies to vehicles type approved to the emission limits of this table with the previous particulate mass measurement protocol, before 1.9.2011.  
 (2) Positive ignition particulate mass and number limits shall apply only to vehicles with direct injection engines.  
 (3) Until three years after the dates specified in Article 10(4) and (5) for new type approvals and new vehicles respectively, a particle number emission limit of 6,0 × 10<sup>12</sup> #/km shall apply to Euro 6 PI direct injection vehicles upon the choice of the manufacturer. Until those dates at the latest a type approval test method ensuring the effective limitation of the number of particles emitted by vehicles under real driving conditions shall be implemented.

The Euro 6b standard does not include Real-Driving Emissions requirements which are expected to come into force on 1 September 2017. At that date, the particle number standard for gasoline direct injection vehicles will also be tightened to the same level as that for Diesel cars.

Tightened OBD requirements are also introduced in two stages, from the same dates.

### European Commission proposes Stage V Standard for Non-Road Mobile Machinery

On 25 September 2014 the European Commission adopted a proposal to further tighten exhaust emissions requirements from Non-Road Mobile Machinery (NRMM).

NRMM covers a very wide variety of machinery typically used off the road in many diverse applications. It comprises, for example, small gardening and handheld equipment (lawn mowers, chain saws), construction machinery (excavators, loaders, bulldozers) and agricultural and farming machinery (harvesters, cultivators); even railcars, locomotives and inland waterway vessels fall under the scope of NRMM.

Engines covered by this Regulation are split into various categories. ‘NRE’ is the main land-based category; ‘NRG’ are genset engines >560 kW; ‘IWP’ and ‘IWA’ are Inland Waterway engines for propulsion and auxiliary applications respectively; ‘RLL’ and ‘RLR’ are rail engines for locomotives and railcars respectively; ‘SMB’ are snowmobile engines; ‘ATS’ comprise engines for All-Terrain and Side-by-Side Vehicles; ‘NRSh’ are spark ignition engines <19 kW for hand-held equipment while ‘NRS’ are other SI engines

up to 56 kW. Constant speed engines are not differentiated from variable speed engines anymore.

The proposed Stage V Regulation introduces a limit on the number of particles (PN) of 1x10<sup>12</sup>/kWh complementing a particulate mass limit of 15 mg/kWh for land-based engines between 19 and 560 kW. This aligns with the Swiss standard which was the first one ever to introduce a PN limit in the NRMM sector. There is however no PN limit for engines >560 kW in the main category but a PN standard applies to all Inland Waterway engines above 300 kW.

The NOx limit for the main engine category remains unchanged compared with Stage IV at 400 mg/kWh but engines >560 kW have now to meet 3.5 g/kWh.

Gas-fuelled engines benefit from a relaxed HC limit to accommodate methane emissions, with a high methane allowance for engines >560 kW in the main category and for all inland waterway engines.

Emissions durability periods vary by engine category. In the land-based engine category, the durability requirement is 8000 hours for engines >37 kW.

CO<sub>2</sub> emissions measured during the engine type-approval test will have to be reported to the end-user of the machinery but there is no CO<sub>2</sub> cap proposed.

In the main category, Stage V requirements will enter force on 1 January 2018 for Type-Approval (TA) of engines (1 January 2019 for placing on the market of engines) for all engines except those in the power band 56-130 kW which benefit from a 1-year delay. Stage V for genset, inland waterway <300 kW, snowmobiles, all-terrain vehicles and small SI engines also enters force on 1/1/2018 (TA of engines) – 1/1/19 (placing on the market of engines). Inland waterway engines between 300 and 1000 kW benefit from a one-year delay while those >1000 kW and railway engines have a 2-year delay (i.e. 1/1/2020 for TA of engines – 1/1/2021 for placing on the market of engines).

Transitional provisions are included in the Regulation, allowing engines of a previous emissions stage to be placed on the market during 18 months after Stage V entered force if the machine was produced during the first year when Stage V entered force.

Armed forces machinery, field testing of prototypes, and machinery used in explosive atmospheres are exempt from the proposed Stage V standards.

The Commission will have to report by the end of 2020 on the assessment of further pollutant emissions reduction potential, on the basis of available technologies and cost/benefit analysis, and on the identification of potentially relevant pollutant types, currently unregulated. It will also have to report by the end of 2025 on the monitoring of in-service conformity testing results, and on the use of exemption clauses.

Delegated acts will be adopted by end 2016 to further define engine families, anti-tampering provisions, monitoring of in-service emission performance, technical tests and measurement procedures, conformity of production, separate delivery of an engine's exhaust aftertreatment system, engines for field-testing, engines for use in hazardous atmospheres, equivalence of engine type-approvals, a Union central administrative platform and database, self-testing, standards and assessment of technical services, fully and partially gaseous fuelled engines, measurement of PN and test cycles. Implementing acts will also be adopted by the end of 2016 to establish TA administrative requirements.

Once adopted, the new Regulation will replace 28 national laws that transposed Directive 97/68/EC, a complex legislation comprising 15 Annexes and amended 8 times since it was published in 1997. The Commission is proposing a Regulation that will not require transposition into national legislations like a Directive does; it will be directly applicable in all EU Member States.

The proposal will now be discussed in the European Parliament and the Council, following the co-decision legislative process.

Commission proposal COM(2014) 581 final and the related impact assessment are available from [http://ec.europa.eu/enterprise/sectors/automotive/environment/non-road-mobile-machinery/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/automotive/environment/non-road-mobile-machinery/index_en.htm).

## **New European Commission**

The new European Commission's President Jean-Claude Juncker announced on 10 September 2014 the allocation of responsibilities in his team once it takes office on 1 November 2014.

The final list of Commissioners was adopted in agreement with the Council and the European Parliament gave its consent on 22 October 2014, with two changes following hearings of the Commissioners-designate in parliamentary committees held between 29 September and 3 October 2014. The decision passed in the Parliament by 423 votes in favour, 209 against and 67 abstentions. The majority was composed of the EPP, S&D (with the Spanish delegation abstaining) and ALDE groups. GUE/NGL, Greens/EFA and EFDD groups voted against, while the ECR group was split.

In the Juncker Commission, there are six Vice-Presidents in addition to the High Representative of the Union for Foreign Affairs and Security Policy who is at the same time a Vice-President of the Commission. There is a First Vice-President, Dutch Frans Timmermans, who will be in charge of Better Regulation, Inter-Institutional Relations, the Rule of Law and the Charter of Fundamental Rights.

The new Internal Market, Industry, Entrepreneurship and SME portfolio is attributed to Polish Elżbieta Bieńkowska.

The Environment and Maritime Affairs and Fisheries portfolios have been combined and attributed to Maltese Karmenu Vella. The Commission indicated that it "will reflect the twin logic of 'blue' and 'green' growth – environment and maritime conservation policies can and should play a key role in creating jobs, preserving resources, stimulating growth and encouraging investment." In his 'mission letters' to the new Commissioners, Mr Juncker asked Mr Vella in particular to assess whether the Commission's air quality strategy "addresses the right sources of air pollution with the right instruments".

Also a single Commissioner will be in charge of both Climate Action and Energy policy, Spanish Miguel Arias Cañete.

The new Commission includes four former Prime Ministers, seven returning Commissioners and five MEPs elected in May 2014.

The new Commission is at [http://ec.europa.eu/commission/2014-2019\\_en](http://ec.europa.eu/commission/2014-2019_en).

## **CARS 2020 Final Report**

On 8 October 2014 the European Commission released the final CARS 2020 report.

The report has been built upon the outcomes of the work of the CARS 2020 High Level Group and outlines not only the achievements but also indicates the direction for future short- and medium-term actions, which need to be taken in order to maintain and further strengthen the competitiveness of the European automotive sector.

Regarding CO<sub>2</sub> and pollutant emissions from cars and vans, the CARS 2020 report states that the new test cycle and procedure that are more representative for real life driving (WLTP) are proposed by the Commission to be applicable in Europe as from 2017. It also states that the Commission is concluding the development of a complementary testing procedure based on the use of Portable Emissions Measurement Systems (PEMS) which will assess more accurately the emissions of selected regulated pollutants in real life driving conditions. As indicated in the CARS 2020 Action plan, the Real-Driving Emissions (RDE) procedure is planned to be implemented in the EU type-approval framework as from 2014, starting with a monitoring phase and the application of not-to-exceed emissions limits as from 2017.

The Commission is also considering re-launching the CARS 2020 process. Main topics, in addition to the ones already discussed by the working groups, are the implementation and promotion of intelligent transport systems (ITS) comprising, among others, autonomous vehicles, vehicle-to-x communication, as well as smart mobility.

The CARS 2020 report is at [http://ec.europa.eu/enterprise/sectors/automotive/cars-2020/index\\_en.htm#h2-1](http://ec.europa.eu/enterprise/sectors/automotive/cars-2020/index_en.htm#h2-1).

## **New Directive on Alternative Fuels Infrastructure**

A new Directive promoting the development of infrastructures for alternative fuels was published in the Official Journal of the EU on 28 October 2014 as Directive 2014/94/EU.

The Directive requires Member States to set 2020 targets for electric vehicles recharging points accessible to the public. It also mandates a common plug all across the EU. For the development of Liquefied Natural Gas (LNG) for road transport, Member States have to ensure a sufficient number of publicly accessible refuelling points, with common standards, ideally every 400 km, to be built by the end of 2025. The Directive also requires a minimum coverage to ensure accessibility of LNG in main maritime and inland ports. It requires Member States to

ensure a sufficient number of publicly accessible Compressed Natural Gas (CNG) refuelling points both in urban and sub-urban areas, ideally every 150 km, to be built by the end of 2025. It also aims at ensuring a sufficient number of publicly accessible hydrogen refuelling points in the Member States who opt for hydrogen infrastructure, to be built by the end of 2025.

In addition, the Directive requires that clear information is given to consumers about the fuels that can be used by a vehicle, using standardised labelling in vehicle manuals, at dealerships and on the recharging and refuelling points. It also aims at providing clear information to users to compare prices of alternative fuels with those of conventional fuels.

Directive 2014/94/EU is at [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL\\_2014\\_307\\_R\\_0001&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2014_307_R_0001&from=EN).

## **European Parliament Study on EU Air Quality Policy and WHO Guidelines**

On 9 October 2014 the European Parliament's Environment Committee (ENVI) published a study prepared by its Policy Department that analyses the various emissions reduction scenarios considered by the European Commission for the revision of the National Emission Ceilings (NEC) Directive.

The objective of the NEC Directive revision proposal, currently being discussed in Parliament and Council under the co-decision procedure, came as part of the "Clean Air Programme for Europe" package. It aims at further reducing the health impact of air pollution, taking into account the latest advice from the World Health Organization (WHO). Since even full compliance with the existing NEC Directive would not lead to compliance with existing air quality limit and target values, let alone the more stringent WHO guidelines, one of the main objectives of the Commission's proposal is to narrow the gap between current air pollution and WHO guideline levels by reducing PM<sub>2.5</sub> and its precursors (NH<sub>3</sub>, NO<sub>x</sub>, SO<sub>2</sub>) as well as precursors of ozone (NMVOC, NO<sub>x</sub>, CH<sub>4</sub>) and NO<sub>2</sub>.

The report notes that amongst EU Member States, the largest absolute discrepancy between the national NO<sub>x</sub> ceilings and actual emissions has been found in Germany. The main reasons are said to be the differences between Type-Approval and real-world NO<sub>x</sub> emissions from diesel vehicles, the fuel consumption by heavy-duty vehicles which has been higher than projected, the inclusion of previously not estimated emissions in agriculture, and an increase in the use of biomass combustion.

The report concludes that the Maximum Technically Feasible Reduction scenario's pollution control costs of €3.3 billion per year in 2030 are over-compensated by the health benefits, which are estimated at €40 billion per year and provide a strong argument for the

proposed additional efforts to reduce air pollution. However, it also notes that full implementation of the new NEC Directive proposal in 2030 would still leave significant parts of Europe in non-compliance with WHO guideline values.

The study is at

[www.europarl.europa.eu/RegData/etudes/STUD/2014/536285/IPOL\\_STU\(2014\)536285\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2014/536285/IPOL_STU(2014)536285_EN.pdf).

## **Commission Study on Possible National Emission Ceilings Directive Flexibilities**

The European Commission released on 1 October 2014 a study prepared by the International Institute for Applied Systems Analysis (IIASA) on “a flexibility mechanism for complying with National Emission Ceilings (NEC) for air pollutants”.

In the context of co-decision negotiations on the revision of the NEC Directive, IIASA developed a “pragmatic pollution compensation scheme” that would allow Member States to exceed the proposed emissions limit for one pollutant, by offsetting this against reduced emissions of another pollutant. This would be done based on a system of weightings of PM, NO<sub>x</sub>, SO<sub>2</sub>, ammonia and volatile organic compounds (VOC). For instance, excess of the emission ceiling of primary PM<sub>2.5</sub> by one ton could be compensated by additional emissions reductions of SO<sub>2</sub> by 3.36 tons, or of NO<sub>x</sub> by 14.9 tons, or of NH<sub>3</sub> by 5.15 tons, or of VOC by 111 tons.

The study is a “purely technical examination of how an additional flexibility mechanism might operate in practice”, the Commission’s DG Environment said. “A number of further issues would need to be addressed if the idea were taken beyond the technical level, including the relation with the three existing flexibility mechanisms in the NEC Directive,” it added. The Commission has actually proposed allowing Member States to offset PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> emissions reductions in the shipping sector against emissions from other sources in the same year. Member States will also be allowed to jointly meet their methane reduction targets and to adjust their national emission inventories to improve accuracy.

The IIASA study is available at

[www.iiasa.ac.at/web/home/research/researchPrograms/MitigationofAirPollutionandGreenhousegases/TSAP\\_15-v1.pdf](http://www.iiasa.ac.at/web/home/research/researchPrograms/MitigationofAirPollutionandGreenhousegases/TSAP_15-v1.pdf).

## **Report on Synergies between EU Air Quality, Climate and Energy Policies**

On 30 October 2014 a study prepared by the International Institute for Applied Systems Analysis (IIASA) for the European Parliament’s Committee on Environment was released in the context of a revision of the National Emission Ceilings (NEC) Directive.

This report provides a complementary impact assessment, exploring the interactions between the European Union’s air quality policy and the proposed EU climate and energy policy. It shows that reduced consumption of polluting fuels resulting from the climate and energy targets that have been put forward by the European Commission in early 2014 (i.e., a 40% reduction in GHGs, a share of 27% renewables, and a 30% improvement of energy efficiency in 2030 compared to the 2007 baseline), would reduce premature mortality from fine particulates in the EU and make further air quality improvements less costly.

IIASA says that new air pollution limits for 2030 tabled by the Commission in the new NEC Directive proposal are likely to be achieved at a cost €5.5 billion cheaper per year than the Commission has predicted when the climate and energy package for 2030 is factored in. In fact, the climate and energy package means meeting the air pollution targets will be €2.2 billion cheaper than business as usual, whereas the Commission predicted it would be €3.3 billion more expensive, IIASA concludes.

The Environment Committee will consider the study at their meeting on 6 November 2014.

The study is at

[www.europarl.europa.eu/meetdocs/2014\\_2019/documents/envi/dv/ia-air\\_quality/ia-air\\_quality\\_en.pdf](http://www.europarl.europa.eu/meetdocs/2014_2019/documents/envi/dv/ia-air_quality/ia-air_quality_en.pdf).

## **CO<sub>2</sub> Emissions from Passenger Cars and Vans in 2013**

On 30 October 2014 the European Environment Agency (EEA) published the final report on CO<sub>2</sub> emissions from new passenger cars and vans registered in the EU in 2013. It updates and confirms preliminary data published in April 2014.

The average passenger car sold in 2013 emitted 126.7 grams of carbon dioxide per kilometre (g CO<sub>2</sub>/km), already below the legal threshold of 130 g CO<sub>2</sub>/km to be fully reached by 2015. Similarly, the average van sold must have emissions below 175 g CO<sub>2</sub>/km by 2017, but levels were already at 173.3 g CO<sub>2</sub>/km last year.

Each manufacturer has an individual emissions target, based on the average mass of the vehicles they sell. There were 11.8 million new cars and 1.2 million new vans registered in the EU in 2013. While both fleets overall are making progress in reducing emissions levels, the picture is more mixed when manufacturers are considered individually, EEA said.

The EEA report includes a comparison of the reported test cycle CO<sub>2</sub> emissions with estimated real-world emissions. The assessment shows that modelled real-world CO<sub>2</sub> emissions are around 20% higher on average than the reported ones. The difference may be

up to a third higher for larger cars, the report shows. The new Worldwide harmonized Light vehicles Test Procedure (WLTP) is expected to be introduced in the future so that laboratory results will better represent actual vehicle performance on the road.

EEA Technical Report No 19/2014 is at [www.eea.europa.eu/publications/monitoring-co2-emissions-from-passenger](http://www.eea.europa.eu/publications/monitoring-co2-emissions-from-passenger).

## EEA Report on EU Greenhouse Gas Emissions and Energy Trends

On 28 October 2014 the European Environment Agency (EEA) released the 2014 report on trends and projections in Europe, tracking progress towards Europe's climate and energy targets for 2020.

According to EEA, the EU is likely to cut Greenhouse Gas (GHG) emissions by at least 21% of 1990 levels by 2020, surpassing its 20 % target. With 14 % of final energy consumption generated by renewable sources in 2012, the EU is also ahead of the planned trajectory to hit 20 % renewable energy by 2020. Likewise, the EU's energy consumption is also falling faster than necessary to meet the 2020 energy efficiency target.

Nevertheless the picture at Member State level is more mixed than at EU level, EEA said. Nine countries were making good progress in pursuing the three linked policy objectives – GHG emissions reduction, renewable energy and energy efficiency – while no Member State was underperforming in all areas.

EEA report No 6/2014 is at [www.eea.europa.eu/publications/trends-and-projections-in-europe-2014](http://www.eea.europa.eu/publications/trends-and-projections-in-europe-2014).

## EU Climate and Energy Saving Targets

On 23 October 2014 EU Heads of State and Government agreed on an EU-level binding renewable energy target and an indicative EU energy saving target for 2030, each of 27%.

The energy saving goal, which is weaker than the European Commission's 30% proposal, will be reviewed by 2020 "having in mind an EU level of 30%".

EU leaders also agreed to review the 40% Greenhouse Gas (GHG) reduction target for 2030 after the Paris climate summit in 2015. The EU's existing 20% CO<sub>2</sub> reduction goal for 2020 would move to 30% if a global climate deal were agreed.

## Statistical Pocketbook on Transport

The European Commission's Directorate-General for Mobility and Transport (DG-MOVE) has published the 2014 edition of their Statistical Pocketbook on Transport – "EU Transport in Figures".

The publication consists of three parts: a general part with general economic and other relevant data, a transport part covering both passenger and freight

transport as well as other transport-related data, and, finally, an energy and environmental part with data on the impact which the transport sector has on the environment (covering CO<sub>2</sub> and GHG emissions rather than pollutants).

Most of the tables have data up to 2012; where available, more recent data have been provided.

The pocketbook and tables in Excel® format can be downloaded from [http://ec.europa.eu/transport/facts-fundings/statistics/pocketbook-2014\\_en.htm](http://ec.europa.eu/transport/facts-fundings/statistics/pocketbook-2014_en.htm).

## 2015 Standardisation Work Programme

The European Commission's work programme on priorities for standardisation for 2015 (COM (2014) 500 final) identifies bio-based products including biofuels as a key issue.

In addition, as a result of the recent revision of the Recreational Craft Directive, there may be specific standardisation requests or new mandates concerning test bed measurement of gaseous and particulate emissions from relevant internal combustion engines. The Commission also expects to issue mandates to standardisation organisations on measurement methods for industrial emissions of cadmium, nickel, mercury, PAHs, PCDD and PCDF as well as standards related to ecodesign criteria for space- and water-heaters. Finally, the European Innovation Partnership on raw materials will work on common standards for waste recycling and for data reporting on exploration, mineral production, trade, reserves and resources. The implementation of points under the Commission's 2014 work programme on clean vehicles and vessels may also be considered.

The Communication is at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2014:0500:FIN:EN:PDF>.

## Best Available Techniques Reference for Non-Ferrous Metals Industries

The Joint Research Centre (JRC) of the European Commission has published a Best Available Techniques (BAT) Reference Document, under the Industrial Emissions Directive, for the Non-Ferrous Metals Industries.

The original BAT Reference (BREF) document on Non-ferrous metals was adopted by the European Commission in 2001. The new document is the result of a review of that BREF which started in 2007.

Chapter 1 provides general information on the non-ferrous metals industries concerned. Chapter 2 provides information on the common industrial processes, abatement systems and general techniques that are used across the sector. Chapters 3 to 10 describe the applied processes, provide information on current emissions and consumption

levels, and describe techniques to consider in the determination of BAT and emerging techniques for the various metal groups. Amongst those, chapter 7 addresses Precious Metals, including Platinum Group Metals (PGM).

The BREF document is at

[http://eippcb.jrc.ec.europa.eu/reference/BREF/NFM\\_Final\\_Draft\\_10\\_2014.pdf](http://eippcb.jrc.ec.europa.eu/reference/BREF/NFM_Final_Draft_10_2014.pdf).

## **Machine and Vehicles Emissions Standards on German Construction Sites**

On 12 September 2014 the German Ministry for Economic Affairs and Energy notified the European Commission of its intention to add environmental protection requirements to the existing Tendering and Environment Administrative Regulation (VwVBU) that has been in place since 1 January 2013 and ensures environmentally friendly procurement with appropriate environmental criteria for products and services.

For construction works, it is envisaged to ban the use of diesel-powered equipment with an engine between 37 and 560 kW that meet emissions requirements below Stage IIIB. Equipment using a diesel engine between 19 and 37 kW will have to be certified at least to Stage IIIA. And on-road construction equipment will have to meet the Euro IV standard or higher. Any equipment or vehicles that are older will have to be retrofitted with a particle reduction system, as will construction equipment fitted with a constant speed engine of more than 18 kW.

Retrofit Diesel Particulate Filters (DPF) must be approved according to one of the following existing standards: Class PMK 2 or higher as defined in Annex XXVII to the Traffic Approval Regulation (StVZO), UN REC Directive Class 1 or 2, reduction class 01, quality mark of the FAD, quality seal of the VERT Association, or conformance to the Swiss regulation.

## **Investigations on DPF Tampering on German Taxis**

On 28 August 2014 the German Non-Governmental Organization Deutsche Umwelthilfe (DUH) released the initial outcome of their investigations on particle emissions from diesel taxis in operation.

After anonymous reports from the taxi industry over DPF-equipped vehicles being tampered, DUH investigated 728 diesel taxis in five German cities (Berlin, Hamburg, Cologne, Frankfurt and Munich) to check whether they were fitted with a DPF to control particulate emissions. DUH said 31 of them (almost 9%) of Euro 5 diesel taxis had high emissions.

DUH announced they will further investigate the issue in other cities with portable emissions measuring instruments.

## **DUH wins Legal Dispute on Clean Air in Reutlingen, Germany**

As a consequence of a legal action launched by the environmental and consumer protection association Deutsche Umwelthilfe (DUH) in January 2012, the Administrative Court of Sigmaringen, Germany decided on 24 October 2014 that the air quality plan for the city of Reutlingen has to be updated with measures to meet the NO<sub>2</sub> and PM<sub>10</sub> limit values as soon as possible.

In 2013 the annual mean for NO<sub>2</sub> measured at the monitoring station Lederstraße Ost was 72 µg/m<sup>3</sup>, clearly exceeding the limit value of 40 µg/m<sup>3</sup>. The daily limit value for PM<sub>10</sub> of 50 µg/m<sup>3</sup> was exceeded at this station on 79 days in 2013. That is more than a double of the allowed number of exceedance days.

The current third update of the air quality plan in Reutlingen comprises an expansion of the Low Emission Zone (LEZ) over the whole city including federal roads starting from 1 January 2015. However the prediction of the Regional Council shows, that compliance with limits for NO<sub>2</sub> and PM<sub>10</sub> will not be achieved, despite the enlarged LEZ.

DUH suggested the implementation of further measures such as the retrofitting of buses with NO<sub>2</sub>-reduction systems and particle filters, the obligatory use of construction machines and equipment with particle filters, the replacement of the taxi fleet with vehicles that correspond with the requirements of the ADAC Eco Label, the promotion of public transport and cycling and an effective transport management.

## **Air Quality in Ireland in 2013**

The Environmental Protection Agency (EPA) of Ireland has published a report on air quality in Ireland.

This report provides an overview of air quality in Ireland for 2013, based on data obtained from the 29 monitoring stations that form the National Ambient Air Quality Network, including data from a number of mobile air quality monitoring units. Overall, air quality in Ireland compares favourably with other EU Member States. Measured values of sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), Ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), heavy metals, benzene and polycyclic aromatic hydrocarbons (PAHs) were all below limit values.

However, when some of these parameters are compared to the tighter WHO air quality guideline values, it highlights some potential issues. Ireland is above these guideline values with respect to PM<sub>10</sub>, PM<sub>2.5</sub>, ozone and PAHs.

The Irish EPA report is at

[www.epa.ie/pubs/reports/air/quality/Air%20Quality%20Report%202013.pdf](http://www.epa.ie/pubs/reports/air/quality/Air%20Quality%20Report%202013.pdf).

## 2013 UK Air Pollution Report

On 26 September 2014 the UK Department for Environment, Food & Rural Affairs (DEFRA) released the UK's air quality compliance report for 2013.

This report summarises the UK's 2013 submission on air quality to the EU Commission, presenting air quality modelling data and measurements from national air pollution monitoring networks.

In 2013, the UK met the limit value for hourly mean nitrogen dioxide (NO<sub>2</sub>) in 42 zones out of 43. 12 zones were compliant with the limit value for annual mean NO<sub>2</sub>. Of these 12 compliant zones, five were within the limit value, and a further seven were covered by a time extension and were within the limit value plus the applicable margin of tolerance. The remaining 31 zones exceeded the annual mean NO<sub>2</sub> limit value.

In the UK in 2013 all zones met the limit value for daily mean concentration of PM<sub>10</sub> after subtraction of the contribution from natural sources and all zones met the limit value for annual mean concentration of PM<sub>10</sub>.

Also all zones met the target value for annual mean concentration of PM<sub>2.5</sub> (Stage 1 limit which comes into force in 2015). After subtraction of the natural contribution, one zone did not meet the Stage 2 limit value which must be met by 2020.

In addition, 33 zones exceeded the ozone long-term objective set for protecting human health and 8 zones exceeded the ozone long-term objective set for the protection of vegetation.

Finally, in 2013, the UK met the EU limit values for sulfur dioxide.

The report "Air Pollution in the UK 2013" is at <http://uk-air.defra.gov.uk/library/annualreport/index>.

## London Mayor supports UK Diesel Scrappage Scheme

On 10 September 2014 the Mayor of London, Boris Johnson, renewed calls for a UK national diesel car scrappage scheme.

Talking to the Environmental Audit Committee, Mr Johnson supported proposals for the Government to help motorists by offering a grant of £1000 - 2000 (€1250 - 2500) per vehicle for diesel vehicles which are more than 12 months old. He called this "a brilliant opportunity to support the British car industry and promote the early uptake of ultra-low emission vehicles." Mr Johnson said the scheme would cost around £300 million (€375 million) in total implying that he plans to take between 150 000 and 300 000 cars off the road.

Charging diesel cars more is a key part of the Mayor's proposals for an Ultra Low Emission Zone, which will be introduced in central London from 2020 (subject to

consultation, see next story). Mr Johnson also welcomed a new study comparing air quality in 36 world and European cities based on pollutants like particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>) and nitrogen dioxide (NO<sub>2</sub>). The study undertaken by AMEC consultants for the Mayor, developed three indices which ranked cities based on citywide emissions, transport-focused emissions and using a special health-weighted index. London ranked 9<sup>th</sup> on the health impacts index, 15<sup>th</sup> on the citywide index and 17<sup>th</sup> on the traffic-focused index.

The AMEC study is at [www.london.gov.uk/sites/default/files/Comparison%20of%20Air%20Quality%20in%20World%20Cities%20Study%20FINAL.pdf](http://www.london.gov.uk/sites/default/files/Comparison%20of%20Air%20Quality%20in%20World%20Cities%20Study%20FINAL.pdf).

## Public Consultation on London's Ultra Low Emission Zone

Transport for London (TfL) launched on 27 October 2014 a public consultation on a proposal to develop the world's first 'Ultra Low Emission Zone' (ULEZ).

The idea was put forward by the city's Mayor to reduce air pollutants and CO<sub>2</sub> emissions in central London. The zone is planned to coincide with the existing congestion charge zone and would enter into effect from September 2020. The ULEZ aims to at least halve emissions of nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM<sub>10</sub>) from vehicle exhausts, according to the proposal. This means more than 80% of central London would meet the NO<sub>2</sub> legal limits in 2020.

All vehicles will be required to meet new exhaust emissions standards when entering the zone or pay a daily charge. The new standards will depend on the size of the vehicle and fuel used. Diesel cars and small vans, for example, will need to comply with Euro 6 standards. Therefore, four-year old (and older) Diesel cars and light-duty vans would only be able to enter the zone after paying a daily charge of £12.50 (€16).

Additional requirements are proposed for taxis and new private hire vehicles, which would need to be zero emission capable to obtain a licence from 2018. All double-decker buses operating in central London will need to be hybrid and single-decker buses zero emission by 2020.

The consultation is open until 9 January 2015 at <https://consultations.tfl.gov.uk/environment/ultra-low-emission-zone> and supplementary information is available at [https://consultations.tfl.gov.uk/environment/ultra-low-emission-zone/user\\_uploads/ulez-supplementary-information---final-261014.pdf](https://consultations.tfl.gov.uk/environment/ultra-low-emission-zone/user_uploads/ulez-supplementary-information---final-261014.pdf).

## UK Air Quality – NO<sub>x</sub> Mitigation Competition

On 22 October 2014 the UK Department for Transport (DfT) launched a competition seeking concepts to help mitigate NO<sub>x</sub> emissions from road traffic.

DfT is offering a total of about £300 000 (€380 000) to fully-fund projects designed to address air quality on the strategic road network.

The Air Quality – NO<sub>x</sub> mitigation competition focusses on improving air quality in localised areas, seeking solutions to mitigate NO<sub>x</sub> 'post tailpipe' in particular.

The competition is designed to provide 'proof of concept' for effectively mitigating NO<sub>x</sub>. DfT will fund four to six projects, budgeted at £25 000 - 50 000 each.

Projects should start by December 2014 and a final report is required to be delivered by May 2015. The deadline for application is 20 November 2014.

More details are available at

<https://connect.innovateuk.org/web/transportktn/article-view/-/blogs/department-for-transport-launches-300-000-air-quality-competition-seeking-new-concepts-to-mitigate-nox-post-tail-pipe->

## **Scottish Government to consider Low Emissions Strategy**

The Scottish Government is to host a series of public events to discuss a new Low Emissions Strategy later this year and is reported to be considering fines for motorists whose vehicles emit high levels of pollution.

Both Glasgow and Edinburgh are expected to miss EU air quality targets for NO<sub>2</sub>. Figures released by the UK's Department for Environment, Food and Rural Affairs (Defra) estimate Edinburgh is now due to meet the targets in 2020 - five years late. Glasgow is not expected to hit the 2020 target until 2025. Press reports say that Low Emission Zones (LEZ) would be considered for such areas.

Environmentalists at Friends of the Earth said "We support the call for Low Emission Zones to be rolled out across cities in Scotland. Any LEZs should apply to cars, vans and Heavy-Goods Vehicles as well, as it is not just buses which cause air pollution."

## **Madrid implements Traffic Restrictions to mitigate Air Pollution**

On 22 September 2014 the Madrid city council announced stringent vehicle access restrictions in the whole city centre from 2015 with the aim to mitigate air pollution and avoid EU fines for NO<sub>2</sub> limit breaches.

From 1 January 2015, access to 350 hectares of central Madrid will be closed to vehicle traffic except for residents and public transport. Motorbikes and delivery vehicles will be permitted access at certain times while other drivers will only be able to use specified main arteries and underground car-parks.

According to a spokeswoman for the city council, the restrictions will be extended later in 2015 to include northern neighbourhoods of central Madrid.

## **French Order on Retrofits amended**

An amendment to the French Order on retrofit devices for M and N category vehicles was published on 6 September 2014. It adds a limit on the acceptable NO<sub>2</sub> increase in the exhaust.

The original Order was published on 15 May 2013 (see *AECC Newsletter of May-June 2013*). With this amendment, the maximum increase in the share of NO<sub>2</sub> in NO<sub>x</sub> is 30 percentage points above the NO<sub>2</sub> share before retrofitting (e.g. if the original NO<sub>2</sub>/NO<sub>x</sub> ratio in the exhaust is 10%, it can be increased up to maximum 40% when the retrofit device is installed).

## **Environmental Public Perception in Paris**

On 30 October 2014 Airparif, the air quality monitoring body in Paris and the Ile-de-France region, published the results of a new poll on environmental concerns amongst the region inhabitants.

68% of people answered that air pollution is a key issue for them, while 54% cited climate change, and 49% food. 83% of respondents called air quality in the Paris region either "bad" or "very bad". This is an 18 percentage point increase compared to the previous poll in 2008.

The report (in French) is at

[www.airparif.asso.fr/\\_pdf/publications/sondage2014-ifop.pdf](http://www.airparif.asso.fr/_pdf/publications/sondage2014-ifop.pdf).

## **Low Emission Zone in Prague in 2016**

On 5 September 2014 the Czech government announced that it will implement a Low Emission Zone (LEZ) in Prague on 1 January 2016 to tackle air pollution from transport.

The Czech Republic will be the second Eastern Europe Member State to implement a LEZ, following the establishment of a scheme in Budapest, Hungary.

100 million Czech crowns (€3.6 million) have been earmarked by the government for tackling transport pollution in Czech municipalities. The funding will be used to develop parking areas and to support the creation of services including car sharing, an environment ministry spokeswoman said.

The Czech government has established rules allowing municipalities to implement LEZs but it will not require them to do so, instead allowing local administrations to set up the schemes if they consider them necessary.

A previous attempt to lay the legal framework for LEZs in the Czech Republic was vetoed in 2011 by then president Václav Klaus.

## **Italy requires Minimum Blend of Second Generation Biofuels**

On 14 October 2014 Italy issued a ministerial decree requiring to include in petrol and diesel fuels at least 0.6% of advanced biofuels from 2018 onwards.

Derived from substances such as algae, waste, or agricultural residues, second generation advanced biofuels are said to reduce the amount of land taken out of food production.

In 2013 a commercial scale advanced biofuels plant was opened in Crescentino near Turin, with the aim of producing 75 million litres of bioethanol every year from straw and arundo donax, an energy crop grown on marginal land. Italians recently announced plans to open three further plants in the south of the country.

The EU backed down from a planned mandatory advanced biofuels target of 2.5% by 2020, with Member States diluting the proposal to a non-binding goal of 0.5%. Italy's move marks a substantial step forward for the emerging industry.

The minimum blend requirement will rise to 0.8% in 2020 and to 1% in 2022 according to the Italian decree.

## **Italian Consumer Organisation sues OEMs over Misleading Fuel Economy**

On 23 September 2014 the European Consumer Organisation (BEUC) published on discrepancies between fuel consumption figures advertised by car manufacturers and customer experience.

BEUC said that the study conducted by their Italian member Altroconsumo shows fuel consumption information provided to customers is 'misleading, often grossly understating how much fuel a car consumes.' The laboratory tests were carried out on a Fiat Panda fitted with a 1.2 litre gasoline engine and a Volkswagen Golf 1.6 TDI and manufacturers claimed their cars were between 18% and 50% more efficient than measured in reality.

Altroconsumo alleges that the two brands have been using loopholes such as over-inflating tyres or reducing vehicle weight to give significantly better fuel efficiency than is achievable in real-life driving conditions. For the first time in the EU, Altroconsumo is calling on owners of Fiat and Volkswagen vehicles to undertake a class action lawsuit against the two automakers over their fuel efficiency claims. Altroconsumo will go ahead with the lawsuit no matter how many customers join, and they expect to file with an Italian court within weeks.

Fiat will be asked for a compensation of €247 to each owner of the Panda variant and VW €509 to owners of the Golf, based on the additional fuel costs over an average annual distance of 15 000 km.

## **NORTH AMERICA**

### **2013 Fuel Economy of Light-Duty Vehicles in the US**

On 8 October 2014 the US Environmental Protection Agency (EPA) released its annual report on fuel economy of new light-duty vehicles.

Model year 2013 vehicles achieved an average fuel economy of 24.1 miles per gallon (mpg). This represents a 0.5 mpg increase over 2012 and an increase of nearly 5 mpg since 2004, the EPA said. These figures correspond to an average fuel consumption of 11.7 l/100 km in 2013, with a reduction of 0.3 l/100 km over 2012 and of 3 l/100 km over the past nine years.

Mazda vehicles averaged the highest fuel economy, at 28.1 mpg, and lowest Greenhouse Gas (GHG) emissions from the 2013 car and light truck fleet. The biggest improvement in average fuel economy and GHG reductions was observed for Nissan, with a fleet-wide fuel economy of 26.2 mpg, 8.7% higher than in 2012. Sport Utility Vehicles (SUV) achieved the greatest improvement by class.

According to the EPA, recent improvements in part reflect automakers' rapid adoption of more efficient technologies such as gasoline direct injection engines, turbochargers and advanced transmissions.

### **US EPA Grants for Clean Diesel Projects in Polluted Ports**

On 22 September 2014 the US Environment Protection Agency (EPA) announced the availability of up to \$5 million (€4 million) in grant funding to establish clean diesel projects aimed at reducing emissions from marine and inland waterway ports located in areas of poor air quality.

This is the second grant competition to focus on reducing emissions at ports under the Diesel Emissions Reduction Act (DERA). Under this competition, EPA anticipates awarding between two and five assistance agreements. Applicants may request up to \$2 million in funding toward eligible projects. Port authorities, public agencies that operate ports, and state and local governments with jurisdiction over transportation or air quality are eligible to apply. Community groups, terminal operators, shipping carriers, and other related entities are encouraged to participate through partnerships with eligible applicants. Projects may include drayage trucks, marine engines, locomotives, and cargo handling equipment at marine or inland waterway ports.

The deadline for proposals is 11 December 2014. Details on the application requirements are at [www.epa.gov/air/grants/rfp-epa-oar-otaq-14-07.pdf](http://www.epa.gov/air/grants/rfp-epa-oar-otaq-14-07.pdf).

### **New Light-duty Vehicles' Emissions Requirements in Canada**

On 22 September 2014 Canadian Environment Minister Leona Aglukkaq announced three new regulatory initiatives to align Greenhouse Gas (GHG) and pollutant emissions requirements of light-duty vehicles with the USA.

The proposed amendments to strengthen the On-Road Vehicle and Engine Emission Regulations and the Sulfur in Gasoline Regulations were published in the Canada Gazette Part I on 27 September 2014. With these amendments, Canada is proposing to establish more stringent Tier 3 vehicle and fuel standards.

The standards would be introduced with the 2017 model year and increase in stringency until fully implemented in the 2025 model year. Once fully phased-in, the Tier 3 exhaust emission standards would be as much as 80% lower than current Tier 2 emission standards.

The average sulfur content of gasoline will be reduced from the current level of 30 parts per million (ppm) to 10 ppm beginning in 2017.

The Tier 3 and sulfur in gasoline proposals are at <http://canadagazette.gc.ca/rp-pr/p1/2014/2014-09-27/pdf/g1-14839.pdf> (p. 2455).

The final Regulations amending the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations for model year 2017 and beyond was published in the Canada Gazette Part II on 8 October 2014. These amendments represent further action to reduce GHG emissions while building on the existing Regulations for 2011-2016 model year vehicles.

The GHG emissions proposals are at <http://canadagazette.gc.ca/rp-pr/p2/2014/2014-10-08/pdf/g2-14821.pdf> (p. 2381).

In addition, the Government of Canada will start developing more stringent standards to further reduce GHG emissions and fuel consumption from post-2018 model year Heavy-duty vehicles.

## **Environmental Comparison of Diesel vs. Natural Gas for Shipping**

The US Maritime Administration (MARAD) has released a new study on “Natural Gas for Waterborne Freight Transport: A Life Cycle Emissions Assessment with Case Studies”.

The study quantifies emissions for various natural gas pathways as compared to conventional fuels. MARAD said when comparing emissions produced using natural gas or traditional diesel fuel, that it is important to take into account the total energy needed to make a trip, since more energy is needed in natural gas scenarios, meaning the amount of CH<sub>4</sub>, N<sub>2</sub>O and NO<sub>x</sub> produced is also higher, while in all-diesel scenarios, more CO<sub>2</sub>, PM<sub>10</sub> and SO<sub>x</sub> are produced.

The results of which fuel produced less emissions were mixed. According to the study, in coastal scenarios LNG fuel produces less overall GHG emissions than diesel fuel using either low-sulfur distillate or high-sulfur residual fuel. However, Diesel in inland river scenarios resulted in less overall GHG emissions.

While the analysis does not include an assessment of impacts resulting from each pollutant, MARAD highlighted the IMO’s work in deeming that NO<sub>x</sub> and SO<sub>x</sub> are both important enough pollutants to regulate.

Given the importance of upstream leakage and emissions, a future study could evaluate ways to reduce or control methane releases, the report says.

The MARAD study is available at [www.marad.dot.gov/documents/Total\\_Fuel\\_Cycle\\_Analysis\\_for\\_LNG.pdf](http://www.marad.dot.gov/documents/Total_Fuel_Cycle_Analysis_for_LNG.pdf).

## **CENTRAL & SOUTH AMERICA**

### **B7 Mandate takes Effect in Brazil**

On 1 November 2014 the amount of biodiesel that must be blended with conventional diesel in Brazil will rise from 6% to 7% according to a bill passed in May 2014.

The law also allows the volume of anhydrous ethanol mixed with gasoline to increase from 25% to 27.5%. That change will be implemented upon the completion of technical studies to assure automakers that the higher blend is safe for engines.

The higher proportions of biodiesel and ethanol in the fuel mix mean that state-controlled oil company Petrobras will have to import less fuel. Due to its large soybean industry, Brazil is the world’s second largest biodiesel producer behind the United States.

## **EURASIA**

### **Guidelines for Air Quality Governance in ENPI East Countries**

CENN, the Caucasus Environmental NGO Network, has developed a guideline document for developing air quality monitoring systems in line with the EU requirements in European Neighbourhood and Partnership Instrument (ENPI) East countries (i.e. Armenia, Azerbaijan, Belarus, Georgia, Moldova, Russia, and Ukraine).

Prepared with the support of the national and international experts, the guideline provides an overview of the current air quality monitoring and assessment systems in Europe. This includes policy, legislative, institutional, instrumental and current air quality operations.

The guidelines are available from <http://w3.cenn.org/wssl/uploads>.

### **Kazakhstan to produce Euro 5 Gasoline**

The head of West Kazakhstan region Nurlan Nogayev announced on 3 October 2014 that a new plant producing gasoline meeting the Euro 5 standard will be launched in the region in 2015.

The plant is being implemented by the company Kondensat. Another project to be launched in the

region in 2015 is an oil refinery with a capacity of 200 000 metric tons per year.

## ASIA PACIFIC

### Lower Sulfur Fuels available in Hangzhou, China

Sinopec, China's largest refiner, started supplying on 15 September 2014 gasoline and Diesel fuels that meet National Phase 5 and Phase 4 standards respectively, in Hangzhou, the capital of China's Zhejiang province.

The maximum sulfur content in gasoline and Diesel fuels are 50 and 10 parts per million (ppm) in the Chinese Phase 4 and 5 fuel standard respectively.

Zhejiang plans to implement Phase 4 standards for Diesel fuel from 1 January 2015. According to Sinopec, the province is expected to introduce National Phase 5 standards for both gasoline and Diesel fuels from 1 January 2016. The Chinese government has set a deadline for adopting National Phase 5 fuel standards in the country as 1 January 2018.

The recent upgrade makes Hangzhou the fifth major region to introduce Phase 5 fuel standards after Beijing, Shanghai, Jiangsu province and Guangdong province. Northern Tianjin and central Wuhan plan to follow from January 2015 and end 2015, respectively.

### Natural Gas Hybrid Buses Deployment Plans in Seoul

The capital of South-Korea, Seoul, has announced it will expand its fleet of environmentally friendly buses in the next four years to reduce Greenhouse Gas emissions and energy costs.

Starting in 2014 with 20 Compressed Natural Gas (CNG) hybrid buses, Seoul will gradually increase that number to 2100 by 2018. These buses will be able to switch between electricity and natural gas to operate at lower and higher speeds, respectively. According to the city government, the fleet of 2100 CNG hybrid buses will cut NOx emissions by 3124 tons over nine years.

The introduction of these CNG hybrid buses follows a successful trial run of seven vehicles between July and October 2013. The results showed 34.5% greater fuel efficiency and 30% less Greenhouse Gas emissions compared to their non-hybrid counterparts.

### Early Euro 4 Standard in the Philippines

Environment Secretary of the Philippines, Ramon Paje Jr., proposed on 29 September 2014 to the Department of Environment and Natural Resources (DENR) to implement Euro 4 emissions limits six months ahead of schedule, from the original January 2016 to June 2015.

Previously criticized for lagging behind in adopting cleaner fuel standards, the DENR has proposed advancing the implementation of the Euro 4 fuel

standards for new passenger and light-duty vehicles. The country currently follows Euro 2 emissions and fuels standards. Euro 2 fuel types have a sulfur content of 500 parts per million (ppm) compared to 50 ppm for Euro 4 fuels.

Around 70 to 80% of the air pollution in Metro Manila comes from vehicle emissions, while the rest comes from stationary sources such as industrial emissions and domestic sources like open burning, the DENR said. The average recorded level of total suspended particulates (TSP) in Manila was at 118  $\mu\text{g}/\text{m}^3$  in 2013, substantially higher than the national annual guideline value of 90  $\mu\text{g}/\text{m}^3$ .

Paje urged the Department of Transportation and Communications to phase out vehicles that were at least 15 years old, saying that older vehicles consumed more fuel and produced more emissions. As a compromise to such a phase-out, Paje suggested that older vehicles be banned from major streets prone to heavy traffic.

## UNITED NATIONS

### Record Global Greenhouse Gas Levels

On 9 September 2014 the World Meteorological Organization (WMO) released their annual Greenhouse Gas (GHG) bulletin, showing that the amount of GHG in the atmosphere reached a new record high in 2013.

The bulletin, reporting on atmospheric concentrations – and not emissions – of GHG, showed that between 1990 and 2013 there was a 34% increase in radiative forcing, the warming effect on climate, because of long-lived GHG such as carbon dioxide ( $\text{CO}_2$ ), methane ( $\text{CH}_4$ ) and nitrous oxide ( $\text{N}_2\text{O}$ ). In 2013, the concentration of  $\text{CO}_2$  in the atmosphere was 142% of the pre-industrial era (1750), and concentrations of  $\text{CH}_4$  and  $\text{N}_2\text{O}$  were 253% and 121% respectively.

Observations showed that  $\text{CO}_2$  levels increased more between 2012 and 2013 than during any other year since 1984. On the global scale, the amount of  $\text{CO}_2$  in the atmosphere reached 396 ppm in 2013, with an increase of 2.9 ppm from 2012 to 2013. Preliminary data indicated that this was possibly related to reduced  $\text{CO}_2$  uptake by the earth's biosphere in addition to the steadily increasing  $\text{CO}_2$  emissions.

Atmospheric methane reached a new high of about 1824 ppb in 2013, due to increased emissions from anthropogenic sources. Since 2007, methane concentrations have been increasing again after a temporary period of levelling-off.  $\text{N}_2\text{O}$  atmospheric concentration in 2013 was about 325.9 ppb.

The WMO annual GHG Bulletin is at [www.wmo.int/pages/mediacentre/press\\_releases/document/s/1002\\_GHG\\_Bulletin.pdf](http://www.wmo.int/pages/mediacentre/press_releases/document/s/1002_GHG_Bulletin.pdf).

## **UNECE Environmental Impact Assessment Convention**

Through the entry into force on 26 August 2014 of its first amendment, the Espoo Convention on Environmental Impact Assessment in a Transboundary Context is now open to all United Nations Member States. UNECE Executive Secretary Christian Friis Bach called upon all Contracting Parties to ratify the amendment as soon as possible.

Since its entry into force in 1997 as a regional instrument under UNECE auspices, the Espoo Convention has helped countries to develop national environmental impact assessment procedures and has forged international cooperation to prevent, manage and mitigate adverse environmental impacts. To date, 23 states and the European Union have ratified, approved or accepted the amendment.

### **GENERAL**

## **World Medical Assembly recommends PN Standards for all New Diesels**

At its General Assembly on 8-11 October 2014, the World Medical Assembly (WMA) called for the introduction of Particle Number standards for all new Diesel vehicles (on-road and off-road).

Delegates from almost 50 national medical associations attended the annual General Assembly in Durban, South Africa. WMA said that air pollution impacts on the quality of life for hundreds of millions of people worldwide, causing both a large burden of disease as well as economic losses and increased health care costs. For that reason, the concentration of soot particles in the air needs to be reduced.

WMA recommendations are at

[www.wma.net/en/30publications/10policies/a21/index.html](http://www.wma.net/en/30publications/10policies/a21/index.html).

## **ICCT Report on Real-World Emissions of Modern Diesel Cars**

On 11 October 2014 the International Council on Clean Transportation (ICCT) published a meta-study on real-world exhaust emissions from modern Diesel cars presenting evidence of a real-world NO<sub>x</sub> compliance issue for recent diesel passenger cars, both for European and US test vehicles.

The study analyses Portable Emissions Measurement Systems (PEMS) data measured with 15 European and US Diesel cars driven over 97 trips, totalling more than 140 hours of operation and 6400 km. Real-world emissions data were gathered on twelve Euro 6 and three Tier 2 Bin 5/ULEV II Diesel passenger cars.

The report shows that on average, real-world NO<sub>x</sub> emissions from the tested vehicles were about seven times higher than the limits set by the Euro 6 standard.

This corresponds to an average on-road level of about 560 mg/km of NO<sub>x</sub> (compared to the Euro 6 regulatory limit of 80 mg/km). In most cases the exceedances found could not be attributed to “extreme” or “untypical” driving. Instead, they were due to transient increases in engine load typical of everyday driving (e.g. going up a slight incline), or to normal regeneration events in the normal diesel exhaust aftertreatment systems.

ICCT observed that performance differences among the vehicles tested indicate that the technologies for real-world clean diesels already exist. Some of the tested vehicles had average emissions below Euro 6 emissions limits, suggesting that the technologies to achieve that level of performance are available, but that policies are not yet in place that can force manufacturers to use these technologies and calibrate them to effectively control emissions over the majority of in-use operating conditions, not just those covered by the test cycle.

Part 2 of the report is still to be published. It will supplement the results by presenting the measured data in more details and will include explanations on how to read and interpret the detailed charts.

The ICCT report (Part I) is at

[http://theicct.org/sites/default/files/publications/ICCT\\_PEMS-study\\_diesel-cars\\_20141010.pdf](http://theicct.org/sites/default/files/publications/ICCT_PEMS-study_diesel-cars_20141010.pdf).

## **ICCT Report on Increasing Real-world Fuel Economy Gap**

On 28 September 2014 the International Council on Clean Transportation (ICCT) published another report, jointly prepared with the Netherlands’ Organisation for Applied Scientific Research (TNO) and Germany’s Institut für Energie- und Umweltforschung Heidelberg (IFEU), which provides a systematic statistical analysis of vehicles’ real-world fuel efficiency.

The analysis draws on data from a number of different sources: the user websites [spritmonitor.de](http://spritmonitor.de) (Germany) and [honestjohn.co.uk](http://honestjohn.co.uk) (United Kingdom), the leasing companies Travelcard (Netherlands) and LeasePlan (Germany), the car and consumer magazines Auto Bild (Germany), Auto Motor Sport (Germany), WhatCar? (United Kingdom) and the car club TCS (Switzerland).

The gap between official and real-world fuel-economy figures has reached more than 30%, the report shows. Ten years ago the discrepancy between these real-world and sales-brochure values was at 10%.

The increasing gap more than halves the official CO<sub>2</sub> reductions achieved during the last ten years, ICCT said. The study underscores the importance of implementing the new Worldwide harmonized Light vehicles Test Procedure (WLTP), a more appropriate test that will produce more realistic type-approval values. At the same time, the study highlights the need

to complement the WLTP with additional measures, some form of in-service conformity testing, to ensure that reasonable emission values are achieved not for a single test vehicle alone but for any car sold to a consumer and driven on the road.

The ICCT-TNO-IFEU report is available at [http://theicct.org/sites/default/files/publications/ICCT\\_LaboratoryToRoad\\_2014\\_Report\\_English.pdf](http://theicct.org/sites/default/files/publications/ICCT_LaboratoryToRoad_2014_Report_English.pdf).

## ICCT Paper on WLTP and Fuel Consumption

On 29 October 2014 the International Council on Clean Transportation (ICCT) published another working paper, this time on the impact of the new Worldwide harmonized Light vehicles Test Procedure (WLTP) on fuel consumption values for cars in the EU.

ICCT says that the current European Type-Approval procedure for fuel consumption and CO<sub>2</sub> emissions of cars (based on the New European Driving Cycle, or NEDC) includes a number of tolerances and flexibilities and no longer accurately reflects state-of-the-art technologies. The European Union is therefore planning to replace it with the newly developed WLTP in 2017.

Their paper, which includes an historical review of the WLTP development process at UNECE, identifies the main influencing parameters and quantifies their impacts. Overall, ICCT concludes that the effects of the new driving cycle and the new definition of the vehicles' test masses should result in a new WLTP-based target of 100 g CO<sub>2</sub>/km for 2020-2021 (instead of the existing NEDC-based target of 95 g CO<sub>2</sub>/km). In addition, if the ambient test temperature is changed for the EU-WLTP from 23°C to 14°C, an additional correction of 2 g CO<sub>2</sub>/km would be appropriate, making the target 102 g CO<sub>2</sub>/km.

The ICCT paper is at [www.theicct.org/sites/default/files/publications/ICCT\\_WLTP\\_EffectEU\\_20141029.pdf](http://www.theicct.org/sites/default/files/publications/ICCT_WLTP_EffectEU_20141029.pdf).

## Report on Urban Transport Modal Shift

On 17 September 2014 the University of California and the Institute for Transportation and Development Policy (ITDP) released a new report on transport modal shift in urban areas to mitigate CO<sub>2</sub> emissions.

This report examines how major changes in urban transport investments worldwide would affect urban passenger transport CO<sub>2</sub> emissions as well as mobility. It starts with the most recent United Nations' urban population forecasts and the model framework and forecasts used by the International Energy Agency for global mobility modelling. The study extends these with new research on the extent of various urban passenger transport systems in cities across the world, as well as

new estimates of the extent of mobility by non-motorized transport and low power e-bikes.

The study concludes that a radical change in the way people get around cities (high shift scenario) could save over \$100 trillion (€77 trillion) in public and private capital and operating costs of urban transportation between now and 2050 and eliminate about 1.7 gigatons of CO<sub>2</sub> annually – a 40% reduction of urban passenger transport emissions – by 2050.

The report is available at [www.itdp.org/wp-content/uploads/2014/09/A-Global-High-Shift-Scenario\\_WEB.pdf](http://www.itdp.org/wp-content/uploads/2014/09/A-Global-High-Shift-Scenario_WEB.pdf).

## New ISO Standard on Marine Urea Quality

ISO has published a new standard ISO 18611 which specifies the quality characteristics of the marine NO<sub>x</sub> reduction agent, an aqueous urea solution at 40% concentration (AUS 40) used to operate Selective Catalytic Reduction (SCR) converters on marine vessels.

The ISO 18611 standard includes three parts. Part 1 covers urea quality requirements, Part 2 test methods, and Part 3 handling, transportation and storage.

## RESEARCH SUMMARY

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## Air Quality, Sources and Exposure

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## Emissions Control, Catalysis, Filtration

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## Transport, Climate Change & Emissions

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## FORTHCOMING CONFERENCES

### Homologation Symposium

17-18 November 2014, Munich, Germany

[www.tuev-sued.de/academy/conference-management/automobile-rail/homologation](http://www.tuev-sued.de/academy/conference-management/automobile-rail/homologation)

*The conference organized by TÜV-Süd will address new CoC documents, German single type approval according to Directive 2007/46/EC, homologation according to international regulations (GOST, CCC, INMETRO, Trias), cooperation with local type approval authorities – single type approvals, data management/CoC, small series, modifications of the perspective from German inspection stations, emissions/WLTP/PEMS, and workshops for passenger cars / trucks and agricultural vehicles.*

### Future Fuels for Shipping Seminar

17-18 November 2014, London, UK

[www.lloydsmaritimeacademy.com/event/future-fuels-for-shipping](http://www.lloydsmaritimeacademy.com/event/future-fuels-for-shipping)

*The seminar will assess the technical viability of using alternative marine fuels: hydrogen, methanol, biofuel and glycerol.*

### 9<sup>th</sup> International MTZ Conference: Heavy-Duty, On- and Off-Highway Engines 2014

18-19 November 2014, Saarbrücken, Germany

[www.atzlive.de/index.php?do=show/sid=nv9kaj4hhtsjhb1u0o1pr0vsr3/site=atz/lng=en/allloc=333/id=735](http://www.atzlive.de/index.php?do=show/sid=nv9kaj4hhtsjhb1u0o1pr0vsr3/site=atz/lng=en/allloc=333/id=735)

*This event will focus on new powertrains for commercial vehicles, off-highway, marine and stationary applications, complete system optimization, solutions for emissions reduction and the optimization of engine mechanics and fuel consumption. The conference will examine current and future developments in heavy-duty diesel and gas engines for various applications.*

### SAE/JSAE 2014 Small Engine Technology Conference

18-20 November 2014, Pisa, Italy

[www.sae.org/events/setc](http://www.sae.org/events/setc)

*The conference will discuss the state of the economy and the status of emissions regulations, alternative powertrains and the effects on the environment. The vehicle product ranges from ATVs, scooters and motorcycles to portable power generators, lawnmowers and hand tools.*

### 7<sup>th</sup> China Off-Highway Vehicle Summit 2014

19-21 November 2014, Shanghai, China

[www.duxes-events.com/ohv7](http://www.duxes-events.com/ohv7)

*The summit will discuss emissions standards, policies and regulations, market climate, technical development trends, and aftermarket.*

### Pollution Atmosphérique Longue Distance: évaluation, risques, gestion et décision

20-21 November 2014, Lille, France

[www.rst.developpement-durable.gouv.fr/pollution-atmospherique-longue-a729.html](http://www.rst.developpement-durable.gouv.fr/pollution-atmospherique-longue-a729.html)

*This conference sponsored by the French Ministry of Ecology and the French agency for environment and energy management (Ademe) will address air pollution processes, field experience, ecosystem and health effects, economic and political consequences.*

### 3<sup>rd</sup> China International Diesel Engine Summit 2014

20-21 November 2014, Beijing, China

[www.borscon-de3.com/de3/en](http://www.borscon-de3.com/de3/en)

*The event will cover worldwide emissions regulations for on-road and non-road applications, OEMs technical roadmaps, latest Diesel engine technology, engine testing, SCR, hybrids, dual-fuel engines, fuel economy, etc.*

### SIA Powertrain / Trucks & Off-Road

25 November 2014, Bourg-en-Bresse, France

[www.sia.fr/evenement\\_detail\\_sia\\_powertrain\\_trucks\\_off\\_1212.htm](http://www.sia.fr/evenement_detail_sia_powertrain_trucks_off_1212.htm)

*The conference will provide feedback on Euro VI solutions and prepare the next evolutions of the powertrains for fuel consumption improvement and challenges on the environmental regulations for on-road and off-road applications.*

### Conférence "Mobilité, urbanisme et qualité de l'air: agir sur les territoires !"

26 November 2014, Paris, France

[www.conf-air-mobilite-urbanisme.ademe.fr](http://www.conf-air-mobilite-urbanisme.ademe.fr)

*Conference organized by ADEME on "Mobility, Town Planning and Air Quality".*

### Air Quality Forum

26 November 2014, Paris, France

[www.lesrespirations.org](http://www.lesrespirations.org)

*Roundtables on education for air quality: health and environmental impact, class-actions, green growth and air quality and climate change.*

## **Exhaust Technology Seminar**

4-5 December 2014, Stuttgart, Germany

[http://cti.euroforum.de/en/events/exhaust\\_technology\\_dezember2014](http://cti.euroforum.de/en/events/exhaust_technology_dezember2014)

*CTI seminar covering the basics of emission formation and composition, international emission legislations, Real-Driving Emissions, developments in exhaust aftertreatment in standard petrol engines, Diesel exhaust emissions (DPF), commercial vehicle exhaust systems, three-way catalysts, OBD, NOx trap, SCR, combination of systems, New European Driving Cycle and Changes from Euro 6-1 to 6-2.*

## **Air Quality in Europe – New Challenges**

9-10 December 2014, London, UK

<http://aamg-rsc.org/meetings/monitoring-ambient-air-2014>

*The conference, organized by the Automation and Analytical Management Group (AAMG) – a special interest group of the Analytical Division of the Royal Society of Chemistry (RSC), will address regulation of emissions, understanding of air pollution sources and mechanisms involved in air quality.*

## **SAE 2014 Light Duty Emissions Control Symposium**

9-10 December 2014, Troy, MI, USA

[www.sae.org/events/ldc](http://www.sae.org/events/ldc)

*The Symposium will discuss the recently announced EPA Tier 3 regulations beginning in 2017, diesel and gasoline particulate matter control, CAFE standards, and CO<sub>2</sub> and criteria emission regulations.*

## **13<sup>th</sup> International CTI Conference: Exhaust Systems**

19-21 January 2015, Stuttgart, Germany

[http://cti.euroforum.de/en/events/exhaust\\_systems](http://cti.euroforum.de/en/events/exhaust_systems)

*This seminar conveys the basics of the currently most important technical concepts of exhaust gas technology using several practical examples.*

## **Engine Optimisation for RDE**

20-21 January 2015, Frankfurt-Mörfelden, Germany

[www.engine-optimisation-rde.com](http://www.engine-optimisation-rde.com)

*The conference will focus on engine requirements and engine emissions control concepts specifically in relation to achieving Real-Driving Emissions (RDE) compliance.*

## **10<sup>th</sup> International Colloquium Fuels - Conventional and Future Energy for Automobiles**

20-22 January 2015, Stuttgart, Germany

[www.tae.de/fuels](http://www.tae.de/fuels)

*Main topics of the conference include aspects of fuel production, practical performance of fuels and their evaluation, microbiological aspects, e-mobility and hybrid cars, deposits and their control aspects of fuels,*

*fuel additives, biofuels, fuel cell technology, and quality testing of fuels.*

## **Exhaust Technology Seminar**

28-29 January 2015, Braunschweig, Germany

[http://cti.euroforum.de/en/events/exhaust\\_technology\\_januar2015](http://cti.euroforum.de/en/events/exhaust_technology_januar2015)

*CTI seminar covering the basics of emission formation and composition, international emission legislations, Real-Driving Emissions, developments in exhaust aftertreatment in standard petrol engines, Diesel exhaust emissions (DPF), commercial vehicle exhaust systems, three-way catalysts, OBD, NOx trap, SCR, combination of systems, New European Driving Cycle and Changes from Euro 6-1 to 6-2.*

## **4<sup>th</sup> Integer Emissions Summit Russia**

24-26 February 2015, Moscow, Russia

<http://www.integer-research.com/conferences/russia-cis-2015>

*The conference will investigate the impact of on-road Euro IV and V and non-road Tier III legislation and examine strategies to successfully ensure compliance.*

## **SAE 2015 On-Board Diagnostics Symposium – Europe**

2-4 March 2015, Stuttgart, Germany

[www.sae.org/events/obd-eu](http://www.sae.org/events/obd-eu)

*The symposium will discuss the latest updates regarding technical standards, processes, and techniques necessary to comply with global OBD and emissions regulations.*

## **Kolloquium Luftqualität an Straßen 2015**

4-5 March 2015, Bergisch Gladbach, Germany

[www.bast.de/DE/Service/Termine/2015/luft-2015.html](http://www.bast.de/DE/Service/Termine/2015/luft-2015.html)

*Forum on current research activities in the field of air quality along transport routes as well as traffic-related measures in the wake of air pollution control plans.*

## **AVL Workshop Real Driving Emissions**

10 March 2015, Pfungstadt, Germany

Info will be at [www.avl-veranstaltungen.de](http://www.avl-veranstaltungen.de)

## **Green Ship Technology Conference**

10-13 March 2015, Copenhagen, Denmark

[www.informamaritimeevents.com/event/greenshipstechnology](http://www.informamaritimeevents.com/event/greenshipstechnology)

*Key topics of discussion include fuel efficiency and energy management, emissions controls, alternative energy sources, new innovative technologies for sustainable shipping, retrofitting solutions to meet regulatory requirements, and cutting edge ship designs for operational efficiencies.*

## **5<sup>th</sup> Integer Emissions Summit India 2015**

25-26 March 2015, New Delhi, India

[www.integer-research.com/conferences/ies-india-2015/](http://www.integer-research.com/conferences/ies-india-2015/)

*The conference will explore the challenges and opportunities, and examine successful diesel*

*emissions control strategies, for the Indian on-road and non-road mobile machinery (NRMM) sectors.*

## **2015 CITA Conference “Enhancing the value of vehicle inspection”**

14-16 April 2015, Dubai, United Arab Emirates

[www.cita-vehicleinspection.org/Home/CITAConferences/2015InternationalDubai/tabid/516/Default.aspx](http://www.cita-vehicleinspection.org/Home/CITAConferences/2015InternationalDubai/tabid/516/Default.aspx)

*Topics to be covered by the plenary sessions, workshops and discussion forum include future directions for vehicle inspection, integrating vehicle, driver and infrastructure strategies, PTI scenarios, achieving inspection integrity, ensuring best inspection practice, priorities for new testing procedures, inspection procedures and methods, and regional perspective for PTI in the Middle East.*

## **SAE 2015 World Congress**

21-23 April 2015, Detroit, USA

[www.sae.org/congress](http://www.sae.org/congress)

## **AVL Roadshow Real Driving Emissions**

21 April 2015, Pfungstadt, Germany

23 April 2015, Stuttgart, Germany

28 April 2015, Hannover, Germany

Info will be at [www.avl-veranstaltungen.de](http://www.avl-veranstaltungen.de)

## **36th International Vienna Motor Symposium**

7-8 May 2015, Vienna, Austria

[www.xn--vk-eka.at/index\\_en.htm](http://www.xn--vk-eka.at/index_en.htm)

*The symposium will address latest results in worldwide engine and powertrain development, future legislation, fuels and components, drive train electrification, hybrid technology, CO<sub>2</sub> reduction, and exhaust emissions control.*

## **8<sup>th</sup> AVL International Commercial Powertrain Conference**

20-21 May 2015, Graz, Austria

[www.avl.com/icpc](http://www.avl.com/icpc)

*Main Topics for the Technical Sessions will be truck and bus (hybrid powertrain technologies, LNG / CNG), agricultural tractors (potential of electrically driven implements, alternative fuels), and construction machinery (modern transmission technologies, hybridisation).*

## **SIA Powertrain - The low CO<sub>2</sub> spark ignition engine of the future and its hybridization**

27-28 May 2015, Versailles, France

[www.sia.fr/evenement\\_detail\\_sia\\_powertrain\\_versailles\\_2015\\_1233.htm](http://www.sia.fr/evenement_detail_sia_powertrain_versailles_2015_1233.htm)

*SIA has merged two events: the "Spark Ignition Engine" conference, formerly held in Strasbourg, and the one-day conference dedicated to powertrain electrification, which used to be organized with the support of IFP Energies Nouvelles.*

**Deadline for abstract: 15 November 2014**

## **15<sup>th</sup> European Automotive Congress**

8-10 June 2015, Győr, Hungary

<http://eaec2015.org>

*Topics include safety, emissions, environment, energy, design, quality and automotive logistics.*

## **19<sup>th</sup> ETH Nanoparticles Conference**

28 June - 1 July 2015, Zurich, Switzerland

[www.nanoparticles.ethz.ch](http://www.nanoparticles.ethz.ch)

*Forum in the field of combustion-generated nanoparticles, technical aspects as well as environmental impact, health effects and legislation.*

**Deadline for abstract: 16 November 2014**

## **2015 JSAE/SAE Powertrains, Fuels and Lubricants International Meeting**

1-4 September 2015, Kyoto, Japan

<http://pfl2015.jp>

## **24<sup>th</sup> Aachen Colloquium**

5-7 October 2015, Aachen, Germany

Info will be at [www.aachener-kolloquium.de](http://www.aachener-kolloquium.de)

## **CAPoC10**

28-30 October 2015, Brussels, Belgium

<http://capoc.ulb.ac.be>

*Tenth International Congress on Catalysis and Pollution Control.*

## **FISITA 2016 World Automotive Congress**

26-30 September 2016, Busan, South Korea

Info will be at [www.fisita2016.com](http://www.fisita2016.com)

**Deadline for abstracts: 30 September 2015**