AECC

Newsletter

March - April 2014

INTERNATIONAL REGULATORY DEVELOPMENTS

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High Air Pollution across Western Europe

On 15 March 2014 the European Environmental Agency (EEA) highlighted that high pollutant levels were being experienced in parts of France, Belgium and Germany and were leading some areas to take urgent action to lower air pollution.

Concentrations of particulate matter (PM_{10}) were unusually high across a wide region of Western Europe. Since 12 March 2014 almost three quarters of France had experienced PM_{10} concentrations above the limit of 50 µg/m³ (daily mean), with some areas recording more than double that level.

Figures from EEA showed in that period PM_{10} concentrations of 147 µg/m³ in Paris, compared with 114 in Brussels, 104 in Amsterdam, 81 in Berlin and 80 in London. According to EEA, while current levels in Europe pose a significant risk to health, peak levels can be 4-5 times higher in Asian cities like Beijing.

Pollutants are emitted by a variety of sources, EEA said, including road traffic, wood-burning stoves, and at this time of year the application of agricultural fertilisers.

Preliminary Analysis of Member States' Air Pollution in 2012

On 24 March 2014 the European Environmental Agency (EEA) released results of an early analysis of air pollution data in the EU for 2012.

This data show that 11 Member States breached at least one ceiling in 2012, compared to 10 countries in 2011. As in previous years, the most commonly breached ceiling was nitrogen oxide (NOx), with nine Member States exceeding their designated levels.

Road transport contributes around 40 % of total EU NOx emissions and is one of the main factors behind the large number of NOx exceedances. NOx reductions from road transport over the last two decades have not been as large as originally anticipated, EEA said.

Two countries (Denmark and Finland) exceeded the limit for ammonia, while only Luxembourg breached the ceiling for non-methane volatile organic compounds (NMVOC). Luxembourg was the only country to breach two ceilings in 2012, for NOx and NMVOC. All 27 Member States met the SO_2 limits.

The data show that several countries have persistent problems meeting their national emissions limits. For example, Austria, Belgium, France, Germany, Ireland, Luxembourg and Spain breached NOx ceilings in 2010, 2011 and 2012.

A more detailed assessment of the data delivered by the Member States under the National Emission Ceilings (NEC) Directive requirements will be published by EEA in June 2014.

Publication of Regulations on 2020 CO_2 Emissions from Cars and Vans

On 5 April 2014 the new legislation confirming the CO_2 target for passenger cars fleet in 2020 was published in the Official Journal as Regulation (EU) No 333/2014.

95% of manufacturers' new passenger cars registered in 2020 and 100% from 2021 onwards will have to meet the target of 95 g CO_2/km.

The new Regulation allows "super credits", capped at 7.5 g/km, to apply from 2020 to 2022. A car emitting less than 50 g/km will count as 2 passenger cars in 2020, 1.67 cars in 2021, 1.33 cars in 2022, and 1 car from 2023 onwards. There will be no super-credits between 2016 and 2020.

The new UN-defined World Light-duty Test Procedure (WLTP) should come into force at the earliest opportunity, with a robust correlation of the CO_2 targets to be established by the Commission.

Finally, by 31 December 2015 the Commission will review the CO_2 targets and modalities, including whether mass or footprint is the more sustainable utility parameter, in order to establish CO_2 targets for new cars beyond 2020.

Earlier, on 20 March 2014, the new Regulation on the 2020 target CO_2 emissions from new light commercial vehicles was published in the Official Journal of the European Union as Regulation (EU) No 253/2014.

The average CO_2 emissions of new light commercial vehicles registered in the EU will have to meet 147 g CO_2/km from 2020. The regulation will apply to manufacturers producing more than 1000 new vans in the previous calendar year. CO_2 savings achieved through the use of innovative technologies will be considered with a maximum contribution of eco-innovations of 7 g CO_2/km.

In order to ensure that specific CO_2 emissions quoted for new passenger cars and new light commercial vehicles are brought more closely into line with the emissions actually generated during normal conditions of use, the WLTP should be applied at the earliest opportunity. When the test procedures are amended, the limits should be adjusted to ensure comparable stringency for manufacturers and classes of vehicles.

By 2015 the Commission must review and consider a long-term CO_2 emissions target for vans beyond 2020.

The Car CO_2 Regulation is at http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014R0333 and the light commercial vehicle CO_2 one is at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2014_084_R_0038_01.

Directive on Green Vehicle Procurement extended to EEA

On 27 February 2014 a Decision that extends the application of Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles to the European Economic Area (EEA) countries (Iceland, Liechtenstein, and Norway) was published in the EU Official Journal as Decision No 173/2013 of the EEA joint committee.

The objective of the Directive, already in application in the EU since 2011, is to stimulate the market for green vehicles. The Directive requires lifetime energy and environmental impacts to be taken into account when contracting authorities and operators of public services purchase road transport vehicles. They must consider at least energy consumption, CO_2 emissions and NOx, NMHC and PM emissions in doing this. The Directive sets lifetime costs for each of these parameters as well as lifetime mileage for different categories of vehicles.

New Roadworthiness Directives published

Following adoption by the European Parliament and the Council in March 2014, the new roadworthiness package was published in the Official Journal on 29 April 2014.

It includes three Directives. Directive 2014/45/EU specifies requirements for periodic roadworthiness tests for motor vehicles, Directive 2014/47/EU provides requirements for technical roadside inspections of commercial vehicles, and Directive 2014/46/EU establishes provisions for reporting of inspection results in vehicle registration documents.

As regards vehicles already covered, passenger cars and light commercial vehicles (vehicle categories M1 and N1) have to be tested four years after their first registration date, and every two years thereafter. M1 vehicles used as taxis or ambulances, buses and coaches (M2, M3), heavier commercial vehicles (N2, N3), and heavy trailers (O3, O4) must be checked one year after their first registration date and subsequently each year. The scope of testing is also extended to cover fast tractors, capable of speeds in excess of 40 km/h (T5 category), which are used for commercial road haulage purposes. Heavy motorcycles (>125 cm³) will have to be tested in periodic inspections from 2022 unless the Member State's road safety statistics for the previous 5 years show sufficient road safety results are achieved with other measures, in which case heavy motorcycles can be exempted.

The Commission is empowered to amend by delegated acts the recommended test methods, including that for tailpipe emissions, if more efficient and effective test methods become available but without extending the list of items to be tested.

Between periodic inspections, additional roadside checks will be carried out for commercial vehicles.

The three Directives have to be transposed into Member States national legislations by 20 May 2017.

Directives 2014/45/EU, 2014/47/EU, and 2014/46/EU are available at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:127:FULL.

Regulations on Multi-Stage Vehicles CO_2 and Eco-innovations for Vans published

On 24 April 2014 two new Regulations on the monitoring of CO_2 emissions from new light-duty commercial vehicles type-approved in a multi-stage process were published in the Official Journal of the European Union. Regulation (EU) No 404/2014 amends Annex II of Regulation (EU) No 510/2011 and Regulation (EU) No 410/2014 amends the Implementing Regulation (EU) No 293/2012.

Specific emissions of CO_2 of completed multi-stage vehicles are to be allocated to the manufacturer of the base vehicle. The new Regulations ensure that a finished multi-stage vehicle can be recognised in the monitoring process and that the manufacturer of the base vehicle can be identified.

Regulation (EU) No 404/2014 is available at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0404 and (EU) No 410/2014 is at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0410.

On 26 April 2014 Commission implementing Regulation (EU) No 427/2014 was published in the Official Journal. It sets out the procedure for certification of innovative technologies that reduce emissions of CO_2 from light commercial vehicles.

This Regulation creates incentives for CO_2-saving innovations that are not captured in the type-approval standard test cycle. To be approved eco-innovations have to deliver CO_2 savings of 1 g/km or more.

Regulation (EU) No 427/2014 is at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2014_125_R_0011.

Amendments to Tractor Directives

On 20 March 2014 two Commission Directives amending respectively Directives 2000/25/EC and 2003/37/EC on pollutant emissions from agricultural and forestry tractors were published in the Official Journal as Directives 2014/43/EU and 2014/44/EC.

The Non-Road Mobile Machinery (NRMM) Directive 97/68/EC that specifies technical requirements on emissions of tractors was amended several times in the last years to adapt to technical progress. It was therefore necessary to align Directives 2000/25/EC and

2003/37/EC with the provisions of Directive 97/68/EC as amended.

References to UN Regulations No 49 and No 96 have been updated to ensure that they correspond to the amendments to Directive 97/68/EC with respect to the recognition of alternative type-approvals for engines intended to power agricultural and forestry tractors.

EU Member States have to transpose these amendments into national law by 1 January 2015. Nevertheless these Directives will be repealed as from 1 January 2016 when the new Tractor Regulation (EU) No 67/2013 enters force.

Directive 2014/43/EU is at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0043 and Directive 2014/44/EU is at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0044.

UN Regulation 96 on Non-Road Mobile Machinery published

On 22 March 2014 Regulation No 96 of the Economic Commission for Europe of the United Nations (UN/ECE) on provisions concerning the approval of Compression Ignition engines to be installed in agricultural and forestry tractors and Non-Road Mobile Machinery was published in the Official Journal of the European Union.

The text incorporates all text of UN Regulation No 96 up to the 04 series of amendments that entered into force on 13 February 2014.

UN Regulation No 96 is at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:088:FULL.

Parliamentary Adoption of Proposals on Green Transport

On 15 April 2014 the European Parliament adopted in its plenary session two legislative proposals concerning the NAIADES II programme. One is "Towards quality inland waterway transport" – a draft law making €35 million available for environmental improvements to inland waterways transport. The other relates to technical requirements for inland waterway vessels.

The funding-related Directive's preamble specifies that grants should include adapting vessels to future environmental requirements, including new engine emissions standards. Improving engine fuel efficiency, encouraging the use of alternative fuels and other measures to improve air quality should also be eligible.

The proposal for a Directive on technical requirements for inland waterway vessels aims at facilitating and improving the adoption procedures when updating the technical standards for inland waterway vessels.

On the same day, MEPs also adopted new EU rules to ensure the build-up of refuelling points for alternative fuels across Europe. With the new Directive, Member States will have to provide a minimum infrastructure for alternative fuels such as electricity, hydrogen and natural gas, as well as common EU wide standards for equipment needed and user information.

All texts now need approval by the Council.

Final Report on EU Clean Air Policy Scenarios

On 27 February 2014 the European Commission released the final version of the report on Policy Scenarios of the EU Clean Air Policy Package. The report was prepared by IIASA, the International Institute for Applied Systems Analysis.

The Thematic Strategy on Air Pollution (TSAP) report documents the key scenarios that have led to the European Commission's new Clean Air Policy package that was adopted on 18 December 2013. It presents modelling of baseline emissions and associated impacts of further emission reduction options.

To maximize co-benefits from the climate policy target for 2030 that has been proposed by the European Commission in its Communication on the 2014 Energy and Climate package, the final Commission proposal for Clean Air also shifted the binding reduction commitments of the 70% gap closure from 2025 to 2030, the report notes. These reduction commitments would maintain the level of marginal ratio of costs-benefits. Together with the current legislation, this would reduce the loss in statistical life expectancy in the EU from 8.5 months in 2005 to 4.1 months in 2030, and gain about 180 million life years.

The report reviews the potential for environmental improvements offered by emissions control measures that are not yet part of current legislation, and compares costs and benefits of cost-effective packages of measures to reduce negative health and vegetation impacts.

Since the last TSAP report # 10 of March 2013, a number of changes have been implemented in the GAINS (Greenhouse Gas and Air Pollution Interactions and Synergies) database. A new baseline projection of future energy trends has been implemented. Also significantly higher gasoline and diesel fuel consumption figures have been suggested, notably by passenger cars. The previous shift to diesel cars is therefore less pronounced and efficiency improvements are assumed somewhat less ambitious. Future pollutant emissions from road transport are thus higher than projected before.

The Maximum Technically Feasible Emission Reductions (MTFR) scenario now considers the potential for further measures in the off-road sector. For all sources, one further stage with stringent NOx controls comparable to Euro-V/VI levels of road

vehicles is assumed. In addition, (partial) retrofits of existing sources are considered.

The TSAP Report #11 is at http://ec.europa.eu/environment/air/pdf/review/TSAP.pdf.

EEA Annual Report on Ground-Level Ozone

The European Environmental Agency (EEA) released on 13 March 2014 its annual report on exceedances of ozone threshold values for summer 2013.

Ozone pollution significantly exceeded EU standards during the period April-September 2013, particularly during July and early August. The most problematic areas were the Mediterranean and Alpine regions. In some countries up to two fifths of the population was exposed to levels exceeding limits, the EEA says.

The long-term objective (LTO) for the protection of human health (a maximum daily eight-hour mean concentration of 120 µg/m^3) was exceeded at least once in all Member States and overall at 83% of all reporting stations. Although the number of exceedances is still very high, it is the lowest percentage since reporting started in 1997. The LTO was exceeded on more than 25 days across a significant part of Europe.

The so-called 'information threshold' (a one-hour average ozone concentration of 180 µg/m^3) was exceeded at approximately 26% of all operational stations, one of the lowest percentages since 1997. In Northern Europe, the information threshold was not exceeded at all in 2013.

The 'alert threshold' (a one-hour average ozone concentration of 240 µg/m^3) was exceeded 27 times, again one of the lowest numbers on record.

Recent scientific studies have shown that ground-level ozone pollution is harmful even at very low levels. This means that levels are still far too high, even though the limits were exceeded on fewer occasions than in many previous years, EEA said in its press release.

EEA Technical Report No 3/2014 is at www.eea.europa.eu/publications/air-pollution-by-ozone-across-1.

CO_2 Emissions of Passenger Cars met 2015 Target already in 2013

On 30 April 2014 the European Environment Agency (EEA) published the provisional CO_2 monitoring data for new passenger cars sold in the EU in 2013.

The average CO_2 emissions of cars sold in 2013 was 127 g/km, already below the 2015 target of 130 g/km.

EEA said new cars have become more efficient despite an increase in the average mass. The main drivers of efficiency have been technological improvements and higher sales of diesel cars. However, the preference for diesel seems to be falling, making up just over half the cars sold in 2013. EEA also noted that the fuel efficiency gap between new petrol and diesel vehicles has decreased in recent years. Compared to current levels, the average emissions gap between petrol and diesel was more than 10 times higher in 2000.

While the collective target has been met, it has not yet been confirmed whether each individual manufacturer has met its own target, which is based on the average mass of the cars they sell. The EEA will publish final data on manufacturers' individual performance in the autumn 2014.

The provisional 2013 CO_2 data is available at www.eea.europa.eu/data-and-maps/data/co2-cars-emission-6.

Commission Reports on Light-duty Vehicles' CO_2 Regulatory Approaches

The European Commission's Directorate General for Climate Action has released two new reports on CO_2 regulatory approaches prepared by a consortium of consultants (TNO, CE Delft, and Ricardo-AEA).

The first report looks at "Consideration of alternative approaches to regulating CO_2 emissions from Light-duty road vehicles for the period after 2020", while the second is an "Analysis of the influence of metrics for future CO_2 legislation for Light-duty Vehicles on deployment of technologies and Greenhouse Gas (GHG) abatement costs" and explores the effect of Tank-To-Wheel (TTW) or Well-To-Wheel (WTW) approaches based on either energy or CO_2. The reports will contribute to policy options for the challenge in defining post-2020 regulation for light-duty vehicles in such a way that the response of manufacturers to this regulation contributes to GHG reduction targets in the most cost effective way.

The reports say that "An important guiding principle in the definition of the CO_2 legislation has been that it should be technology neutral" and "Vehicles with very low or no direct CO_2 emissions (e.g. electric vehicles or hydrogen fuelled vehicles, further on referred to as ZEVs or zero tailpipe emission vehicles) are expected to make up a significant part of the new registrations before 2050. In the current CO_2 regulation, based on the TTW emissions, ZEVs count as 0 g CO_2/km. Selling such vehicles therefore lowers the effort that manufacturers have to put into reducing CO_2 emissions from Internal Combustion Engine Vehicles (ICEVs) in order to meet their sales average TTW CO_2 target. Since in reality CO_2 is emitted to generate electricity or hydrogen, the increased WTW CO_2 emissions by ICEVs are not (fully) compensated by ZEVs, resulting in higher overall WTW CO_2 emissions. This undesirable 'WTW CO_2 leakage' can potentially be neutralised by introducing alternative regulatory approaches."

Options for alternative metrics and regulatory approaches include adjusted CO_2 tailpipe emissions, vehicle energy use, inclusion of road fuel use in the EU Emissions Trading System, a vehicle manufacturer-based trading scheme based on lifetime GHG emissions, a cap-and-trade system for vehicle manufacturers of total CO_2 emissions or energy consumption of vehicles sold, and inclusion of embedded emissions in the TTW approaches.

The two reports are at http://ec.europa.eu/clima/policies/transport/vehicles/docs/alternatives_en.pdf and at http://ec.europa.eu/clima/policies/transport/vehicles/docs/influence_en.pdf respectively.

EU Transport Scoreboard

On 10 April 2014 the European Commission published the first scoreboard on transport in the EU.

The aim of this first EU Transport Scoreboard is to give a snapshot of the diversity of Member States' performance in transport matters across Europe and to help Member States identify shortcomings and define priorities for investment and policies.

The scoreboard can be consulted either by mode of transport (road, rail, waterborne, air) or by one of the following categories: single market (access to market, regulation), infrastructure, environmental impact, safety, transposition of EU law, infringements of EU law, innovation and research, and logistics.

The Netherlands and Germany top the scoreboard with high scores in 11 categories, followed by Sweden, the UK and Denmark. With 75% of railway lines electrified and new car CO_2 emissions well below the EU average for 2012 and the 2015 interim target of 130 g/km, the Netherlands topped the environmental category of the scoreboard. In the best performing countries for new car CO_2 emissions, Denmark and Portugal, the average in 2012 was 117 and 117.6 g CO_2/km respectively.

The scoreboard is at http://ec.europa.eu/transport/facts-fundings/scoreboard/index_en.htm.

JRC Report on Sustainable Urban Mobility Plans

On 7 March 2014 the Joint Research Centre (JRC) of the Commission released a new report "Quantifying the Effects of Sustainable Urban Mobility Plans".

The Commission is considering proposing a European support framework for the implementation of Sustainable Urban Mobility Plans in EU Member States. This is consistent with the 2011 White Paper proposal to better coordinate urban transport actions at national level.

In this context, the JRC assessed the CO_2 reduction potential of 21 measures ranging from Low Emission Zones to park & ride areas. The 2030 values for CO_2 emissions were used as a reference to calculate the impact that each policy measure might have in CO_2 reductions for different cities. Overall, measures would allow a reduction of CO_2 emissions from urban transport of 7 to 8.8% between 2010 and 2030.

The three measures with the highest CO_2 reduction potential include the introduction of congestion charges, teleworking and conference calls, and reallocating road space to other modes of transport, such as bus lanes. Promoting eco-driving, multimodal connection platforms, and dynamic traffic management represent the least attractive measures.

The JRC study is at http://ftp.jrc.es/EURdoc/JRC84116.pdf.

Hungary asked to act on Air Pollution

The March infringement package published by the European Commission on 28 March 2014 includes a court action threat to Hungary on its particulate matter levels in a number of cities and regions.

Hungary has recorded PM_{10} concentrations above the legal limit every year since 2005 in areas around the cities of Miskolc, Nyíregyháza and Szeged, and the Budapest region, the Commission said. The Pécs region, which was exempt from the rules until 2011, has also been affected.

The Commission believes that Hungary has not taken measures that should have been in place since 2005 to protect citizens' health, and is asking Hungary to take forward-looking, speedy and effective action to keep the period of non-compliance as short as possible. The new reasoned opinion follows an additional letter of formal notice sent in February 2013. If Hungary fails to act, the Commission may take the matter to the EU Court of Justice.

France takes Measures to tackle Particulate Pollution Episode

On 11 March 2014 French Minister for Ecology, Sustainable Development, and Energy Philippe Martin announced exceptional measures to tackle a persistent particulate pollution episode in France.

Measures included reducing speed limits by 20 km/h in the Paris region, detouring transit heavy-duty vehicles, and limiting industrial emissions. In other regions, speed limits were lowered, residential parking was free, agricultural spraying was limited, industrial activity was controlled and public transport was prioritized. Car drivers were also advised to refrain from using diesel cars not equipped with particulate filters.

On 17 March 2014 in the Paris region, only motorists whose cars have odd-numbered registration plates were allowed to drive; a restriction system that had not been put in place since an initial trial in 1997. Electric

and hybrid vehicles, and cars carrying three or more passengers were exempted from the ban.

A new Order was subsequently published in the French Official Journal on 26 March 2014 with regard to procedures triggered in the event of air pollution episodes. The procedure includes recommendations to the public when the information level is reached and binding measures when the alert level is reached.

Pollution peaks are characterized by three criteria: surface area, population, and specific local situations. A significant aspect of this order lies in the attempt to standardize national measurement tools determining thresholds exceedances.

When the alert threshold is exceeded, the order makes it possible to implement alternating driving with a ban for certain vehicles according to their license plate number as it was the case during the peak of pollution that occurred in Paris in mid-March 2014.

The order also provides for the possibility of banning traffic of certain classes of polluting vehicles in certain geographic areas, such as dense urban areas. The French vehicles classification was defined in May 2012 and refers to European emissions standards. Also it becomes possible to limit the traffic of heavy goods vehicles in transit in certain geographic areas.

2013 Air Quality Assessment in French Region Rhône-Alpes

The air quality assessment for the French region Rhône-Alpes in 2013 was published on 22 April 2014.

An overall air quality improvement was noticed over the years but exceedances remained. In 2013 standards for fine particles, NO_2 and ozone were still exceeded.

The assessment includes a new map of $PM_{2.5}$ annual concentrations. The region as a whole meets the annual $PM_{2.5}$ standard but large exceedances are measured along the valleys.

The assessment shows that a quarter of the region's population was exposed to unsafe O_3 concentrations; that includes all inhabitants in the Drome and Ardèche departments. Also, about 150 000 people in the Rhône-Alpes region suffered from exceedances of the PM_{10} annual standard, mainly in the Arve valley, the cities of Lyon, Chambery and Albertville. Almost 50 000 people live in areas where the annual NO_2 limit was exceeded, primarily in Lyon.

The report notes that the transport sector remains the main contributor to NOx emissions (67%) with 94% coming from Diesel vehicles while the PM_{10} and $PM_{2.5}$ primary emitter is wood burning for domestic heating.

Listed levers for action in transport include a transport modal shift, promotion of rapid renewal of the vehicle fleet by measures such as traffic restrictions on the more polluting vehicles and scrapping schemes, and regulation of traffic speed.

The assessment (in French) is available at www.datapressepremium.com/rmdiff/2007506/DP-AIR-RHONE-ALPES-OK.pdf.

Austria exceeded its NOx Ceiling in 2012

On 20 February 2014 the Austrian Environment Agency (Umweltbundesamt) published its annual air emission inventory for the period 1990-2012.

With NOx emissions of 141 000 tonnes in 2012, Austria exceeded its NOx limit set under the National Emission Ceilings (NEC) Directive of 103 000 tonnes by about 37%. Almost half of these emissions came from the transport sector, especially from diesel powered vehicles. Austria met the limits for the other pollutants covered by the NEC Directive: SO_2, Volatile Organic Compounds and NH_3 according to the agency.

The inventory report is at www.umweltbundesamt.at/fileadmin/site/publikationen/REP0450.pdf.

1987-2013 UK Air Quality Statistics

On 23 April 2014 the UK Department for Environment, Food and Rural Affairs (DEFRA) published its annual update of data on concentrations of major air pollutants in the UK.

DEFRA notes that urban background and roadside particulate (PM_{10}) pollution has shown long-term improvement but remained stable since 2008.

Urban background average PM_{10} concentrations declined from when the time series began in 1992 to 18 µg/m³ in 2013. Roadside PM_{10} pollution has shown long-term improvement but changed little recently: average concentrations declined since the time series began in 1996 to 21 µg/m³ in 2013. PM_{10} concentrations changed little in the past six years.

DEFRA attributes the steady decline to a move away from coal to gas in both electricity generation and domestic and commercial combustion, and also the introduction of emissions standards for road vehicles.

There were on average fewer days of moderate or higher pollution at urban pollution monitoring sites in 2013 compared with 2012. There is a long-term decline in days of moderate or higher pollution at urban sites.

At urban sites in 2013 and in 2012, $PM_{2.5}$ and PM_{10} were the main cause of moderate or higher pollution days. In 2010 NO_2 contributed slightly more number of pollution days than ozone, which changed in the three following years where ozone contributed on average more pollution days than nitrogen dioxide.

UK air quality statistics can be downloaded from www.gov.uk/government/uploads/system/uploads/attachment_data/file/305145/National_Statistic_on_Air_Quality_2013.pdf.

UK Mortality Burdens associated with Particulate Air Pollution

Public Health England (PHE) published for the first time on 9 April 2014 estimates of the number of deaths attributable to particulate air pollution in each UK council area.

The estimates of mortality burden are based on modelled annual average concentrations of fine particulate matter ($PM_{2.5}$) in each local authority area originating from human activities.

The calculations reveal wide variations in the burden of air pollution-related mortality. In rural areas of Scotland and Northern Ireland the figure is put at 2.5% but in some London boroughs it exceeds 8%. PHE indicates that uncertainty in the increase in mortality risk associated with ambient $PM_{2.5}$ may make the actual mortality burden range from approximately one-sixth to about double these figures.

Overall, air pollution is estimated to cause 29 000 deaths per year in the UK, with 3389 deaths in London, 520 in Birmingham, 306 in Glasgow and 1320 in Wales.

The report is at www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317141074607.

UK Recommendations on Methane and Biomethane Use in HGVs

On 13 March 2014 the UK Department for Transport released a guidance document on the use of methane and biomethane in Heavy Goods Vehicles (HGV).

The report prepared by the Low Emission HGV Task Force considers how best to facilitate the wider take up of methane gas-powered HGVs to help reduce CO_2 emissions from the road freight sector and aims at contributing to the development of future UK policy.

Recommendations include in particular:

- Quantify methane leakage from vehicles, refuelling infrastructure, and fuel supply and consider what measures are necessary to address this issue.
- Undertake new research to establish gas production pathways in order to inform the calculation of Well-To-Wheel carbon savings for different forms of methane gas fuel.
- Determine and demonstrate ancillary benefits of using gas in HGVs e.g. air quality and noise.
- Support the establishment of a network of gas refuelling infrastructure, taking account of potential demand from freight operators and other users and the mix of LNG and CNG vehicles in operation.
- Support development and implementation of gas fuel standards.

The report is available at www.gov.uk/government/publications/low-emission-hgv-task-force-recommendations-on-use-of-methane-and-biomethane-in-hgvs.

DUH wins Case on Air Quality in Germany

On 9 April 2014 the state of Bavaria in Germany withdrew its appeal to the decision by the Munich Administrative Court in October 2012 that it should change the air quality plan in Munich and include all measures to ensure that the NO_2 and PM_{10} limit values are met. The Bavarian Higher Administrative Court had announced in advance in writing that it would reject the appeal of the state of Bavaria.

The legal action was initiated by the Deutsche Umwelthilfe (German Environmental Aid, DUH) who filed in February 2012 a lawsuit against the state of Bavaria, because of persistent exceedances of limit values for NO_2. Bavaria now has until 15 November 2014 to come up with a revised air quality plan.

The limit value for nitrogen dioxide of 40 µg/m^3 was again massively exceeded in Munich in 2013 with a value of 81 µg/m^3 measured at the Landshuter Allee station. Almost all major roads in the city centre of Munich show exceedances of the limit values for NO_2.

DUH proposes a ban on diesel vehicles not equipped with DPF, retrofit funding schemes for public transport, and in the long term a tunnel under the Landshuter Allee. In addition DUH recommends enlarging the low Emission Zone to the entire city of Munich, retrofitting all buses operating without DPF with PM and NO_2 exhaust aftertreatment, mandating the use of DPFs on construction equipment and replacing the taxi fleet with natural gas or petrol-hybrid vehicles.

Switzerland considers $PM_{2.5}$ Air Quality Standard

On 19 March 2014, the Swiss Federal Commission for Air Hygiene released its conclusions on the evaluation of health effects of ambient particulate matter.

The report entitled "Particulate matter in Switzerland in 2013" takes into account the latest European health research findings, including the "Swiss Cohort Study on Air Pollution and Lung and Heart Diseases in Adults". The findings show that, even at the present-day level, air pollution causes disease and death.

Evidence has also been found regarding the harmful effects on health of particles with a diameter of less than 2.5 µm ($PM_{2.5}$), as well as of soot. Unlike in many other countries, $PM_{2.5}$ is not yet regulated separately in Switzerland. The Federal Commission for Air Hygiene therefore recommends incorporating an additional ambient air quality standard for $PM_{2.5}$ into the Ordinance on Air Pollution Control in addition to the already existing air quality standards for PM_{10}.

The report is available in German, French and Italian at www.uvek.admin.ch/dokumentation/00474/00492/index.html?lang=en&msg-id=52333.

Air Quality Problems in Norway

On 27 March 2014 the European Free Trade Association (EFTA) Surveillance Authority announced it will investigate violations to the EU Air Quality Directive in Norway.

Most breaches are due to high annual mean NO_2 concentrations in the major cities of Oslo, Bergen, Trondheim, Stavanger, and Drammen. A delay from 2010 to 2015 for compliance to the NO_2 limit has been granted to Bergen but the deadline in other cities has not been extended.

Unless Norway implements measures necessary to comply with the EU Air Quality Directive within two months the case may be transferred to Court.

New Particulate Limits proposed for Norway

Norway's Environment Directorate, Directorate of Health, Public Health, and the Norwegian Public Road Administration published on 28 February 2014 a recommendation to tighten the country's limits on Particulate Matter (PM) concentrations in the air.

Norway's existing air quality standards are similar to the EU's, but the European Commission decided in its Clean Air package of December 2013 not to update the limits set in the Air Quality Directive.

On behalf of the Environment and Health ministries, the four agencies studied how and how much the limit values for PM should be tightened so that airborne dust levels are the least harmful; they concluded that PM emissions limits should be cut by around half by 2020. Both the maximum allowable annual mean PM concentration and the number of days of exceedances should be reduced.

Proposed limits for PM_{10} are an annual maximum of 25 µg/m³ in 2015 and 22 µg/m³ in 2020, compared to the current limit of 40 µg/m³; and a daily maximum of 50 µg/m³ with up to 30 exceedances allowed in 2015 and 15 in 2020, compared to the current 50 µg/m³ not to be exceeded more than 35 times.

Proposed limits for $PM_{2.5}$ are an annual maximum of 15 µg/m³ in 2015 and 12 µg/m³ in 2020 compared to the limit of 25 µg/m³ that will apply from 2015.

Standards recommended for coarse (PM_{10}) and fine particles ($PM_{2.5}$) are based on emissions reduction measures found to be cost-effective in the three cities of Oslo, Bergen, and Trondheim. For PM_{10}, a number of measures are stated to be worth pursuing including fitting particulate filters to construction vehicles, the mandatory replacement of old stoves, dust suppression and reduced use of studded tyres. The first two would also help bringing down $PM_{2.5}$ levels, the agencies said but it is not worth replacing diesel buses as emissions are falling anyway.

The group also said Norway's long-term air quality goals for PM_{10}, $PM_{2.5}$ and NO_2 should be changed from daily or hourly limits to annual ones as it is long-term exposure that is most damaging to health.

The group looked at reducing the limits for nitrogen dioxide (NO_2) too but found the health benefits were not clear enough to justify a cut.

NORTH AMERICA

US EPA adopts Tier 3 Standards

On 3 March 2014 the US Environmental Protection Agency (EPA) announced that it has finalized the Tier 3 standards for vehicle emissions and fuels.

Starting in 2017 Tier 3 will set new vehicle emissions standards and will lower the sulfur content in gasoline. The Tier 3 vehicle standards reduce both tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles. It is harmonized with the California Air Resources Board (CARB) Low Emission Vehicle (LEV) III programme and is designed to be implemented over the same timeframe as EPA's programme for reducing greenhouse gas emissions from light-duty vehicles starting in 2017. Tailpipe standards include different phase-in schedules between 2017 and 2025.

New standards for the sum of non-methane organic gases (NMOG) and nitrogen oxides (NOx) are set at a level approximately 80% lower than today's fleet average. The NMOG+NOx average limit for light-duty vehicles and medium-duty passenger vehicles will decline from today's Tier 2 Bin 5 160 mg/mile on the Federal Test Procedure (FTP) to 30 mg/mile by 2025.

The new standard for Particulate Matter (PM) will apply to each vehicle separately (rather than as a fleet average), differing by vehicle class and test cycle. For light-duty vehicles and medium-duty passenger vehicles for example a PM standard of 3 mg/mile, as measured on the FTP cycle, will apply to all vehicles and model years, down from the current 10 mg/mile. On the US06 cycle, the PM standard will be 10 mg/mile until 2018, and 6 mg/mile from 2019 onwards.

EPA has also extended the regulatory durability period from 120 000 miles (~193 000 km) up to 150 000 miles (~240 000 km).

To control evaporative emissions EPA has established more stringent standards that will require vehicles to have essentially zero fuel vapour emissions in use. These include more stringent evaporative emissions standards, new test procedures, and a new fuel/evaporative system leak emission standard.

According to EPA, the Tier 3 standards will have an average on-cost of about $72 (€50) per vehicle in 2025.

Also, under the Tier 3 programme, gasoline will be required to meet a maximum average sulfur content of 10 ppm by 1 January 2017.

Key changes to emissions test fuel introduced in the Tier 3 programme include moving to a test fuel containing 10% ethanol by volume (E10) and a lower octane. EPA is also setting test fuel specifications for E85 for the first time.

More info, including the Final Rule itself, can be found at www.epa.gov/otaq/tier3.htm.

US awards Research Funding for Diesel Exhaust Aftertreatment

On 20 March 2014 the US Department of Energy (DOE) awarded $1 million (€730 000) each to 17 organizations for the 2014 Small Business Innovation Research Phase II projects.

This funding aims at helping small businesses in 13 states develop prototype technologies that could improve manufacturing energy efficiency, reduce the cost of installing clean energy projects, and generate electricity from renewable energy sources.

The 17 selected projects include 6 vehicle-related technologies and 2 hydrogen and fuel cell technologies, as well as new hydropower, heat pump, solar and manufacturing technologies. Vehicle-related projects include one on advanced Diesel catalysts and one on a low-cost NOx sensor.

TDA Research, Inc. of Wheat Ridge, Colorado, was awarded $1 million to develop a new Diesel exhaust aftertreatment system using new low temperature catalysts while Nextech Materials of Lewis Center, Ohio, was awarded $1 million to use its NOx sensing technology to develop a low-cost device capable of accurately quantifying NOx concentrations in the exhaust stream of Diesel passenger cars and heavy duty trucks.

EPA Settlement on Import of Vehicles failing to meet Pollution Standards

On 4 March 2014 the US Environmental Protection Agency (EPA) announced the settlement of an agreement with Chinese company CFMOTO and its US distributor following illegal import of recreational vehicles and motorcycles.

EPA alleged that over 12 000 highway motorcycles and recreational vehicles imported by the companies between 2007 and 2013 were not certified by EPA to meet applicable federal emissions standards. Of these, EPA found that 993 vehicles had fuel tanks that did not operate properly to control evaporative emissions, or gasoline vapours, and that approximately 1400 vehicles were imported without proper emissions control information labels.

The companies will pay a combined civil penalty of $725 000 (€530 000) and have also agreed to recall and replace fuel tanks that will better control gasoline vapours in about 1000 vehicles. The companies must also correct the emission control information labels for those vehicles that are still within their control.

US EPA fines Importer of Illegal Motorcycles and Recreational Vehicles

On 26 March 2014 the US Environmental Protection Agency (EPA) announced a settlement with company American Lifan Industry regarding violation of the Clean Air Act by importing and selling over 6 700 highway motorcycles, recreational vehicles, and engines that lacked the required certification indicating that emissions meet federal standards.

EPA's investigation showed that American Lifan Industry, an Ontario, California-based vehicle and engine importer, illegally imported highway motorcycles, recreational vehicles, and engines manufactured in China that did not comply with Clean Air Act pollution standards.

The company obtained certificates of conformity for numerous vehicles without conducting the required emissions testing. In October 2013, EPA voided 45 invalid certificates of conformity held by the company, which affected over 21 000 model year 2006-2011 highway motorcycles and recreational vehicles.

The company will pay $630 000 (€ 456 000) in civil penalties and will also post a $300 000-$500 000 bond to satisfy any future potential penalties related to importation of model year 2014, 2015, and 2016 vehicles manufactured by China Lifan Industry. This is the first time that the EPA has secured such a bond in a Clean Air Act settlement.

Uncertified Diesel Particulate Filters Retailer fined in California

On 21 March 2014 the California Air Resources Board (CARB) announced that company SK Innovation Co. Ltd. was fined $790 000 (€ 570 000) for selling Diesel Particulate Filters (DPFs) in a non-verified configuration. These filters featured a metal substrate.

A CARB investigation revealed that the units sold were produced with non-conforming warning systems that were not approved by CARB. DPF systems must be installed with a backpressure monitor to notify the operator when the specified high pressure limit is approached. The notification must occur and be clearly visible to the operator while the vehicle or equipment is in use. Specifically, the "Peak Pressure of the Exhaust" (PPE) values were not the same as those originally approved by CARB.

In addition to the fine, SKI also agreed to a nationwide recall campaign that started on 3 January 2014 and with a deadline of 30 June 2014.

California Fines for Sea-going Ships violating Low Sulfur Fuel Regulation

On 11 March 2014 the California Air Resources Board (ARB) announced that it has fined 12 shipping companies a combined $476 750 (€ 345 000) for failure to switch from diesel bunker fuel to cleaner, low-sulfur marine distillate fuel as sea-going ships were entering California waters.

All 12 shipping companies were fined for either failing to switch to cleaner fuel within 24 nautical miles of the California coast, or for switching fuels in an untimely manner. They all took prompt action after being notified of the violations and, under CARB's supervision, began complying with State law, CARB said.

ASIA PACIFIC

China to strengthen its Environmental Legislation

On 9 March 2014 the chairman of the National People's Congress (NPC) Standing Committee in China, Zhang Dejiang, announced that the Environmental Protection Law and the Air Pollution Prevention and Control Law will be revised to improve the environmental protection and management system.

His words came a few days after Chinese Premier Li Keqiang "declared war" against pollution on 5 March 2014, and pledged to fight it with the same determination the country battled poverty. Revising the environmental protection law, which took effect in 1989, has been deemed central to curbing pollution. However, the past three attempts to amend the law have not been successful.

Zhang said environmental problems, such as air, water and soil pollution are of great public concern and stressed that protecting the environment is an urgent and complex task that requires long-term efforts. The NPC Standing Committee will investigate compliance with the Air Pollution Prevention and Control Law, carry out investigations and studies on preventing and controlling soil pollution, exhort relevant departments to solve prominent environmental problems, and strengthen ecological conservation, he said.

China Objective for Clean Cities in 2020

On 16 March 2014 China pledged in a State Council plan on urbanization that it will make sure that 60% of its major metropolitan centres meet national pollution standards by 2020.

China's environmental problems include pollution and water scarcity and are expected to intensify as rapid migration pushes urban infrastructures to the limit. Only three of 74 major cities in China met the pollution standards in 2013.

The State Council plan outlined a list of policies it will implement to meet the target, including boosting renewable energy use, curbing emission-intensive industries and taking the most-polluting vehicles off the roads. The government plans to roll out trading systems for carbon and air pollutant emissions.

The environment has emerged as a key priority amid growing public disquiet about smog. Poor air quality is estimated to end hundreds of thousands of lives prematurely each year and has led to a series of riots and public protests.

ICCT Policy Update on Chinese Fuel Consumption Standard for Cars

On 5 March 2014, the International Council on Clean Transportation (ICCT) published a policy update summarizing the major aspects and provisions of the proposed Chinese "Phase 4 standard" for passenger cars' fuel consumption.

Indeed, on 21 January 2014, the Chinese Ministry of Industry and Information Technology (MIIT) released a proposal for fuel consumption standards for passenger cars which would regulate domestically manufactured and imported new passenger cars sold in China from 2016 to 2020. It projects an overall fleet-average fuel consumption of 5 l/100 km for new passenger cars in 2020, as measured over the New European Driving Cycle (NEDC), from an expected fleet average of 6.9 l/100 km in 2015.

The ICCT policy update is at http://theicct.org/sites/default/files/publications/ICCTupdate_ChinaPhase4_mar2014.pdf.

Shanghai introduces China V Standard

On 2 April 2014 the Shanghai Environmental Protection Bureau announced the introduction of the China V standard for new vehicles as of 30 April 2014, following Beijing which implemented it in March 2013.

All vehicles lighter than 3.5 tons, and those used in public transportation, sanitation and postal services, will have to meet the China V standard. Gas stations around the city have been selling gasoline and diesel that meet the China V standard since November 2013.

According to the Bureau, vehicles under the new emissions standard will cut nitrogen oxides by 25 to 43% compared to the previous standard.

Shanghai will also ban the yellow-label, or heavily polluting vehicles, on and within the Outer Ring Road starting from 1 July 2014. The city's traffic authority also plans to extend the restricted area for heavily polluting vehicles to the suburban loop in the first half of 2015.

Beijing and Seoul Cooperation Agreement to tackle Air Pollution

On 3 April 2014 Beijing Mayor Wang and Seoul Mayor Park Won-soon signed an agreement to work together to improve air quality, including the reduction of ultrafine dust.

The two capital cities agreed to increase cooperation and exchanges of personnel in the policy, technology and information fields to prevent air pollution. They also agreed to establish a Seoul-Beijing joint committee environmental team. The two cities also agreed to hold a forum to improve air quality in Northeast Asia.

Beijing and Seoul plan to cooperate on low NOx burners, on increasing the supply of buses that run on Compressed Natural Gas and on DPF retrofit campaigns on public vehicles.

Singapore sets up Advisory Panel on Transboundary Pollution

On 11 March 2014 Singapore Minister for the Environment Vivian Balakrishnan told the Parliament that an international advisory panel has been formed to provide legal advice to the government on matters related to transboundary pollution.

The International Advisory Panel on Transboundary Pollution, headed by Shunmugam Jayakumar and Tommy Koh, will study and advise the government on the trends and developments in international law relating to transboundary pollution. It will also advise the government on related solutions and practical steps that Singapore can adopt.

Commercial Vehicle Phase Out Scheme considered in India

According to the Mail Today newspaper, the Indian Road Ministry is planning to create a phase out scheme for commercial vehicles of age eight years or more.

The 8-year cap will come into effect across India, according to Road Ministry officials, and will help address issues like pollution and congestion.

In Delhi alone, there are more than 330 000 commercial vehicles on the roads and if the Directive is implemented nearly 90% of the trucks will be pulled off the road. Also, the number of buses registered in Delhi is almost 20 000.

"If the government is planning to phase out old vehicles, they should also ensure that automobile manufacturers provide advanced emission standards for new vehicles. Bharat Stage 4 is an old emission standard and the government has to make sure that old vehicles are replaced by Euro 5 and Euro 6 standards, otherwise it will be futile", Centre for Science and Environment executive director Ms Anumita Roychowdhury told the newspaper. "The new Euro 4 technology is still 10 years behind what is being used in the US and Europe. In India, there are more than 5 million commercial vehicles and 1.2 million public transport vehicles", she added.

Indian Auto Fuel Recommendations

Part of the recommendations by the Indian oil ministry's committee on 'Auto Fuel Vision and Policy-2025' have been released in the media in April 2014.

The committee is said to recommend an auto fuel quality road map for the next 10 years and to suggest the corresponding vehicle engine technology requirements.

In addition, the Indian government plans to impose an additional 30% environment compensation charge on diesel vehicles and is considering tightening the emission norms by mandating Euro 4 fuels nationwide by 2015. Currently, only 39 cities are covered by the Euro 4 mandate. At the same time, the government indicated that Euro 5 norms could be mandated as early as 2016 and Euro 6 norms by 2021.

Indian's filling stations may start selling Euro 6 fuels by April 2021, according to Bloomberg News, providing that state-run refiners such as Indian Oil Corp. Ltd get the funds needed to upgrade their facilities, especially for Diesel fuel production.

Malaysia to complete B5 Implementation

Plantation Industries and Commodities Minister Dato' Sri Douglas Uggah Embas announced on 26 March 2014 that Malaysia will complete the implementation of the government's B5 mandate in July 2014.

Malaysian B5 is composed of 95% petroleum Diesel fuel and 5% palm oil-based biodiesel.

The country started the rollout of its biodiesel program in June 2011. The plan is to boost the biodiesel content in petroleum Diesel fuel to 7% by January 2015.

MIDDLE EAST

Iran Ready to produce Euro 5 Gasoline

Following announcements earlier this year, the Chairman of the Iranian Sarv Oil and Gas Development Company told the Islamic Republic News Agency on 11 March 2014 that the company is now ready to produce Euro 5 or even higher quality gasoline in Iran.

The company has achieved implementation of GTL (Gas to Liquid) technology and therefore the production line can start. The GTL technology process converts natural gas or other gaseous hydrocarbons into longer-chain hydrocarbons such as gasoline or diesel fuel.

Iran plans to turn to high-quality and standardized gasoline in order to reduce the capital's constantly increasing air pollution. The air in Tehran where motor

vehicles account for 70% of the pollution is amongst the most polluted in the world and many Iranians suffer serious health problems as a result.

On 22 April 2014 Iran's Shana news agency reported that the amount of benzene in Euro 4 gasoline produced in Iran is 0.8%, based on samples taken from twelve gas stations in Tehran. This is in line with the European gasoline standard of maximum 1% benzene.

UNITED NATIONS

New WHO Estimate of Premature Death linked to Air Pollution

On 25 March 2014 the World Health Organization released new estimates on the burden of disease from household and ambient air pollution for 2012.

According to the new data around 7 million people died in 2012 as a result of air pollution exposure; this represents 12% of total global deaths. The Western Pacific and South East Asian regions bear most of the burden with 2.8 and 2.3 million deaths respectively. In Europe, 287 000 deaths occurred in low- and middle-income (LMI) countries and 295 000 in high-income (HI) countries.

This finding more than doubles previous estimates and confirms that air pollution is now the world's largest single environmental health risk. In the case of outdoor air pollution only, WHO estimates there were 3.7 million deaths in 2012 from urban and rural sources worldwide. About 88% of these deaths occurred in LMI countries, which represent 82% of the world population. In Europe 200 000 deaths occurred in LMI countries and 280 000 deaths occurred in HI countries. The large increase in burden compared with the previous estimate of 1.3 million deaths from ambient air pollution from 2008 is due to additional evidence that has become available on the relationship between exposure and health outcomes and the use of integrated exposure-response functions; an increase in non-communicable diseases; the inclusion of the rural population, whereas the previous estimate only covered the urban population; and the use of a lower counterfactual, i.e. the baseline exposure against which the effect of air pollution is measured.

The new data reveal a stronger link between both indoor and outdoor air pollution exposure and cardiovascular diseases, such as strokes and ischaemic heart disease, as well as between air pollution and cancer. This is in addition to air pollution's role in the development of respiratory diseases, including acute respiratory infections and chronic obstructive pulmonary diseases.

The WHO air pollution estimates are at www.who.int/phe/health_topics/outdoorair/databases/FINAL_HAP_AAP_BoD_24March2014.pdf and the updated WHO factsheet on ambient air quality and health is at www.who.int/mediacentre/factsheets/fs313.

European Inter-ministerial Meeting on Transport, Health and Environment

On 15 April 2014 European ministers attending the 4th High-level Meeting on Transport, Health and Environment adopted the 'Paris Declaration: City in Motion - People First!'

The meeting hosted by the Government of France, was co-organized by the United Nations Economic Commission for Europe (UNECE) and the European office of the World Health Organization (WHO). It was held on 14-16 April 2014 and attended by over 20 ministers, deputy ministers and state secretaries of health, environment and transport, as well as ambassadors.

Through the 'Paris Declaration', European countries are creating a new vision of green and healthy mobility and transport to ensure sustainable livelihoods for all, linking the promotion of health and sustainability to socio-economic justice. This is supported by new goals and tools including a new priority to integrate transport, health and environmental objectives into urban and spatial planning policies; the Pan-European Programme Academy strengthening knowledge and skills development for integrated transport, health, environment and spatial planning; a pan-European master plan to promote cycling; stronger partnerships with city networks, civil-society organizations and the research community; and the mobilization of young people and their organizations.

Application of IMO Tier III Shipping NOx Standard to be amended

At the 66th session of the Maritime Environment Protection Committee (MEPC) of the International Maritime Organization (IMO), held in London, UK from 31 March to 4 April 2014, the Tier III standard for engine NOx emissions as set out in the MARPOL Convention was amended.

The Russian proposal to delay the application of the rule by 5 years to 2021 for all vessels was rejected and under the new agreement the Tier III NOx standards will apply to marine diesel engines installed on ships constructed on or after 1 January 2016 and which operate in the North American and US Caribbean Sea Emission Control Areas that are designated for the control of NOx emissions. Also, the Tier III requirements will apply to marine diesel engines when operated in other NOx ECAs (NECA) in the future but Tier III would only apply to ships constructed on or after the date of adoption by the MEPC of such an ECA, or a later date as may be specified in the amendment designating the NECA.

Further, the Tier III requirements do not apply to marine diesel engines installed on ships constructed prior to 1 January 2021 of less than 500 gt, of 24 m or over in length, which have been specifically designed and are used solely for recreational purposes.

The MARPOL convention amendments are expected to enter into force on 1 September 2015. Countries now have six months to formally object to the decision. One third of IMO contracting parties would need to object to nullify the decision.

At the meeting, MEPC also agreed to establish a correspondence group to develop the methodology to determine the availability of low-sulfur fuel oil to comply with the 0.5% sulfur fuel oil standard.

In view of the MEPC meeting discussion, the port authorities of Rotterdam and Antwerp had called on 12 March 2014 for the introduction of stricter NOx emissions standards for newly built vessels on the North Sea and English Channel no later than 1 January 2016.

The two largest ports in Europe did not support a postponement by five years of the already agreed upon regulation. Ships' engines which comply with the Tier III standards emit 80% less NOx than currently built vessels, the port authorities said. Reducing the emissions from shipping to improve air quality is in line with the sustainability policy of the two ports.

GENERAL

T&E Position Papers on RDE and NRMM

On 14 April 2014 green NGO Transport and Environment (T&E) released two new position papers on real world emissions from cars and on the draft proposal on pollutant emissions from Non-Road Mobile Machinery (NRMM).

For T&E, tackling real world emissions from cars requires a PEMS data evaluation method that does not exclude or underweight important emitting events and which is easily applicable by third parties for verification purposes; normal boundary conditions that adequately represent driving conditions experienced by drivers in real life; a conformity factor that allows PEMS emissions to be compared to emissions measured under controlled laboratory conditions, by taking into account real-world sources of variability (the conformity factor should be as close to one as possible); reliable PEMS equipment with direct emissions measurements; and a coherent global approach for measuring air pollutants and CO_2 emissions including a new test cycle (WLTC) and improved checks during type approval and periodical technical inspections.

Regarding the Commission's draft proposal for the revision of the NRMM directive, T&E considers that in order to adequately protect human health and the environment, the proposal should be adapted so as to include Particle Number (PN) limits for all machines; align emissions limits with Euro VI emissions limits for trucks; introduce a delay of entry into force of 2 years for all machines; and remove all derogations.

The T&E briefing on RDE is available at www.transportenvironment.org/sites/te/files/publications/2014%2004%2014%20RDE%20Proposal%20FINAL_0.pdf and the one on NRMM can be downloaded at www.transportenvironment.org/sites/te/files/publications/2014%2004%2014%20NRMM%20FINAL.pdf.

Report on reducing Black Carbon Emissions from Road Transport

On 2 April 2014 the World Bank released a report, written by researchers from the International Council on Clean Transportation (ICCT), on efforts to control black carbon emissions from diesel transportation in developing countries.

The report "Reducing black carbon emissions from diesel vehicles: Impacts, control strategies, and cost-benefit analysis" presents a summary of emissions control approaches from developed countries, which face a number of field implementation challenges. It applies a new cost-benefit analysis methodology to four simulated diesel black carbon emissions control projects: diesel retrofit in Istanbul, green freight in Sao Paulo, fuel and vehicle standards in Jakarta, and compressed natural gas buses in Cebu. Both climate and health benefits are evaluated.

The report is available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/04/04/000442464_20140404122541/Rendered/PDF/864850WP00PUBL0l0report002April2014.pdf.

Awareness Campaign on Health Effects of Air Pollution

On 4 April 2014 the Climate and Clean Air Coalition (CCAC) to Reduce Short-Lived Climate Pollutants agreed to launch a worldwide campaign to raise awareness of the health effects of air pollution and to prompt action to mitigate its effects.

The CCAC health campaign will be conducted in conjunction with the World Health Organization (WHO), a Coalition partner.

"New WHO evidence shows that air pollution is a key factor in one in eight deaths worldwide," said Dr. Carlos Dora, Coordinator of the Health and Environment Department at WHO. "The benefits to health from reducing air pollution are not well known and need to be urgently disseminated."

The CCAC also approved funding of approximately $10 million (€7 million) for activities to improve climate and agriculture, as well as health, through reduction of short-lived climate pollutants. The heavy-duty diesel

initiative received approval to address two areas: emissions from port facilities and marine vessels, and fuel standards in the Western and Southern African regions, where there is significant need and opportunity for improved climate and health benefits through major black carbon reductions from diesel engines.

Concawe Review of the Year of Air

On 7 April 2014 Concawe, the oil companies' European association for environment, health and safety in refining and distribution, published a special issue of their Review on the Year of Air.

The aim of this report is to bring together all recent information that Concawe has generated in the field of the integrated assessment modelling and cost-benefit analysis related to air policies, with a special focus on the uncertainties/sensitivities and their implications for the policy-making process.

The Concawe Review special issue is at www.concawe.eu/Content/Default.asp?PageID=580&DocID=5258.

ICCT Report on Feasibility of IMO Tier III NOx Standard for Ships

On 25 March 2014 the International Council on Clean Transportation (ICCT) released a new working paper on the feasibility of implementation of the International Maritime Organization (IMO) Tier III NOx standard using Selective Catalytic Reduction.

The ICCT said that SCR, using ammonia as the reducing agent, is the only technology currently available to achieve compliance with the IMO Tier III NOx standard for all applicable engines.

The ICCT study surveyed technical literature and industry reports to assess the equipment costs, environmental side effects, urea and catalyst availability and disposal, and overall system costs of SCR in the marine sector. Approximately 1 250 SCR systems have been installed on marine vessels. Those vessels have accumulated more than 80 000 hours of operation over the past two decades. Currently there are at least 21 companies based in Europe, the US, and Asia developing engine, SCR, and catalyst technologies capable of meeting current and future NOx reduction requirements.

The study estimated costs of technology application using a model produced by the International Association for Catalytic Control of Ship Emissions to Air (IACCSEA). That model showed a total operation cost of between $104 000 and $224 000 (€75 000 - €160 000) per year, or approximately $900 to $2000 per tonne of NOx reduced. Based on historical trends in other sectors, the cost of operating marine SCR systems can be expected to fall, the report notes.

The study also found that, because engines certified to current NOx emissions standards must be tuned to operate at off-optimal combustion conditions, installation of SCR systems could produce fuel efficiency gains on the order of 2% to 4%.

The study assessed other potential barriers to the adoption of SCR as well, concluding that none should significantly inhibit implementation of the 2016 NOx limits on schedule. Vanadium-based SCR systems, supplemented where necessary with strategies to boost exhaust temperature in low-load operations, will be capable of reducing NOx over a sufficient range of operational conditions, particularly when paired with the 0.1% sulfur fuel that will be made available in Sulfur Emission Control Areas.

The ICCT report is at www.theicct.org/sites/default/files/publications/ICCT_MarineSCR_Mar2014.pdf.

Updated JEC Well-To-Wheels Report

The JEC Consortium (the European Commission's Joint Research Centre, EUCAR and CONCAWE) released on 26 March 2014 an updated version of their report on Well-To-Wheels analysis.

This report is the fourth (4a) release of the well-to-wheel analysis study and replaces version 3c published in July 2011. Version 4a of the report includes a longer term outlook by expanding the time horizon to 2020. It particularly adds an assessment of the contribution of electrically chargeable vehicle configurations including plug-in hybrid, range-extended, battery and fuel-cell electric vehicles. The report also introduces updated fuel pathways including shale gas, additional biofuel types, updated production data for biofuels and an updated electricity mix, relevant for electric vehicle recharging.

The JEC report version 4a is at http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu.about-jec/files/documents/wtw_report_v4a_march_2014_final.pdf.

Updated Study on Biofuels by JEC Consortium

On 17 April 2014 the JEC consortium (JRC, Eucar, and Concawe) released an update of the 2011 study on biofuels "EU renewable energy targets in 2020: Revised analysis of scenarios for transport fuels report".

This update of the study, necessitated by significant changes in the boundary conditions, analyses potential compliance with the 2020 Renewable Energy Directive (RED) and Fuel Quality Directive targets. Possible changes in these two directives have the most significant influence on the potential to meet the targets. In addition, changes in vehicle fleet

composition, in the demand for fuels and in the supply of renewable fuels influence the results.

Using a reference case based on currently standard biofuel blends (B7, E5 and E10), the renewable energy share in transport falls short of the RED 10% target for all potential regulatory scenarios. Evaluation of three additional cases using higher biofuel blends has shown that the 10% RED target cannot be reached using either 2009 RED rules or the new proposals. The major factors in these new results are the projected supply of renewable fuels in 2020, the renewal of the vehicle fleet and the proposed accounting cap on the contribution of certain biofuels towards meeting the targets.

None of the considered scenarios achieves the minimum 6% greenhouse gas reduction target mandated in the Fuel Quality Directive.

The updated report is at http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu.about-jec/files/documents/JEC_Biofuels_2013_report_FINAL.PDF.

Concawe Report on Fuel Consumption Impacts of Ethanol Content in Gasoline

On 4 March 2014 Concawe, the oil companies' European association for environment, health and safety in refining and distribution, released a new report named "assessment of the impact of ethanol content in gasoline on fuel consumption, including a literature review up to 2006."

The scope of this literature assessment was on the use of low-level ethanol/gasoline blends, specifically 5% (E5) and 10% (E10) v/v ethanol in gasoline which are the most common ethanol levels in Europe today.

Concawe notes that this report was completed before the recently published JEC report "Effect of oxygenates in gasoline on fuel consumption and emissions from three Euro 4 passenger cars" (*see AECC Newsletter January-February 2014*), and was therefore used as the basis for the JEC programme.

Concawe Report 13/13 is available at www.concawe.eu/DocShareNoFrame/docs/4/CMENINHBJLBGLAMCFAMPNLFMVEVCW69YA3PDWK9DBNEW/CEnet/docs/DLS/Rpt_13-13-2014-00668-01-E.pdf.

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FORTHCOMING CONFERENCES

Diesel Particulates and NOx Emissions Course

12-16 May 2014, Leeds, UK

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

The course consists of review lectures by Prof. Andrews of the latest published information 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.

3. Umweltsymposium - Grenzen der Abgasgesetzgebung erreicht?

19-20 May 2014, Herrsching, Germany

www.hdt-essen.de/3__Umweltsymposium_Symposium_W-H130-05-060-4

Presentations will show the current state of exhaust emissions from road traffic and engine and fuels developments, and measures to address critical air quality problems.

Advanced Emission Control Concepts for Gasoline Engines 2014

19-21 May 2014, Düsseldorf, Germany

www.emissioncontrol-gasoline.com

Topics of this 3rd international conference include an update of regulations and legislation on PM for GDI engines, insight into latest trends in Three Way Catalyst design, advanced concepts of portable emissions monitoring systems with focus on gasoline particulate matter number measurement, latest strategies to reduce gasoline emissions through smart in-engine management, and newest trends in gasoline based emission control.

4th Integer Emissions Summit Brazil 2014

20-22 May 2014, Sao Paulo, Brazil

www.integer-research.com/dec-brazil-2014

The conference will examine current and future Brazilian diesel emissions legislation and the latest in advanced optimum emissions reduction technology.

SIA Powertrain: The Clean Compression Ignition Engine of the Future

21-22 May 2014, Rouen, France

www.sia.fr/evenement_detail_sia_powertrain_rouen_2014_1200.htm

The Clean Compression Ignition Engine conference intends to offer an overall picture of state-of-the-art technologies and look ahead to future challenges.

36th Motorship Propulsion & Emissions Conference

21-22 May 2014, Hamburg, Germany

www.propulsionconference.com

The conference will address how ship energy efficiency is working now and will focus on how ship operators can navigate the current market to improve the efficiency of their ships. Topics include high fuel costs; and complex and complicated imminent legislation, including Tier III regulation.

International Transport Forum

21-23 May 2014, Leipzig, Germany

http://2014.internationaltransportforum.org

The 2014 annual summit of the International Transport Forum will discuss transport for a changing world.

2014 JSAE Annual Spring Congress and Exposition

21-23 May 2014, Yokohama, Japan

www.jsae.or.jp/2014haru/index_e.html

7th Emission Control 2014

22-23 May 2014, Dresden, Germany

www.emission-control-dresden.de/index.html

The main topics of the lectures are measures to reduce emissions, energy and heat management, and sustainable mobility. "Real Driving Emissions" will be discussed in several lectures.

4th International Exhaust Emissions Symposium

22-23 May 2014, Bielsko-Biała, Poland

www.bosmal.com.pl/4th+Exhaust+Symposium/7/146/4th+Exhaust+Symposium.html

The 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) and emissions reduction technology including aftertreatment.

FISITA 2014 World Automotive Congress

2-6 June 2014, Maastricht, the Netherlands

www.fisita2014.com

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

Congress will include an AECC presentation on "A comparison of light-duty vehicle emissions over different test cycles and in real driving conditions".

Green Week 2014: Circular Economy

3-5 June 2014, Brussels, Belgium

http://ec.europa.eu/environment/greenweek

The theme of Green Week 2014 is Circular Economy, Resource Efficiency and Waste.

Emissions 2014

11-12 June 2014, Troy, MI, USA

www.emissions2014.org

The 2014 conference's technical program will have a special focus on emissions durability.

Next Generation Off-Highway Engines 2014

16-18 June 2014, Cologne, Germany

www.off-highway-engines.com

The conference will discuss current state and future trends of NRMM with emphasis on CO_2, PM and other environmental aspects, the influence of drivetrain components on CO_2-emissions of mobile machinery, the latest emission based engine control as an effective way to increase emission robustness with reduced fuel consumption, Stage V engine with traditional injection system from an agricultural OEM, and future trends of efficient and compact aftertreatment solutions.

Aerosol Technology 2014 Conference

16-18 June 2014, Karlsruhe, Germany

www.gaef.de/AT2014

The international conference is organized by the Gesellshaft für Aerosolforschung (GAeF) to discuss applied as well as fundamental aspects of aerosol based particle technology. Topics include combustion aerosol particle formation & characterization and aerosol measurement techniques & particle characterization.

10th Integer Emissions Summit Europe 2014

17-19 June 2014, Düsseldorf, Germany

www.integer-research.com/dec-europe-2014

The conference will examine the latest legislation, optimum diesel emissions reduction technologies and strategies for Heavy-duty commercial vehicles, NRMM, passenger cars and marine applications.

18th ETH Conference on Combustion Generated Nanoparticles

22-25 June 2014, Zürich, Switzerland

www.lav.ethz.ch/nanoparticle_conf

The conference addresses characterization methods of nanoparticles for research, type-approval, manufacturing control, in-use compliance testing and progresses of internal and external emissions control

of internal combustion engines and other combustion technologies.

Engine Emissions Measurement Course

23-27 June 2014, Leeds, UK

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

A specialist short course, with extensive participation by lecturers from Horiba Instruments that is aimed at teaching the latest developments in automotive and industrial engine emissions measurement procedures and regulation compliance procedures.

EU Sustainable Energy Week

23-27 June 2014, Brussels and across Europe

www.eusew.eu

Launched in 2006 as an initiative of the European Commission, the EU Sustainable Energy Week has become a reference point for public authorities, energy agencies, private companies, NGOs and industry associations engaged in helping to meet the EU's energy and climate goals.

Engine Expo 2014

24-26 June 2014, Stuttgart, Germany

www.engine-expo.com

5th Conference MinNOx

25-26 June 2014, Berlin, Germany

www.iav.com/en/events/iav-tagung/5th-iav-minnox-conference

The conference on Minimization of Nitrogen Oxide Emissions from Combustion Engines through Exhaust Gas Aftertreatment will cover emissions legislation, technologies, simulations and application of MinNOx systems, and synergetic reduction of nitrogen oxide and CO_2 emissions.

2014 Cambridge Particle Meeting

27 June 2014, Cambridge, UK

www.cambridgeparticlemeeting.org

Topics of interest include combustion aerosols, aerosol-based nanotechnology, and new instrumentation.

11th International Symposium on Combustion Diagnostics

1-2 July 2014, Kurhaus Baden-Baden, Germany

www.combustion-diagnostics.com

The AVL Symposium will discuss combustion analysis, visualisation, and simulation, with a particular focus on the use of rapid measuring technology on more inclusive measurement tasks.

International Congress: Sensors in Exhaust Gas Emission Control

2-3 July 2014, Frankfurt, Germany

www.sv-veranstaltungen.de/en/international-congress-sensors-in-exhaust-gas-emission-control

Main topics for this conference will include soot sensors for particle filter monitoring, current state of technology for NOx sensors, oxygen sensors for reducing emissions in fuel-saving vehicles, and sensor diagnosis of EOBD for OBDII.

SCR-Systems

7-9 July 2014, Stuttgart, Germany

www.car-training-institute.com/scr

The conference will focus on global emissions legislation, OEM concepts exhaust aftertreatment, SCR catalysts, SCR on filters as combination systems, AdBlue® system components, components and OBD requirements, alternative ammonia storage, numeric models as development tool, and reduction of NOx raw emissions.

5th NGVA Europe International Show & Workshops

7-10 July 2014, Brussels, Belgium

www.ngv2014brussels.com

5th International CTI Conference: Emission Challenges

8-10 September 2014, Troy, MI, USA

www.emission-control-systems.com

Focus will be on Greenhouse gases (Regulatory and Technology Approaches), Modern Combustion Processes for reduced/low NOx raw emission, Catalyst Approaches to NOx Reduction, Ammonia based SCR Systems, Advances in SCR Filter Combinations (SCRF), and Alternative Drive Trains

Gaseous Fuels for Road Vehicles

11 September 2014, London, UK

www.imeche.org/events/S1807

This seminar will examine the application and use of gaseous fuels in vehicles. Delegates will be able to explore the different types of gases that can be used as fuels, and gain an insight into the benefits gaseous fuels have over traditional liquid fuels. What difference can they make to emissions, and CO_2 and fuel consumption? How can they be applied to passenger and commercial vehicles?

26th International AVL Conference "Engine & Environment"

11-12 September 2014, Graz, Austria

www.avl.com/engine-environment-2014

The theme for 2014 is Engine 2020: spark versus compression ignition in a new environment.

SAE 2014 Emission Control from Large Ships Symposium

15-16 September 2014, Gothenburg, Sweden

www.sae.org/events/ecls

Co-organized by SAE International, the International Association for Catalytic Control of Ship Emissions to

Air (IACCSEA), and the Exhaust Gas Cleaning Systems Association (EGCSA), this symposium will update attendees on pending emissions regulations and on technologies now available to address them.

AVL Emission Roadshow

16-17 September 2014, Stuttgart, Germany
23-24 September 2014, Magdeburg, Germany
30 September - 1 October 2014, Neuss, Germany

SAE 2014 Heavy-Duty Diesel Emissions Control Symposium

17-18 September 2014, Gothenburg, Sweden

www.sae.org/events/hddec

Attendees will hear and interact with the most knowledgeable leaders from the global, heavy-duty diesel powertrain industry who best understand the complicated science of the pollutants emitted during engine combustion and how to treat them.

Real Driving Emissions 2014

17-19 September 2014, Germany

www.real-driving-emissions.eu

This conference will review the current status of the introduction of RDE test procedures and its related technologies in the European Union.

20th International Transport and Air Pollution Conference (TAP 2014)

18-19 September 2014, Graz, Austria

www.tapconference.org

The main theme will be energy efficient transport and its implications to air quality. Special focus will be given to emissions measurement and modelling, tunnel and remote sensing measurements, GHG emissions from transport, energy efficient technologies, electric vehicles and alternative fuels, real drive emissions, forecasts, policies and scenarios in transport, urban air quality, non-road, particle number and matter from GDI, non-exhaust PM, primary and secondary aerosols, and source apportionment.

23rd Aachen Colloquium Automobile and Engine Technology 2014

6-8 October 2014, Aachen, Germany

www.aachener-kolloquium.de

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

SAE 2014 International Powertrain, Fuels & Lubricants Meeting

20-23 October 2014, Birmingham, UK
www.sae.org/events/pfl/2014

The conference will discuss combustion, hybrid powertrains, engine downsizing, engine control, fuels and fuel efficiency, lubricants, advanced fuel delivery, and emissions reduction.

FEV Conference: Diesel Powertrains 3.0

28-29 October 2014, Montabaur, Germany

www.fev.com/fileadmin/fev-resources/Flyer/Ohne_Deadline_BD_Powertrain3.0_WEB.pdf

The 1st conference on "Diesel Powertrains 3.0" will define the platform that will allow experts to bridge the transition of modern Diesel engines into the next level of overall performance for the upcoming decade.

7th Integer Emissions Summit USA 2014

28-30 October 2014, Chicago, USA

www.integer-research.com/dec-usa-2014

The conference will examine the latest legislation, optimum diesel emissions reduction technologies and strategies for Heavy-duty commercial vehicles, Off-highway vehicles, light-duty vehicles and passenger cars, marine vessels, natural gas vehicles, and Diesel Exhaust Fluid.

FEV International Conference: Advanced Fuels for Sustainable Mobility

4-5 November 2014, Nürburg, Germany

www.fev.com/events/event-einzelanzeige/?tx_ttnews%5Btt_news%5D=324&cHash=7450d7adb0827ec92f5b1ffa0ac6e77f

The conference will discuss advanced fuels developments for both heavy-duty and light-duty applications.

SAE 2014 Light Duty Emissions Control Symposium

9-10 December 2014, Troy, MI, USA

www.sae.org/events/lde

The Symposium will discuss the recently announced EPA Tier 3 regulations beginning in 2017, diesel and gasoline particulate matter control, CAFE standards, and CO_2 and criteria emission regulations.

5th Integer Emissions Summit India 2015

19-21 May 2015, New Delhi, India

www.integer-research.com/dec-india-2014

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 JSAE/SAE Powertrains, Fuels and Lubricants International Meeting

1-4 September 2015, Kyoto, Japan

http://pfl2015.jp

Deadline for abstracts: 1 October 2014