



Newsletter

January - February 2015

INTERNATIONAL REGULATORY DEVELOPMENTS

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EUROPE

Commission's Energy Union Package

On 25 February 2015 the European Commission adopted its Communication on an Energy Union which aims at completing the single energy market in Europe.

According to the Commission, the Energy Union means a 'solidarity clause, energy flows as if it were a fifth freedom, energy efficiency first, and transition to a low-carbon society that is built to last'.

Transport represents more than 30% of final energy consumption in Europe. Realising its energy efficiency potential requires a continued focus on tightening CO₂ emission standards for passenger cars and vans post-2020, and on measures to increase fuel efficiency and reduce CO₂ emissions for heavy-duty vehicles and buses, the Commission said. The EU needs to speed up energy efficiency and decarbonisation in the transport sector, its progressive switch to alternative fuels and the integration of the energy and transport systems. The Commission will propose a comprehensive road transport package promoting more efficient pricing of infrastructure, the roll-out of intelligent transport solutions and enhancing energy efficiency. The Commission will take further action to create the right market conditions for an increased deployment of alternative fuels and to further promote procurement of clean vehicles. This will be delivered through a mix of national, regional and local measures supported by the EU.

The Energy Union Communication is at http://ec.europa.eu/priorities/energy-union/docs/energyunion_en.pdf.

Delegated Act on Tractors' Emissions Requirements published

On 23 January 2015 Commission Delegated Regulation (EU) 2015/96 was published in the EU's Official Journal, supplementing regulation (EU) No 167/2013 as regards Environmental and Propulsion unit Performance Requirements of agricultural and forestry vehicles (REPPR).

This new Delegated act refers to the provisions of the Non-Road Mobile Machinery Directive 97/68/EC which lays down the limit values for pollutant emissions of Stages IIIA, IIIB and IV engines.

The new regulatory framework will replace the existing tractors framework Directive 2003/37/EC and the tractors emissions Directives 77/537/EC and 2000/25/EC (as amended) from 1 January 2016.

Regulation (EU) 2015/96 is at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2015_016_R_0001.

Amendment to Car CO₂ Regulation published

On 7 January 2015 Commission Delegated Regulation (EU) 2015/6 was published in the Official Journal of the EU, amending the car CO₂ Regulation (EU) 443/2009 to take into account the evolution of the mass of new passenger cars registered in 2011, 2012, and 2013.

The average mass value used for the purpose of calculating the specific emissions of CO₂ for each new passenger car is to be adjusted every three years to take into account any change in the average mass of new vehicles registered in the EU.

The M₀ value to be applied from 1 January 2016 in the specific emissions of CO₂ for each new passenger car is increased by 20.4 kg, from 1372 to 1392.4 kg.

Regulation (EU) 2015/6 is at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.003.01.0001.01.ENG.

Enforcement Rules on the Sulfur Content in Marine Fuel published

On 17 February 2015 Commission Implementing Decision (EU) 2015/253 which establishes enforcement rules for the sulfur content in marine fuels was published in the Official Journal of the EU.

For an efficient implementation of maximum sulfur content allowed in shipping fuel in the EU, within and outside of Sulfur Emissions Control Areas (SECA), this decision requires that Member States ensure sufficiently frequent and accurate sampling of marine fuels delivered to ships or used on board ships, including inspections of ships' log books and bunker delivery notes.

Member States will have to carry out inspections of ships' log books and bunker delivery notes on board at least 10 % of the total number of individual ships calling in the relevant Member State per year.

As of 1 January 2016, the sulfur content of the marine fuel being used on board will have to be checked by sampling or analysis or both on at least 40% of the inspected ships in Member States fully bordering SECAs, 30% in countries partly bordering SECAs, and 20% in countries not bordering SECAs. From 1 January 2020, the latter will increase to 30%.

The decision also includes provisions regarding the frequency of sampling of marine fuels while being delivered to ships.

An annual report is to be submitted by Member States to the Commission on the compliance with sulfur standards for marine fuels.

Decision (EU) 2015/253 is at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2015_041_R_0012.

IIASA updates EU Air Quality Modelling and Projections for 2030

On 29 January 2015 the European Commission released a new report prepared by IIASA, the International Institute for Applied Systems Analysis, who has adjusted historic emission data, projections, and optimized emission reduction targets for 2030 and compared it to the original modelling exercise that guided the Commission's 2013 Air Quality package.

The report indicates that more rapid developments in industrial processes and household heating have taken place than previously estimated. As a result, fewer new measures will be needed to meet the EU's 2030 air pollution targets than expected when the EU's clean air package was proposed in 2013.

There is greater potential to reduce PM_{2.5} emissions in particular, which makes it easier to reduce emissions of other air pollutants, IIASA concludes. Achieving the Commission's target for reducing premature deaths caused by air pollution will now also be a third cheaper than previously estimated.

The new figures show that about half of the cost-effective PM_{2.5} equivalent emission reductions in 2030 were already achieved in 2012. This number will rise further to 60% if the EU meets targets set under the Gothenburg Protocol by 2020.

Current legislation is expected to deliver 60% of the required cuts in PM_{2.5} emissions with a large part of the remainder delivered through the implementation of new EU legislation, including directives on medium combustion plants and Non-Road Mobile Machinery, the report says. It also predicts the necessary SO₂ and NOx emission reduction to be largely achieved by the new legislation.

The IIASA report for the EU-28 is at http://ec.europa.eu/environment/air/pdf/review/TSAP_16a.pdf and the report by Member State is at http://ec.europa.eu/environment/air/pdf/review/TSAP_16b.pdf.

Industries and Households Air Pollution in Europe

On 16 February 2015 Eurostat, the statistical office of the European Union, released an analysis of emissions to air of five acidifying gases and ozone precursor substances in the EU in a breakdown by industries and households that are responsible for their generation.

The emissions of acidifying gases (SO₂, NOx, and NH₃) decreased by 32% between 2000 and 2012. This represents a reduction of 9.3 million tonnes of SO₂ equivalents. In 2012, NOx emissions accounted for the highest share of the acidifying potential (40%) followed by ammonia (35%) and sulfur dioxide (26%).

Agriculture, forestry and fishing account for the largest share of all industries with 36% of the total acidifying potential in 2012, compared with 28% in 2000.

The emissions of ozone precursors (NOx, CH₄, CO, and Non-Methane Volatile Organic Compounds (NMVOC)) fell by 32% between 2000 and 2012. The main pollutants contributing to the tropospheric ozone formation potential in 2012 were NOx and NMVOC with 58% and 30% respectively.

The highest contributors to ozone precursors in 2012 were households with 25% and the transport industry with 24% of total EU ozone precursor emissions. The manufacturing industry is the third largest emitter (19%).

The Eurostat analysis is at http://ec.europa.eu/eurostat/statistics-explained/index.php/Air_pollution_by_industries_and_households.

New CARS 2020 Action Plan

On 4 February 2015 Ms Elżbieta Bieńkowska, European Commissioner for Internal Market, Industry, Entrepreneurship and SMEs launched a new CARS 2020 Action Plan.

Following the previous successful CARS 2020 process, the new plan aims to help the automotive sector face new challenges stemming from technological changes, globalisation and a new approach to mobility that requires a coordinated approach on the EU level. It will cover a period of two years.

The new process will focus on two main objectives: strengthening the competitiveness of the automotive sector, both in Europe and externally; and driving the sector through the ongoing mobility revolution and making Europe the key player and trendsetter in the domains of innovative modes of transport and intelligent transport systems.

According to the Commission, the plan will be even more ambitious than its predecessor. It will have a much more forward-looking perspective and more action objectives. The plan will be a unique opportunity to re-shape the position of the European automotive sector and give it a proper direction for future development. The process will lay down a solid foundation for the execution of the plan.

Moreover, a strong, inclusive High Level Group with a broad participation of Commissioners and Member States officials will be created.

Commissioner Cañete talks about CO₂ Emissions of Vehicles

On 27 January 2015 Commissioner for Climate Action and Energy Mr Miguel Arias Cañete gave a speech on "Demands with regard to regulation of CO₂ levels for the automotive industry" at a conference of the German metal workers union IG Metall.

He stressed the improvement achieved on passenger cars and vans thanks to CO₂ emissions limit targets set in 2009 and 2011 respectively: a new car today emits on average 20% less CO₂ than in 2007, he said.

A cause for concern, though, is the growing difference between the emissions measured in laboratory and on the road in the real world. This is an issue that the Commission needs to tackle, he added. Both Regulations on CO₂ emission limits for cars and vans request the Commission to review the legislation by the end of 2015. Specific challenges will include enhancing the competitiveness of EU manufacturing, development of electromobility, and the test procedure.

Cañete noted that there is a clear commitment by the European Parliament, the Commission and Member States to go forward with the new worldwide harmonized test procedure and have the new test cycle (WLTC) applicable from September 2017. The Commission is working to ensure that the necessary legislation will be ready early this year, he confirmed.

Regarding heavy-duty vehicles, Cañete said that trucks, buses and coaches are responsible for about a quarter of CO₂ emissions from road transport in the EU, but today these emissions are neither measured nor reported. Work is in progress to finalise the "VECTO" simulation tool to determine CO₂ emissions from these vehicles and two pieces of legislation are being developed to certify and monitor CO₂ emissions, with the aim to have this ready by early 2016.

Draft Parliamentary Opinion on Medium-Scale Combustion Plants

MEP Fredrick Federley (ALDE, Sweden), the Rapporteur in the European Parliament's Committee on Industry, Research and Energy (ITRE) for the proposed Directive on emissions of pollutants from medium combustion plants (MCPs), released on 19 January 2015 his draft opinion on the proposal.

According to the draft, it should be up to Member States rather than the EU to impose stricter air pollution limits on MCPs in areas with excessive levels of pollution and Member States should be allowed to exempt MCPs with a thermal input of 5 MW or less from compliance with new emissions limit values. Nevertheless, in the case of such exemptions, the operator concerned would have to commit to ending the plant's operation by 2035.

The draft recommendation scraps any mention of areas breaching air quality targets and proposes to apply less stringent limits to smaller plants with a maximum output of 5 MW while the European Commission's proposal took a blanket approach to all MCPs with a thermal input of 1-50 MW.

The draft opinion recommends giving small biomass plants less strict PM limits until 2035 to allow them to postpone costly investments in cleaning techniques.

Mr Federley's recommendations will be amended and adopted by the ITRE committee before being forwarded to the lead Environment committee. The Environment committee is expected to vote through the Parliament's final position in April 2015 ahead of trilogue talks with Member States represented by the Latvian presidency of the Council.

Project on a European Platform for Air Quality and Smog Indices

On 22 January 2015 Ricardo-AEA announced it has been awarded by the European Commission a project to develop a common method for presenting information on the levels of key pollutants affecting air quality throughout Europe.

Ricardo-AEA will be responsible for reviewing EU Member States' existing air quality information systems and proposing a harmonised air quality index, including a prototype data platform to ensure that the information is easily accessible to the public.

The air quality index will be accompanied by a list of fuel-using products assessing their performance in relation to air quality. This 'smog index' for various products will include road passenger vehicles as well as other small scale combustion machinery, such as petrol lawnmowers, helping consumers to understand their environmental impact in terms of their level of emissions of air pollutants.

The work will build on Ricardo-AEA's experience delivering air quality information platforms such as the United Kingdom's 'uBreathe' and Scotland's 'Air Quality in Scotland' applications, which provide the public with information on air quality in their area together with health advice.

The prototype for the Europe-wide air quality platform is likely to be finalised in 2016 before being reviewed by the European Commission.

Public Consultation on EU Maritime Transport Strategy

On 28 January 2015 the European Commission launched a public consultation on a Mid Term Review of the 2009 EU Maritime Transport Strategy.

The Commission asks whether the strategy should place greater importance on shipping's environmental performance. It also asks whether respondents "see a strong trade-off between the environmental performance and the competitiveness of the EU maritime transport sector".

Views are sought on whether the review should be used to promote alternative fuels for shipping and what

measures should be taken. Respondents are also asked whether the maritime strategy should do more to promote short-sea shipping – moving transport along a coast by ship, which can help to cut road freight.

A number of other possible priorities for the strategy are also set out, including safety issues and cutting red tape for the shipping sector.

The consultation is open until 22 April 2015 at http://ec.europa.eu/transport/modes/maritime/consultations/2015-mts-review_en.htm.

Commission asked for more Balanced and Transparent Expert Groups

On 30 January 2015 the European Ombudsman, Mrs Emily O'Reilly, made proposals to the European Commission on how to make its expert groups more balanced and transparent.

The Commission oversees hundreds of such advisory groups which play a crucial role in the development of EU legislation and policy. The Ombudsman called on the Commission to establish a legally binding framework for all expert groups, including a definition of what balanced representation in different groups should look like. She also recommended measures to reduce potential conflict of interest situations and to publish more information about the work of the groups.

The Ombudsman asked the Commission to publish a call for applications for all expert groups, while continuing to proactively seek experts, and to create a single online portal for these calls. Furthermore, the categorisation of expert groups' members should be the same as in the Transparency Register. Organisations and individuals who fall within the scope of the Transparency Register should only be allowed to participate in expert groups if they are registered.

French Report on Short-Term Health Effect of PM₁₀

On 6 January 2015 the French Institute for Public Health Surveillance (InVS) published in its weekly epidemiology bulletin a study on the short-term impacts of particulate matter (PM₁₀) on mortality in 17 French cities between 2007 and 2010.

The associations between PM₁₀ and daily mortality were studied in each city using a generalized additive Poisson regression model. Increase in mortality rate was estimated for a 10 µg/m³ increase in PM₁₀ levels.

A significant effect of PM₁₀ was observed for non-accidental mortality on all ages and for the whole year. The most significant impacts were observed for non-accidental mortality and cardiovascular disease on all ages during the summer. According to InVS, these results confirm the short-term effects of PM₁₀ on

mortality, even at concentrations consistent with the annual European regulations.

The InVS report (in French) is at:

www.invs.sante.fr/beh/2015/1-2/2015_1-2_3.html.

French Decree raises Maximum allowed Biofuel Content in Diesel

On 3 January 2015 Ministerial Order DEVR1431074A was published in the French Official Journal that increases the maximum level of FAME (Fatty Acid Methyl Ester) in market Diesel fuel from 7 to 8%. The decision stemmed from a national 7.7% biodiesel incorporation target to boost renewable energy use in transport.

The European Automobile Manufacturers' Association (ACEA) and FuelsEurope, representing the EU petroleum refining and marketing industry, expressed concern on 12 January 2015. They called for keeping the quality of diesel sold across the entire EU consistent with the standards set by the European Fuel Quality Directive (2009/30/EC) and by the European Technical Specification for Diesel fuel EN590:2013 (max 7% FAME content). A deviation from this standard by individual Member States is neither in the interests of EU consumers nor the EU economy, they said. It will lead to unnecessary higher complexity and extra costs in the logistics and supply system, due to the proliferation of diesel grades throughout Europe. It also puts consumers at risk in cases where their vehicles have a warranty that covers diesel fuel to a maximum of 7% FAME content, ACEA and FuelsEurope added.

In addition, ACEA highlighted that instead of going beyond the maximum FAME limit of 7% by volume, if necessary there are technically acceptable renewable and sustainable alternatives to using FAME such as renewable paraffinic fuels including Hydrotreated Vegetable Oil (HVO) and co-processing of oils and fats – all these being commercially available.

French Environmental Roadmap for 2015-2020

On 4 February 2015 the Prime Minister of France Manuel Valls and the Minister for Ecology, Sustainable Development and Energy Ségolène Royale presented the roadmap that stemmed from the national environmental conference held in November 2014.

The roadmap adopted by the Government includes 74 concrete measures “to make France the country of excellence in terms of environment”. One of the measures, the introduction from the summer 2015 of a vehicle identification label according to its emissions level, will incentivize local authorities to set up traffic or parking restriction rules in polluted, urban areas.

Another measure is the introduction on 1 April 2015 of a €10 000 bonus awarded to consumers who will buy an electric car to replace a Diesel vehicle that is more than 13 years old and has no particulate filter. The bonus will be €6500 when the car purchased is a plug-in hybrid. France will also gradually align fuel taxes on Diesel and gasoline.

Air Pollution Action Plan in Paris

On 9 February 2015 the Council of Paris adopted a plan to tackle air pollution.

The air pollution plan is targeting road traffic and aims at making Paris a Low Emission Zone. The more polluting vehicles will therefore be progressively banned, based on their Euro class. On 1 July 2016, Euro I heavy-duty trucks, coaches, and buses will be totally banned while Euro 1 passenger cars and powered two-wheelers will only be allowed to drive in Paris at weekends. Euro II/2, III/3, and IV/4 vehicles will progressively be banned between 2017 and 2020.

An experimental phase will start on 1 July 2015 when Euro I heavy-duty vehicles are banned from 8:00 to 20:00. Paris will also develop semi-pedestrian areas, speed-limited areas (30 km/h), and may test in 2016 an ultra-low emission zone limited to clean vehicles.

A number of other measures are listed in the plan, including further development of public transport, extension of bike- and car-sharing systems, and the development of electrical recharging and natural gas refilling infrastructures. In addition, financial incentives will be set up to promote the purchase of electric vehicles and plug-in hybrids, with a €5 million budget already planned in 2015.

All Diesel passenger cars in the Paris municipal fleet were replaced in 2014. In 2015, all Diesel vans will be replaced, the city Council agreed.

CCFA, the Committee of French Automobile Manufacturers, welcomed the air quality plan in a statement released on 10 February 2015. CCFA said the plan brings an appropriate response to air quality problems. CCFA was satisfied that the public debate on Diesel was clarified when Paris agreed to let Diesel vehicles equipped with a Diesel Particulate Filter drive in the city after 2020.

France to study Health Effects of Modern Diesel Engines

The sustainable development Committee of the French Senate organized on 14 January 2015 a roundtable on Diesel engines' impacts on health and the environment.

The hearing involved experts from the motor industry (PSA and Renault), the World Health Organization (WHO), the Interprofessional Technical Centre for Studies on Air Pollution (CITEPA) and environmental

Non-Governmental Organizations France Nature Environnement and Réseau Action Climat. Both ultrafine particles and NO_x Diesel exhaust emissions were considered. PSA supported technical improvements brought to new Diesel vehicles, equipped with Diesel Particulate Filters.

The Committee chairman, Senator Hervé Maurey, announced that an independent expert committee would be set up to evaluate and verify the real effects of Euro 5 and 6 Diesel engines on health and the environment.

German Funding for Retrofit

On 29 December 2014 the German Government notified the European Commission of a Directive to promote the retrofitting of particulate reduction systems on passenger vehicles and light commercial vehicles with Diesel engines.

Funding of €260 is awarded for the retrofitting of particulate reduction systems in passenger vehicles and light commercial vehicles retrofitted during 2015. Particulate reduction levels to be achieved on passenger cars must be PM₀₁ or PM₀ to PM₄ according to the Road Traffic Licensing Regulation (Straßenverkehrs-Zulassungs-Ordnung - StVZO). For light commercial vehicles particulate reduction classes PMK 01 or PMK 0 to PMK 4 according to the StVZO must be achieved.

Funding is available for passenger vehicles with Diesel engines which were initially registered up to 31 December 2006 and light commercial vehicles initially registered up to 16 December 2009.

2014 Preliminary Report on Air Quality in Germany

On 9 February 2015 the German Federal Environment Agency (Umweltbundesamt or UBA) released a preliminary assessment of the air pollution situation in Germany in 2014.

According to the report, in 2014, NO₂ levels exceeded the annual EU emission limits of 40 µg/m³ in more than half of air quality monitoring stations on busy roads in Germany.

Particulate Matter (PM₁₀) levels are also of concern, the UBA said. Although concentrations were lower than in 2005-13, EU limits were exceeded at 10% of traffic-related monitoring sites. Almost 50% of all stations exceeded the World Health Organization's recommended PM₁₀ annual average, which is tighter than the EU limit. The report indicates that the share of PM₁₀ emissions from household wood combustion is increasing and exceeded emissions from road transport in 2014.

The UBA report (in German) is at www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/hintergrundluftqualitaet_2014.pdf.

BMW and Total begin Field Tests of AdBlue® Pumps in Germany

On 21 January 2015 BMW and Total announced they have officially begun field testing of AdBlue® pumps installed at three fuelling stations in Munich and Berlin.

The AdBlue® filler neck is found underneath the fuel filler flap or in the engine compartment, depending on the BMW diesel model.

The pump is in lieu of a separate hand-held container of AdBlue®, as currently used. Both parties expect to gain new insights into the practice of fuelling the auxiliary AdBlue® tanks from the field tests, especially from a customer perspective. The experience from the field trial will be used further to develop the AdBlue® dispenser technology and to ensure the best user experience, the companies said.

Oxford Street breached Hourly NO₂ Limit Value for 2015 in Five Days

On 5 January 2015 UK campaign group Clean Air in London said Oxford Street already breached the NO₂ hourly limit value for the whole of 2015.

According to the Air Quality Directive requirements, NO₂ levels at any EU monitoring station must not exceed 200 µg/m³ for more than 18 hours in an entire year. But Clean Air in London said Oxford Street had already reached 19 hours in excess of the limit by 4 January 2015. Putney High Street also passed the limit on 5 January 2015.

According to statistics supplied by Clean Air in London, in 2014 Oxford Street clocked up 1361 hours where the NO₂ levels were exceeded. Putney High Street meanwhile saw a total of 999 hours where the levels were exceeded. The road with the highest number of hours where NO₂ levels were exceeded in 2014 however was Brixton Road, with 1732 hours.

Clean Air in London has called for a ban on Diesel vehicles from the worst affected areas by 2020.

London Mayor's New Air Quality Campaign

The Mayor of London, Mr Boris Johnson, launched on 30 January 2015 a new Air Quality public awareness campaign 'Breathe Better Together'.

The campaign aims at helping Londoners make small changes to reduce their exposure to pollution and help improve air quality.

According to the Mayor, this is part of a series of ambitious measures to tackle air pollution in the capital including introducing plans for the world's first Ultra

Low Emission Zone in central London, cleaning up London's bus fleet, retiring more than 6000 of the oldest, most polluting taxis and retrofitting more than 400 000 buildings. The campaign marks the start of the spring pollution period which often sees the highest levels of particulate matter (PM₁₀ and PM_{2.5}).

More info on the campaign is at www.london.gov.uk/priorities/environment/breathe-better-together.

UK Funding for Hydrogen Refuelling Network

On 30 January 2015, the UK notified the European Commission that its Department for Transport (DfT) will offer capital grant funding of up to £5.5m (€7.3m) to new and existing hydrogen refuelling stations between April 2015 and March 2017.

New hydrogen stations that meet the refuelling, safety and security regulations will receive 60% of eligible costs, while upgrades in the case of existing stations will secure full funding.

Developing 10-15 hydrogen fuelling stations in the UK through this scheme will support an early network of hydrogen infrastructure that will allow the introduction of hydrogen fuel cell vehicles, DfT said.

Low Emission Strategy Consultation in Scotland

On 16 January 2015 the Scottish government launched a public consultation on the content, new policies and proposed actions in the draft Low Emission Strategy for Scotland which has been produced by the Scottish Government, Transport Scotland and the Scottish Environment Protection Agency (SEPA).

The purpose of the Low Emission Strategy is to draw together the various policies which have the potential to improve air quality. The Strategy sets out the contribution that better air quality can make to sustainable economic growth and quality of life for the citizens of Scotland.

The document sets out that Low Emission Zones (LEZs) are a potentially effective measure that could help to improve local air quality. The document sets out initial proposals for a national framework of LEZs, which would involve the setting of emissions standards and procedures applicable across Scotland within an overall framework.

The Annex on LEZ guidance indicates that LEZs could cover cars, buses, taxis, heavy-duty vehicles, light-duty vehicles, or a combination of these, and, under the proposals, would be implemented between one and two years after the initial announcement. For new Diesel vehicles, the standard should be Euro VI. Earlier Euro class vehicles should be retrofitted to bring them as near to Euro VI as possible. Retrofit technology

should reduce emissions of both NO_x and PM and only equipment listed on the Scottish Government's Emissions Reduction Register may be fitted to vehicles which are to enter the LEZ.

The public consultation is open until 10 April 2015 at www.scotland.gov.uk/Publications/2015/01/3287/0.

Brighton & Hove introduces Low Emission Zone for Buses

On 20 January 2015 the city of Brighton & Hove in the UK announced the start of its first Low Emission Zone (LEZ) following the agreement on the report recommending a bus-based LEZ in January.

The LEZ covers Castle Square, North Street and Western Road as far as Palmeira Square and public service vehicles entering it have to meet as a minimum the Euro V emissions standard. Although the LEZ area is small, almost 98% of bus movements in the city pass through the zone, extending the benefits of cleaner buses throughout the city.

All bus operators are playing their part in making public transport cleaner. Over 100 vehicles used mostly in the city centre are being upgraded immediately and more will follow. Cuckmere Buses, a small company made up of volunteers, has spent £90 000 (€120 000) on a Euro V Sprinter and Metrobus is replacing four buses to Euro IV in March 2015. Stagecoach has invested over £2 million (€2.6 million) with 12 Euro V buses. Brighton and Hove Buses is in the process of retrofitting 50 buses to better than Euro V standard and buying a further 24 new Euro VI buses in the spring.

Taxis are not covered by the LEZ requirements but drivers will voluntarily observe 'no engine idling' policies whilst stationary at taxi ranks. Also a minimum of 25 vehicles will be installed with cleaner exhaust technology.

Poland to tackle Air Pollution in 2015

The Polish Environment Ministry announced on 16 February 2015 that the Government will soon table a national air quality protection plan and will make improving air quality a priority for 2015.

The air protection plan will be a "strategic document" that local authorities should take into account. Air pollution is currently regulated through 54 local and regional plans. According to a report from the state audit body in December 2014, these programmes have been ineffective and too expensive. The audit body recommended that the government draw up a national plan against which local plans could be measured.

The European Commission asked Poland on 26 February 2015 to comply with EU legislation requiring Member States to limit citizens' exposure to fine dust particles (PM₁₀) by defining specific limit values to be

observed. The latest figures from Poland show that the maximum daily limit for PM₁₀ is exceeded in 36 zones, with yearly limits also exceeded in 12 zones.

Therefore the Commission sent an additional reasoned opinion which gives Poland two months to respond. If Poland fails to act within the prescribed period, the Commission may take the matter to the EU Court of Justice.

Particulate Matter and benzo(a)pyrene pollutions are particularly problematic in Poland. Kraków and Zabrze are actually the most polluted cities in Europe for PM_{2.5}. Low-quality heating equipment are considered a major contributor to the air pollution issue in Poland.

Latvia and Romania asked to enact EU Rules on Sulfur Emissions from Ships

In its infringement package published on 26 February 2015, the European Commission asked Latvia and Romania to transpose EU legislation on the sulfur content of marine fuels in their domestic law and to communicate the transposition measures to the Commission.

This obligation had to be fulfilled by 18 June 2014. After missing the original deadline, Latvia and Romania were sent letters of formal notice on 22 July 2014. The Commission is now sending reasoned opinions, and if both Member States fail to act within two months, the cases may be referred to the EU Court of Justice. This procedure may bring the Commission to ask financial sanctions if the Member States do not transpose the EU Directive.

Green Coastal Shipping Programme in Norway

On 16 January 2015 Norwegian Minister of Trade and Industry Monica Mæland and State Secretary for Climate and Environment Lars Andreas Lunde signed a declaration of cooperation with 18 key players in the Norwegian coastal shipping industry. This declaration aims to ensure that Norway has the world's most environmentally friendly fleet of coastal vessels with an emphasis on Liquefied Natural Gas (LNG).

The Green Coastal Shipping programme has been developed to help implement the Norwegian government's new maritime strategy. It will provide an important contribution to the achievement of both national and global climate goals and will also help to reduce air pollution. At the same time, it will be a driver for innovation and green workplaces. In time, it is also expected to provide major export opportunities for the maritime, energy and supplier industries.

NORTH AMERICA

US launch International Air Quality Program

On 18 February 2015 the US Department of State and the Environmental Protection Agency (EPA) launched a joint air quality program.

The partnership recognizes air pollution as a serious and growing health threat worldwide. Yet in many areas, real-time air quality data are unavailable. The Department of State therefore plans to place air quality monitors at selected US diplomatic posts where continuous fine particle pollution (PM_{2.5}) data is currently of limited availability, and to publicly share this data through EPA's AirNow website.

In addition, a new fellowship program will enable US technical experts to visit participating diplomatic missions to help transfer skills and build capacity for air quality monitoring data analysis and maintenance. These visits will also include the opportunity for training and exchanges with the host governments and other participants.

US EPA Settlement with Shell on Vehicle Fuel Standards Violations

On 20 January 2015 the US Environmental Protection Agency (EPA) announced a settlement with three companies affiliated with Shell Oil Company to resolve Clean Air Act violations, including selling gasoline and Diesel fuels that did not conform to federal standards.

EPA alleged that Shell sold mislabelled Diesel fuel – fuel labelled ultra-low sulfur Diesel (<15 ppm) that was actually only low sulfur fuel (<500 ppm) – at two fuel stations in Northern Virginia; that Shell sold over 4.2 million gallons (15 million litres) of gasoline that exceeded a fuel standard for volatility, known as the Reid Vapor Pressure level, that helps control ground level ozone during summer months; that Shell distributed about 700 000 gallons (2.6 million litres) of gasoline that contained elevated levels of ethanol; and that Shell failed to follow various protocols for sampling, testing, reporting and recordkeeping requirements that help ensure compliance of its fuel with federal standards. These violations resulted in excess emissions of harmful air pollutants from motor vehicles, which pose public health threats and environmental impacts, EPA said.

The three companies affiliated with Shell, Deer Park Refining Limited Partnership, Motiva Enterprises LLC, and Equilon Enterprises LLC, will pay a \$900 000 (€780 000) penalty to resolve these violations.

US EPA and Customs seize Illegal Imported Vehicles

On 19 February 2015 the US Environmental Protection Agency (EPA) and US Customs and Border Protection (CBP) announced the results of a 90-day joint operation targeting foreign-made vehicles and equipment imported without proper emissions controls in violation of the federal Clean Air Act.

In eight cases totalling more than 730 items, All Terrain Vehicles, motorcycles and generators were seized or exported back to their country of origin. EPA estimates that these noncompliant vehicles and engines would have emitted over 350 000 pounds (~159 000 kg) of pollutants per year.

Under the joint operation between the two agencies, EPA conducted inspections at the ports of Long Beach and Los Angeles, California and worked with CBP to investigate companies that had previously imported engines and vehicles. These inspections found that numerous companies imported vehicles and engines without proper certification.

Updated Emissions Standards for Residential Wood Heaters

On 4 February 2015 the US Environmental Protection Agency (EPA) strengthened its clean air standards for residential wood heaters to make new heaters significantly cleaner and improve air quality.

The updates, which are based on improved wood heater technology, strengthen the emissions standards for new woodstoves, while establishing the first EPA standards for several types of new wood heaters, including outdoor and indoor wood-fired boilers (also known as hydronic heaters), and indoor wood-burning forced air furnaces. The rule will not affect existing woodstoves and wood-burning heaters currently in use.

Emissions from new models will be reduced by roughly two thirds in two steps, the first one being introduced on 31 December 2015 and the second one 5 years later. PM mass emissions limits of 4.5 g/h and then 2 g/h will apply to wood heaters.

The EPA standard (prepublication version) is at www2.epa.gov/sites/production/files/2015-02/documents/20150204-residential-wood-heaters-nsp.pdf.

EPA contracts SwRI for Emissions Testing and Analytical Services

Southwest Research Institute (SwRI) in San Antonio, Texas, announced on 24 February 2015 that it has been awarded a five-year, \$20.16 million (€17.8 million) contract by the US Environmental Protection Agency (EPA) to provide testing and analytical services related to vehicle emissions and fuel consumption.

Areas of support include emissions characterization and technology assessment. SwRI can develop test procedures and equipment for regulated and unregulated emissions in light- and heavy-duty vehicles as well as marine, railway, aircraft, small engine, and other non-highway propulsion systems.

SwRI can evaluate all types of fuels and additives, including conventional and reformulated gasoline and diesel fuels; alternative fuels such as methanol, ethanol, compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), hydrogen and blends of hydrocarbon fuels; and electricity (supplied from batteries or fuel cells) for electric and non-electric hybrid vehicles.

The contract also calls for evaluating vehicles to ensure compliance with current emissions requirements.

SOUTH AMERICA

Ecuador puts Emissions Controls in Place

On 20 January 2015 Ecuador media teleSUR wrote that the Secretary of the Environment, Veronica Arias, told them controls have been put into place in the capital city, Quito, to ensure that vehicles are operating within the permitted 0.6% and 0.8% CO levels.

If found to be operating above, the owner of the vehicle is given 8 days for it to be properly calibrated, or will receive a fine of \$200 (€175). "Why is it important to do this control? Because one of the greatest contaminants of the city is the particulate material that is deposited in the lungs of citizens. And this is found in gasoline and in diesel," Ms Arias said.

The controls put into effect are part of a decade-long policy to improve the air quality of Quito, a city which has historically battled pollution due to low oxygen levels at its high altitude of 2800 meters and surrounding mountains which trap the air. Cases of cancer and high rates of asthma have been registered in the past, thought to be directly related to air pollution. Controls have also been put into place in Ecuador to ensure that imported cars meet national norms and the purchase of environmentally-friendly cars has been encouraged.

ASIA PACIFIC

Bharat Stage IV Standards brought forward in Parts of India

On 5 January 2015 an affidavit filed in the Supreme Court by the Indian Ministry of Environment and Forests said that Bharat Stage IV emission norms for vehicles should be applied in the New Delhi capital region from 1 April 2015.

However, Bharat Stage IV standards introduction in other parts of India will remain unchanged from the current schedule of 1 April 2017 due to logistic constraints involved in the conversion from BS (Bharat Stage) III to IV. These include availability of refineries to produce sufficient fuel, and its transportation and storage.

Jammu and Kashmir, Punjab and Haryana States should align with Delhi for quicker implementation of the norms. BS IV should also be implemented in States like Goa, Kerala and Karnataka, Telangana and Odisha and parts of Maharashtra from 1 April 2016.

Draft Emissions Standards for Flex-fuel Vehicles in India

On 10 December 2014 the Road Transport Ministry in India issued draft rules setting emission standards for flex-fuel ethanol (E85) and ethanol (ED95) vehicles.

The move is aimed at facilitating the local manufacture of new engines that can run on these fuels. Indian vehicle testing agencies will be tasked with issuing type-approval certificates to vehicle manufacturers.

The ministry will review and incorporate suggestions from stakeholders before issuing the final regulation, a ministry official said.

The draft standard is at <http://morth.nic.in/showfile.asp?lid=1599>.

ARAI to set up Inspection and Certification Test Centres in India

The Indian Ministry of Road Transport and Highways entrusted in January 2015 the Automotive Research Association of India (ARAI) to set up inspection and certification test centres in at least five different states including Maharashtra, Gujarat, Rajasthan, Karnataka and Telangana.

These centres will carry out emissions and safety inspection processes. The emissions inspection will include free acceleration tests (for Diesel vehicles) and idle tests (for petrol, LPG, and CNG vehicles).

Sources associated with the development say that while ARAI will build and handover these test centres to the Indian Government, the operating authorities for them are yet to be finalised.

New Environment Minister in China

The Standing Committee of China's legislature, the National People's Congress, has appointed Chen Jining as its new Environment Minister, replacing Zhou Shengxian, who is retiring, the official Xinhua news agency reported on 27 February 2015.

Chen studied at Imperial College, London and was appointed president of Beijing's prestigious Tsinghua University in 2007. He served on China's National

Environmental Advisory Commission but has had no previous experience in government.

China switches to Phase 4 Diesel Fuel

After switching to Phase 4 gasoline fuel last year, the Chinese government had set a target of introducing Phase 4 diesel fuel nationwide by early 2015.

Various cities and regions in China have started selling Phase 4-compliant Diesel fuel at retail service stations, including Zhejiang, Jiangsu and Hebei in the east, Yunnan in the south and Xinjiang and Gansu in the west. Earlier, major cities, including Beijing and Shanghai, have switched to Phase 4 and even Phase 5-compliant fuels. Phase 5 gasoline and Diesel fuel standards are to be implemented nationwide by the end of 2017.

Phase 4 caps sulfur levels at 50 ppm, down from Phase 3 limits of 350 ppm for Diesel fuel and 150 ppm for gasoline. Phase 5 sulfur content limit is 10 ppm.

Beijing renews Effort to reduce PM_{2.5}

On 5 January 2015 the Municipal Environmental Protection Bureau of Beijing said that the city recorded a slight drop in smog levels in 2014 although the reduction in the average concentration of PM_{2.5} failed to reach the annual goal in 2014.

Under the Government Work Report released in January 2014, the capital's reduction target for PM_{2.5} was 5%, meaning that the average concentration should have been lower than 85 µg/m³. However, the annual average concentration of PM_{2.5} was 85.9 µg/m³ in 2014, a decrease of nearly 4%.

In 2014 Beijing had 204 days with air quality exceeding the national standards, this is 20 days more than in 2013. In addition, there were 45 days with heavy pollution, when the average PM_{2.5} concentration is higher than 150 µg/m³, down from 58 days in 2013.

Over 2014, sulfur dioxide (SO₂) levels fell 17.7%, nitrogen dioxide (NO₂) 1.3% and PM₁₀ 7.1%.

The city plans to cut PM_{2.5} levels by a further 5% in 2015, and reduce SO₂ and NO_x emissions by 6%.

The national PM_{2.5} standard is 35 µg/m³, although the Chinese Government does not expect to meet the standard until around 2030.

Hong Kong Legislation on Emissions from Non-Road Mobile Machinery

On 25 February 2015 the Legislative Council of Hong Kong, China, approved the Air Pollution Control (Non-Road Mobile Machinery) (Emission) Regulation that introduces on 1 September 2015 regulatory control of emissions from Non-Road Mobile Machinery (NRMM) to help improve air quality.

NRMM include non-road vehicles as well as mobile machines or equipment (regulated machines) such as crawler cranes, excavators and air compressors.

A spokesman for the Environmental Protection Department (EPD) said that the Regulation stipulates the emission requirements to be complied with by new NRMM. Regulated machines must comply with the emission standards of Stage IIIA of the EU or the equivalent, while non-road vehicles must comply with Euro V emission standards in line with the prevailing emission standards for road vehicles at the time of first registration in Hong Kong. Existing NRMM will be exempted from the statutory emission control requirements, but their owners will need to apply for exemption labels from the EPD.

The Hong Kong government added that any person who sells or leases a regulated machine for local use, or uses a regulated machine in specified activities or a non-road vehicle in specified locations without the EPD's approval, is liable to a fine of up to HK\$200 000 (€23 000) and imprisonment for up to six months.

MIDDLE EAST

IranKhodro Vehicles to meet Euro 6 Standards by 2026

On 18 January 2015, the President of Iran's largest car manufacturer Hashem Yekehzare announced that all IranKhodro products will meet "at least Euro 6 and other related global standards" by 2026.

IranKhodro vehicles currently meet Euro 4 emissions standards. Through its environmental protection programmes IranKhodro will produce fuel-efficient, turbocharger and hybrid electric-gas engines. The target is to reduce fuel consumption and pollutant emissions of cars by 5-7% and 35-50% respectively.

UNITED NATIONS

Revision 1 of UN Regulation on Retrofit Devices published

On 3 February 2015 the 01 series of amendments to UN regulation No 132 on Retrofit Emission Control devices (REC) for heavy-duty vehicles, agricultural and forestry tractors and Non-Road Mobile Machinery equipped with compression ignition engines was published.

Revision 1 introduces more stringent requirements on the level of emissions reduction with the core of the amendment being an improved efficiency level for particulate control RECs and the addition of Particle Number (PN) requirements. The Particulate Matter (PM) mass reduction requirement is increased from 50 to 90% and a PN reduction of 97% is required.

REC devices are categorized in four Classes. Class I are PM reduction systems with no direct NO₂ increase; Class II are PM reduction systems with some limited direct NO₂ increase; Class III are NO_x reduction systems; and Class IV are combined systems reducing both PM and NO_x emissions.

In addition, the revised Regulation now splits Class II REC systems into 2 sub-classes, IIA and IIB. An NO₂ increase of maximum 20 percentage points greater than the level recorded when no REC is fitted is mandated for Class IIA, while a 30 percentage points increase is allowed for Class IIB devices. No increase in NO₂ is allowed for Class I, III, and IV systems.

UN Regulation No 132 rev. 1 is at www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/updates/R132r1e.pdf.

Belarus joins UNECE 1998 Agreement

On 23 January 2015 the United Nations Economic Commission for Europe (UNECE) announced that, on 3 March 2015, Belarus will become a Contracting Party to the 1998 Agreement on Global Vehicle Regulations.

The 1998 Agreement is the legal framework for the development of Global Technical Regulations (gtr) for vehicles and their components.

The accession of Belarus will bring the total number of Contracting Parties to the 1998 Agreement to 35. At present, Contracting Parties include Australia, Azerbaijan, Canada, China, the European Union, India, Japan, Kazakhstan, Republic of Korea, Malaysia, Republic of Moldova, New Zealand, Norway, Russian Federation, South Africa, Tajikistan, Tunisia, Turkey, USA and 16 individual EU Member States.

GENERAL

HEI Study on Health Effects of Modern Diesel Engine Exhaust

On 27 January 2015, the Health Effects Institute (HEI) released its Research Report No 184 entitled "Advanced Collaborative Emissions Study (ACES): Lifetime Cancer and Non-Cancer Assessment in Rats Exposed to New-Technology Diesel Exhaust".

Male and female rats were exposed for 80 hours per week, for up to 30 months, to emissions from a Heavy-duty Diesel engine fitted with a Diesel Particulate Filter and meeting the 2007 US standards. The investigators evaluated more than 100 different biologic endpoints, including tumour development, and compared the results with biologic effects seen in earlier studies in rats exposed to diesel exhaust from pre-2007 engines.

In contrast to previous health studies, the ACES study found that lifetime exposure did not induce tumours or pre-cancerous changes in the lung and did not increase tumours related to Diesels in any other tissue. A few

mild changes were seen in the lungs, consistent with long-term exposure to NO₂, a component that has been further substantially reduced in 2010- and later model year engines compliant with US EPA rules.

The ACES results are expected to play an important role in future risk reviews of diesel engines by international and US agencies.

Report No 184 is at <http://pubs.healtheffects.org/view.php?id=430>.

Concawe Report on Gasoline Compression Ignition Engine Concept

On 29 January 2015 Concawe published a new report exploring a Gasoline Compression Ignition (GCI) engine concept. The report is the result of the work of Fuels Quality and Emissions/STF-26 in co-operation with FEV and RWTh Aachen University.

Compression Ignition engines have a clear efficiency advantage over Spark Ignition engines and extending their capability to use a broader range of fuels could be advantageous in terms of fuel economy and emissions. Furthermore, gasoline consumption in passenger cars would help to rebalance Europe's gasoline/diesel fuel demand on refineries and reduce greenhouse gas emissions from fuel supply, the report says.

Using an advanced diesel bench engine having a higher compression ratio, optimised valve timing, and flexible fuel injection, the engine could be operated on a European market gasoline over full to medium part loads. The combustion was found to be highly sensitive to Exhaust Gas Recirculation (EGR) rates, however, and the simultaneous optimisation of all regulated emissions and combustion noise was a considerable challenge. An advanced glow plug was tested to improve low load performance but did not extend the engine operating range as much as expected.

Although CI using gasoline was not successful in this study, the potential benefits of fuelling advanced compression ignition engines with market gasoline merited further consideration. Simulations were thus performed on the same single cylinder bench engine configuration operating on market gasoline to identify ways of improving low load performance. This modelling showed that variable valve timing offers considerable potential for increasing the temperature inside the combustion chamber and reducing the ignition delay. Simulations have also identified the preferred placement of combustion assistance, such as a glow plug or a spark plug, to extend the operating range and performance on gasoline, especially under the lowest load and cold engine starting conditions.

Concawe Report no. 13/14 is at www.concawe.eu/Content/Default.asp?PageID=570.

ICCT Report on the State of Clean Transport Policy

On 23 December 2014 the International Council on Clean Transportation (ICCT) published a report titled 'The state of clean transport policy: A 2014 synthesis of vehicle and fuel policy developments'.

The report summarizes advances in national and international regulations intended to reduce energy use, mitigate climate change, and control air pollution from motor vehicles and fuels across eleven major vehicle markets from January 2013 through August 2014. These eleven vehicle markets are China, the USA, the EU, Japan, Brazil, India, Russia, Canada, South Korea, Australia, and Mexico and they represented 85% of global vehicle sales in 2013.

The report quantifies benefits associated with environmental policies for light- and heavy-duty vehicles, marine vessels, aircraft, and fuels in terms of reduced greenhouse gas emissions and local air pollution, fuel savings, and benefits to public health. It also estimates additional benefits that could be gained through a wider adoption of best-practice policies.

Expanded adoption of standards requiring proven world-class vehicle emissions controls and ultra-low sulfur fuel could avoid three out of four premature deaths projected to occur from exposure to vehicle PM_{2.5} emissions in 2030.

Additional impacts that were not quantified include premature deaths from exposure to off-road and marine diesel emissions, and secondary PM and ozone, as well as non-fatal health outcomes and lost productivity resulting from exposure to direct and indirect vehicle emissions.

Without additional action beyond formally adopted regulations, the number of premature deaths from exposure to vehicle emissions could increase by two-thirds in just 16 years. The vast majority of these impacts would occur in regions such as India, China, Brazil, Mexico, and countries in Asia-Pacific, Latin America, the Middle East, and Africa.

The ICCT report is at www.theicct.org/state-of-clean-transport-policy-2014.

ICCT White Paper on OBD Systems for Heavy-duty Vehicles

On 9 February 2015 the International Council on Clean Transportation (ICCT) published a white paper describing the On-Board Diagnostic (OBD) deployment schedule and monitoring requirements for Heavy-Duty Vehicles (HDVs) in Brazil, China, Europe, India, and the United States.

OBD systems monitor the performance of engine and aftertreatment components, including those

responsible for controlling emissions. The OBD system is designed to help ensure proper operation of the emission control equipment, alerting the driver in case of malfunctions, so that vehicles meet emissions limits during everyday use.

OBD for HDVs was first introduced in 2005 in Europe. The US Environmental Protection Agency (EPA) began to phase-in OBD requirements between 2005 and 2008. California matched the phase-in schedule of EPA's HDV OBD program. Other countries have adopted HDV OBD requirements following the European program model. India adopted OBD requirements for its Bharat IV emissions standards starting in 2013. Brazil has adopted OBD requirements similar to Euro IV/V since 2012 for its PROCONVE P7 HD standards. China has required European OBD as part of the China IV HDV standards since July 2013.

The implementation schedules are presented first in the white paper, then the thresholds and monitoring requirements are tabulated; the final section focuses on the measures for proper NO_x control measures on vehicles equipped with Selective Catalytic Reduction.

The ICCT Report on HD OBD is at

www.theicct.org/sites/default/files/publications/ICCT_Overview_OBD-HDVs_20150209.pdf.

ICCT Report on Real-World Fuel Consumption of Heavy-duty Vehicles

On 9 February 2015 the International Council on Clean Transportation (ICCT) published a literature review on real-world fuel consumption of Heavy-duty Vehicles (HDVs) in the United States, China, and the EU.

These key markets together account for more than 70% of HDV sales worldwide. The primary motivation for this literature review was that, in contrast to passenger cars, data on HDV fuel efficiency are not readily available, ICCT indicates.

The study found that in the US, average tractor-trailer fuel consumption rates for the entire fleet are approximately 39 l/100 km (6 mpg). For the newest US models, fuel consumption is typically between 33 and 36 l/100 km (6.5-7 mpg). A fleet-wide analysis done for the European Commission estimates tractor-trailer fuel consumption at roughly 31 l/100 km, while tests of individual vehicles done by trucking magazines suggest somewhat higher average rates of consumption at approximately 36 to 38 l/100 km. At present, there is not sufficient information to say definitely if the US or EU has more efficient trucks. However, because the US has already mandatory HDV efficiency standards in place, the rate of technology development and deployment will likely be faster than for trucks in the EU, which does not yet have performance standards in place.

Chassis dyno testing performed as part of the regulatory development process in China reveals that tractor-trailers seem to have much higher fuel consumption rates, on average, than in the US and the EU. These lab results yield an average of 44 l/100 km. The ICCT report on HDV fuel consumption is at www.theicct.org/sites/default/files/publications/ICCT_HDV_FC_lit-review_20150209.pdf.

Report on Role of Natural Gas for Trucks in the US

On 18 February 2015 the Institute of Transportation Studies at the University of California, Davis, and Rice University released a report “Exploring the role of natural gas in US trucking”.

With the so-called “shale revolution,” the recent emergence of natural gas as an abundant, inexpensive fuel in the US has raised the possibility of a larger shift in the level of natural gas used in transportation. The report examines the economic and environmental viability of such a shift, and whether it could enable a transition to lower carbon transport fuels.

The report identifies California, the Great Lakes and mid-Atlantic areas as places that are well-positioned to launch a small, initial natural gas transportation network for heavy trucking due to their proximity to high-volume travel corridors. In California, the report said, a profitable natural gas network could be launched for less than \$100 million (€88 million).

However, stricter efficiency standards for natural gas heavy-duty trucks and stronger regulations of methane leakage along the natural gas supply chain are necessary for natural gas to advance California’s climate and air quality goals as a trucking fuel. The most economical natural gas engine technologies have a lower level of climate performance.

The report is at <http://steps.ucdavis.edu/files/02-18-2015-NextSTEPS-White-Paper-Natural-Gas-in-US-Trucking-18Feb2015-Public-Release.pdf>.

ICCT Report on Maritime Air Pollution in the Arctic

On 30 January 2015 the International Council on Clean Transportation (ICCT) released a new report presenting an emissions inventory based on scenarios for growth in marine vessel traffic in the US Arctic in 2025.

At current fuel sulfur levels, pollutant emissions from ships in the region could increase 150 to 600% by 2025, ICCT indicates.

Policies that could constrain growth in emissions from Arctic shipping activity include requiring cleaner (i.e. lower sulfur content) marine fuels and expanding existing Emission Control Areas for marine vessels.

The study finds that even if vessel traffic were to double between now and 2025, switching to 0.1% sulfur fuel could reduce potential emissions in 2025 of SO_x, Particulate Matter, and Black Carbon by 87%, 35%, and at least 5%, respectively, relative to the 2011 levels.

The ICCT report on Arctic maritime pollution is at www.theicct.org/sites/default/files/publications/ICCT_air-pollution-us-arctic-2025_20150130.pdf.

RESEARCH SUMMARY New Journal on Emissions Control

Volume 1, issue 1 of a new Journal on emissions control science and technology was published by Springer in January 2015.

Emission Control Science and Technology is a forum for publication of the latest research on control of emissions from mobile and stationary sources. Papers will cover various aspects of development and technology. The investigation may be experimental, theoretical, or computational.

The journal is at <http://link.springer.com/journal/40825/1/1>.

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FORTHCOMING CONFERENCES

AVL Expertentraining Portable Emissionsmessung

10-12 March 2015, Pfungstadt, Germany
www.avl-fahrzeugmesstechnik.de/workshop

Green Ship Technology Conference 2015

10-13 March 2015, Copenhagen, Denmark
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.

Natural & Biogas Mobility and Infrastructure in the Baltic Sea Area

17-18 March 2015, Helsinki, Finland
www.ngv-event.eu

Topics of this 2nd NGVA Europe regional seminar include natural gas, the opportunity for sustainable transport; LNG/CNG fuel station technology; the Baltic area, the gate for the infrastructure development in northern Europe; light-, medium-, and heavy-duty gas vehicles; the benefits of NGVs from an end user's perspective; intermodality: the use of L-CNG for marine and road vehicles; end users, experiences of CNG/LNG fleets; available vehicles and technologies; and fuel reduction and vehicle efficiency technology.

17th VDA Technical Congress 2015

19-20 March 2015, Filderstadt, Germany
www.vda.de/en/services/events/technical-congress-2015.html

The VDA annual congress will discuss environment, energy and electric mobility, vehicle safety, and electronics.

Characterization of Complex Nanoaerosols Emissions: metrology, health and environmental issues

24-25 March 2015, Rouen, France
www.certam-rouen.com/actualite/P4TA-workshop.pdf

The objective of this P4TA-CERTAM international workshop hosted by Jean-Paul Morin is to highlight the recent progress in the field of nanoaerosol metrology, health, and the environmental area.

5th Integer Emissions Summit India 2015

25-26 March 2015, New Delhi, India

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.

AVL Seminar Expertentraining Partikelzähler

25-26 March 2015, Esslingen, Germany

www.avl-partikelzaehlung.de

2015 GFC Conference

25-26 March 2015, Saint-Cloud, France

www.gfc-tests.org/medias/uploads/conferences-gfc-2015-en-v6.pdf

The conference will address clogging and deposits: a major problem to the transportation sector. How to characterize? How to prevent? How to treat?

PEMS International Workshop

26-27 March 2015, Riverside, CA, USA

www.cert.ucr.edu/events/pems

The agenda will focus on lessons learned both domestically and internationally, advanced vehicle in-use testing (hybrids, all electrics), education, applications, emerging tools, micro PEMS/sensors, PAMS benefits, new measurements (particle number), future needs, new tools and procedures, and many other topics.

2015 CITA Conference “Enhancing the value of vehicle inspection”

14-16 April 2015, Dubai, United Arab Emirates

<http://www.cita-vehicleinspection.org/Home/CITAConferences/2015InternationalDubaiUAE/tabid/524/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.

5th Integer Emissions Summit & ARLA 32 Forum Brazil 2015

14-16 April 2015, Sao Paulo, Brazil

www.integer-research.com/conferences/ies-brazil-2015

The summit will examine diesel emissions regulation compliant strategies of leading on- and non-road vehicle and engine manufacturers and the developments within the ARLA 32 market.

InterMat Paris 2015

20-25 April 2015, Paris, France

<http://paris-en.intermatconstruction.com>

International exhibition for equipment and techniques for construction and materials industries.

SAE 2015 World Congress

21-23 April 2015, Detroit, USA

www.sae.org/congress

AVL Roadshow Real Driving Emissions

21 April 2015, Pfungstadt, Germany

23 April 2015, Stuttgart, Germany

28 April 2015, Wolfsburg, Germany

www.avl-fahrzeugmesstechnik.de

Seminar: Emissionsgesetzgebung und -analyse in der Automobilindustrie + Praxisteil am Prüfstand

22-23 April 2015, Pfungstadt, Germany

www.sv-veranstaltungen.de/site/fachbereiche/seminar-emissionsgesetzgebung-und-analyse-der-automobilindustrie-praxisteil-pruefstand-2

Topics of the seminar include exhaust gas composition for petrol and diesel engines; EU legislation on exhaust emissions: the NEDC, WLTC, EURO6b and EURO6c; US emissions legislation: CARB ZEV, LEV-III; test bench for vehicle and engine measurement; comparison NEDC/WLTP; and measurement on chassis dynamometer (bag measurement, modal measurement, particle counting).

36th International Vienna Motor Symposium

7-8 May 2015, Vienna, Austria

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, CO₂ reduction, and exhaust emissions control.

Emissions Controls: Compliance and Enforcement

7-8 May 2015, London, UK

www.lloydsmaritimeacademy.com/event/emissions-controls-compliance-and-enforcement-course

Seminar highlights include how shipowners have adapted to the low-sulfur regulations so far, how the bunker industry is adapting to the low-sulfur fuel demand, legal implications of non-compliance in international waters, introduction of MRV reporting and its effect on the industry, and the use of CEMS technologies and emission control measures in ports.

Diesel Particulates and NOx Emissions

18-22 May 2015, Leeds, UK

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

This course concentrates on engine technology for low emissions, fuel requirements and aftertreatment techniques. It covers particle size analysis and

problems with the US heavy duty transient test with very low emission diesel engines.

6th International CTI Conference : Emission Reduction for Off-Highway Applications

19-20 May 2015, Stuttgart, Germany

http://cti.euroforum.de/en/events/emission_reduction_for_off-highway_applications_2015

The conference will focus on industrial/large engines, marine applications, construction machinery, EU Stage IV / US Tier 4 final, catalytic solutions for Stage V, SCR systems, DPF regeneration, partially premixed combustion, enhanced NO_x reduction, simulation of CO₂, PM and NO_x emissions, advanced computational modelling, HDD waste heat recovery, and SCR on filter.

8th Integer Emissions Summit & AdBlue® Forum Asia 2015

19-21 May 2015, Beijing, China

www.integer-research.com/conferences/ies-asia-2015

The conference will examine diesel emissions regulation compliant strategies of leading on- and non-road vehicle and engine manufacturers in Asia.

8th AVL International Commercial Powertrain Conference

20-21 May 2015, Graz, Austria

www.avl.com/icpc

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

SIA Powertrain - The low CO₂ 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

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.

2015 BIVEC-GIBET Transport Research Day

28-29 May 2015, Eindhoven, Netherlands

www.bivec.eu/activities/transport-research-day

The Benelux Interuniversity Association of Transport Researchers (BIVEC-GIBET) biannual conference offers young and established scholars from the three Benelux-Countries an opportunity to present their research findings to an informed audience of transport researchers.

27th International AVL Conference "Engine & Environment"

11-12 June 2015, Graz, Austria

www.avl.com/engine-environment-2015

The Conference will tackle the topic of the worldwide increasing electrification of the powertrain, across vehicle segments.

11th Integer Emissions Summit & AdBlue® Forum Europe 2015

16-18 June 2015, Brussels, Belgium

www.integer-research.com/conferences/ies-europe-2015

The conference will examine the industry's progress and future challenges in developing regulation-compliant, fuel-efficient emissions reduction strategies. Dedicated streams will examine diesel emissions legislation and emissions reduction technologies for heavy-duty commercial vehicles, non-road mobile machinery, marine vessels, light-duty vehicles and passenger cars, and AdBlue®.

2nd International Specialist Conference: Sensors for Exhaust Gas Cleaning and CO₂ Reduction

23-25 June 2015, Nuremberg, Germany

www.sv-veranstaltungen.de/site/fachbereiche/2-internationale-konferenz-sensoren-fuer-abgasreinigung-und-co2-reduktion

Topics of the conference include sensors of CO₂ reduction, sensors of exhaust gas aftertreatment, PEMS, HC sensors, soot sensors, O₂ sensors, NO_x sensors, temperature sensors, AdBlue® quality sensors, and exhaust mass flow measurement.

19th ETH Nanoparticles Conference

28 June - 1 July 2015, Zurich, Switzerland

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 abstracts: 10 April 2015

Cambridge Particle Meeting 2015

3 July 2015, Cambridge, UK

www.cambridgeparticlemeeting.org/2015

The meeting will address a wide range of aerosol and particle disciplines.

Deadline for abstracts: 1 May 2015

2015 JSAE/SAE Powertrains, Fuels and Lubricants International Meeting

1-4 September 2015, Kyoto, Japan

<http://pfl2015.jp>

12th International Conference on Engines and Vehicles

13-17 September 2015, Capri, Naples, Italy

www.sae-na.it/ice2015.asp

The conference is organized by SAENA (Italian SAE section) with Argonne National Laboratory (USA) and Istituto Motori CNR - Napoli (Italy) and will address engine modelling and diagnostics; engine combustion; hybrid and electric powertrains; new engines, components, actuators & sensors, fuels and lubricants, and exhaust aftertreatment and emissions.

24th Aachen Colloquium

5-7 October 2015, Aachen, Germany

www.aachener-kolloquium.de/en

The congress provides a wide range of technical presentations addressing current challenges of the vehicle and engine industry.

10th GreenPort Congress

7-9 October 2015, Copenhagen, Denmark

www.greenport.com/congress/home

Congress will highlight the innovations in equipment and technology to allow port users to adhere to environmental policy, whilst illustrating practical solutions through case studies from the global logistics chain.

8th Integer Emissions Summit & DEF Forum USA 2015

27-29 October 2015, Chicago, USA

www.integer-research.com/conferences/ies-usa-2015

The conference will examine the latest US developments in emissions legislation and advanced emissions reduction technologies for the on- and off-highway sectors, light-duty vehicles and passenger cars, marine vessels and host the DEF Forum.

CAPoC10

28-30 October 2015, Brussels, Belgium

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

Tenth International Congress on Catalysis and Automotive Pollution Control.

EUCAR Annual Conference

4-5 November 2015, Brussels, Belgium

Info will be at www.eucar.be

31st BAUMA 2016

11-17 April 2016, Munich, Germany

www.bauma.de

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

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

18-21 April 2016, Warsaw, Poland

www.traconference.eu

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

Deadline for abstracts: 30 March 2015

FISITA 2016 World Automotive Congress

26-30 September 2016, Busan, South Korea

www.fisita2016.com

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

Deadline for abstracts: 30 September 2015