

NEWSLETTER

International Regulatory Developments

TABLE OF CONTENTS

EUROPE	2
Council Conclusions on Paris Agreement on Climate Change	2
Environment Committee adopts Opinion on EU Low Emission Mobility	2
Transport Committee discusses EU Low Emission Mobility	2
Environment Committee agrees to ratify Revised Gothenburg Protocol	3
18-Month Programme of the Council of the EU	3
Assessment of Environmental Zones in Germany	3
German National Diesel Forum set up	3
Report on German Investigations on Car CO ₂ Emissions	4
German Scientists' Letter on the Future of Internal Combustion Engines	4
Report on 2016 Air Quality in Paris	4
UK Roadside Inspections of Lorries to check for Emissions Cheating Devices	5
London Buses Retrofit Programme	5
Commission requests Romania to ensure Proper Air Quality Monitoring	5
Poland urged to communicate Measures to reduce Emissions from Petrol Vapour	5
NORTH-AMERICA	6
CARB Research Seminar on Heavy-duty Low NO _x Technologies	6
California fines Two Companies for Illegal Aftermarket Parts	6
Canadian Tier 4-Equivalent Standards for Locomotives published	6
ASIA PACIFIC	6
New Vehicular Emissions Scheme in Singapore	6
Taiwan issues Air Quality Emergency Action Plan	7
ICCT Report on In-Use Emissions of Indian Vehicles	7
Vietnam to introduce E5 Gasoline in 2018	8
UNITED NATIONS	8
Environment and Health Conference Declaration	8
WMO reports Extremely High Temperatures in May and June 2017	8
GENERAL	8
OECD Report on Green Growth Indicators	8
CLEPA Position Paper on Post-2020 CO ₂ Targets	9
FuelsEurope Position Paper on Post-2020 CO ₂ Targets	9
ICCT Report on Retrofit Technologies and Experience	10
BP Statistical Review of World Energy	10
ICCT Paper on Electric Vehicles' Role in CO ₂ Regulations in US and EU	11
T&E Policy Recommendations on Heavy-Duty Decarbonisation	11
RESEARCH SUMMARY	12
FORTHCOMING CONFERENCES	14

EUROPE

Council Conclusions on Paris Agreement on Climate Change

On 22 June 2017 the EU leaders meeting at the European Council strongly reaffirmed the commitment of the EU and its Member States to swiftly and fully implement the Paris Agreement on climate change, to contribute to the fulfilment of the climate finance goals, and to continue to lead in the fight against climate change.

The Paris Agreement, which presents an action plan to limit global warming 'well below' 2°C, remains a cornerstone of global efforts to effectively tackle climate change, and cannot be renegotiated, the EU heads said. It is a key element for the modernisation of the European industry and economy. It is also key to implementing the 2030 agenda for sustainable development. The EU and its Member States will enhance cooperation with international partners under the Paris Agreement, in particular with the most vulnerable countries, thereby demonstrating solidarity with future generations and responsibility for the whole planet. Heads of States called on the Council and the Commission to examine all means to achieve these goals.

The timeline of the Paris Agreement is available at www.consilium.europa.eu/en/policies/climate-change/timeline.

Environment Committee adopts Opinion on EU Low Emission Mobility

On 29 June 2017 the Environment Committee of the European Parliament adopted its Opinion on the EU strategy for low-emission mobility.

The Opinion calls on the Commission to come forward with a proposal for 2025 CO₂ standards for cars and vans. It calls for these standards to reflect the EU 2030 climate and energy framework's long-term emissions-reduction trajectory, as well as the long-term objectives of the Paris Agreement.

MEPs called for a targeted ex-post Real Driving Emissions (RDE) methodology for CO₂ emissions to be developed, in order to complement the new Worldwide harmonized Light vehicles Test Procedure (WLTP). The opinion recommends to use existing devices in the methodology, such as fuel consumption meters.

With regards to labelling, the Opinion clarifies that there is a need for the development of a new, improved car and van labelling system which not only provides data on fuel consumption and CO₂ emissions, but also on pollutant emissions, especially NO_x.

The Opinion underlines that air pollutants from transport should be reduced in order to respect the World Health Organization (WHO) recommended levels, and subsequently calls on the Commission to come forward with a proposal for a technology-neutral Euro 7 standard for light-duty vehicles, applicable from 2025.

The Opinion calls on the Commission to adopt an ambitious action plan for the market uptake of electric vehicles and to put forward guiding recommendations to Member States to implement fiscal incentives for zero and low-emission vehicles. It also highlights the importance of ensuring that electricity generated for electric vehicles comes from sustainable energy sources, and calls for a long-term European initiative on next generation batteries.

For Heavy-duty vehicles, the adopted Opinion does not call for mandatory public procurement targets with regards to low- and zero-emission buses, but instead recommends the insertion of green procurement criteria in the currently ongoing revision of the Clean Vehicles Directive.

The EP's Environment Committee also called on the Commission to develop guidelines to encourage Member States to retrofit existing fleets.

The opinion will feed into the work of the lead committee on Transport that is expected to adopt its report in September 2017 (*see below*).

The text of the adopted Opinion is at www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2f%2fEP%2f%2fNONSGML%2bCOMPARL%2bPE-601.214%2b02%2bDOC%2bPDF%2bV0%2f%2fEN.

Transport Committee discusses EU Low Emission Mobility

On 20 June 2017 the Transport Committee of the European Parliament discussed the amendments tabled to the draft Report responding to the Commission's Strategy for Low-Emission Mobility.

With regards to technology neutrality, Rapporteur Bas Eickhout (Greens, Netherlands) expressed his intention to challenge the MEPs' preference for technology-neutrality. He explained that the sector had developed the internal combustion engine and related infrastructure for over a century. He therefore questioned whether a technology neutral attitude by policy makers would provide for enough movement towards decarbonisation in time. He also felt that MEPs were inconsistent with regards to the application of the technology neutrality principle.

MEP van de Camp (EPP, Netherlands) felt that technology neutrality should be based on facts and not ideology. He furthermore argued that IC engines could be maintained, as the work of the EMIS Committee had shown that diesel technology could be clean. He also called for the lifecycle of electric vehicles to be examined, and for investors in first generation biofuels to be taken into account. MEP Meissner (ALDE, Germany) also supported technology neutrality, and felt that parallel approaches could be development simultaneously, while older polluting technologies were replaced. MEP Ertug (S&D, Germany) cautioned that the electricity used by electric vehicles needed to be green. He added that the EU's approach should be careful and long term.

Environment Committee agrees to ratify Revised Gothenburg Protocol

On 22 June 2017 the Environment Committee of the European Parliament adopted its recommendation on the ratification of the revised Gothenburg protocol.

Back in December 2013, the European Commission proposed, as part of its Clean Air package, for the Council to ratify the 2012 revision of the Gothenburg protocol, which is part of the UNECE Convention on Long-range Transboundary Air Pollution (LRTAP). The 2012 amendments to the Gothenburg protocol include notably more stringent emissions reduction commitments for 2020 and the first fine particulate matter (PM_{2.5}) emissions reduction commitments.

Amendments need to be ratified by Contracting Parties in order to make them binding. In the EU, the Gothenburg protocol is implemented through the National Emission Ceilings (NEC) directive which was updated in December 2016. The revised NEC Directive actually goes beyond the Gothenburg protocol since it includes further emissions reduction commitments for 2030.

The adoption of the proposal by the Environment Committee paves the way for the ratification but will have to be confirmed in plenary. A vote is planned in the Parliament in September 2017.

18-Month Programme of the Council of the EU

On 2 June 2017 the Council of the EU published the 18-month programme for the next three EU Presidencies of Estonia (July-December 2017), Bulgaria (January-June 2018), and Austria (July-December 2018).

The programme focuses on a Union for jobs, growth, and competitiveness; a Union that empowers and protects all its citizens; towards an Energy Union with a forward-looking climate policy; a Union of freedom, security, and justice; and the Union as a strong global actor. Priorities are listed for each focus area.

The three EU Presidencies will promote in particular a decarbonised, environment-friendly, and healthy mobility and transport system.

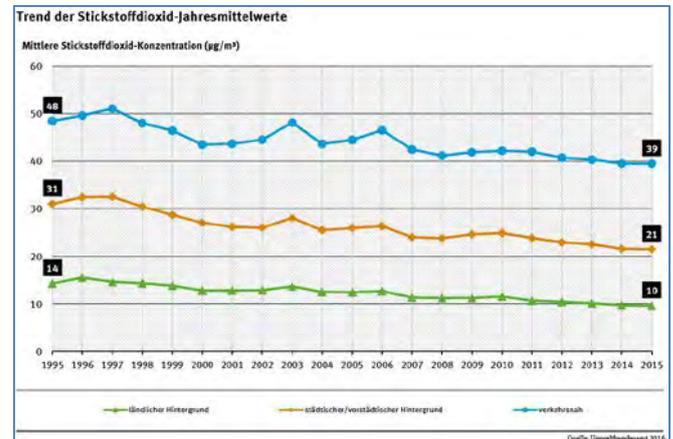
The 18-month programme can be consulted at <http://data.consilium.europa.eu/doc/document/ST-9934-2017-INIT/en/pdf>.

Assessment of Environmental Zones in Germany

On 23 June 2017 the German Environment Agency (Umwelt Bundesamt – UBA) published its analysis of the effectiveness of environmental zones established in Berlin, Munich, and Augsburg.

The UBA said that between 1990 and 2015, annual emissions of nitrogen oxides decreased from 2887 to 1186 kiloton; this represents a 59% reduction. However, in 2016, the EU limit value for NO₂ (40 µg/m³) was still

exceeded by 57% of the air quality monitoring stations that are close to the traffic.



The mean annual NO₂ values at traffic monitoring stations are between 30 and 60 µg/m³, up to 90 µg/m³ in some hotspots. According to the UBA, diesel vehicles are the biggest problem and account for over 60% of NO₂ emissions from urban traffic.

The UBA report (in German) is at www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2017-06-01_texte_46-2017_umweltzonenwirksamkeit.pdf.

German National Diesel Forum set up

On 27 June 2017 the German Federal Minister of Transport Alexander Dobrindt and Federal Environment Minister Barbara Hendricks announced the set-up of a "National Diesel Forum".

The National Diesel Forum will agree on measures to reduce emissions of pollutants from diesel cars in order to reduce NO_x pollution while ensuring mobility. In addition to representatives of the Transport (BMVI) and Environment (BMUB) ministries, representatives of the automotive industry and decision-makers of the Länder are to be involved in the forum. The first meeting of the forum will take place on 2 August 2017.

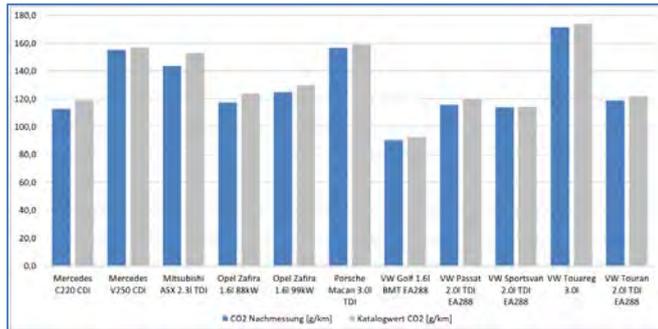
Mr Dobrindt said "We want to reduce emissions all over Germany, and the task of the National Diesel Forum will be to bundle the discussion about the optimization of diesel vehicles. The aim is to achieve effective measures to reduce pollutant emissions in diesel cars."

Ms Hendricks added "The National Diesel Forum will offers manufacturers the opportunity to regain lost trust, and I hope that they will seize this opportunity and make a substantial contribution to improving the air quality in our cities, and thus the health of their citizens. The Forum will contribute to sustainable mobility and structural change in the automotive industry."

Report on German Investigations on Car CO₂ Emissions

On 27 June 2017 the German Federal Minister of Transport Alexander Dobrindt presented a new report on investigations regarding CO₂ emissions from cars.

29 models were ordered by the Ministry to be tested for fuel consumption and CO₂ emissions. 17 passed the test, while 10 models still need to be tested in the coming months.



Minister of Transport has agreed with the German automobile manufacturers to establish a German Institute for Consumption and Emissions Measurement (DIVEM). The institute is to provide more transparency and reliability in fuel consumption and emission measurements of passenger cars. In addition to the competent federal Ministries, NGOs, consumer protection associations as well as cities and municipalities will also be involved.

The Institute will be responsible for measurement of fuel consumption and pollutant emissions of vehicles on a defined reference route, in real traffic. The more realistic values thus determined will be published in a transparent manner on an online platform.

The report on CO₂ emissions from cars is at www.bmvi.de/SharedDocs/DE/Anlage/LA/zweiter-bericht-untersuchungskommission-vw.pdf?__blob=publicationFile.

German Scientists' Letter on the Future of Internal Combustion Engines

On 27 June 2017 WKM (Wissenschaftliche Gesellschaft für Kraftfahrzeug- und Motorentechnik), the Scientific Society for Automotive and Engines Technology in Germany, released a paper signed by 25 German professors, warning against the emotional debate around the internal combustion engine and supporting it in the future.

The three core statements of the letter are:

- The internal combustion engine has been and remains the driving force behind mobility, freight transport, and mobile machinery. This role is supplemented by electric drives but not replaced. A technologically advanced development of drive systems is the prerequisite for a successful climate policy in a prospering society. Prohibitions have the opposite effect.

- Due to very low contribution from combustion engines, the issue of emissions and, above all, pollutant concentrations in air will not be an argument against diesel or gasoline engines in the future. Even today's technology ensure that air quality limits can be met without exception. The weaknesses identified in the past are no longer relevant for the future. On the basis of intensive research, entirely environmentally-neutral combustion engine drives can exist.
- The special advantage of the combustion engine lies in the efficient and flexible use of fuels with high energy density and excellent storage and distribution possibilities. Based on this fundamental characteristic, the internal combustion engine has constantly reinvented itself and, when looking at the entire system, allows for lower CO₂ emissions than alternative technologies. The potential to be able to make use of non-fossil fuels as well as CO₂-neutral fuels is an additional guarantee for a long-term, sustainable future technology.

The WKM letter (in German) is at www.wkm-ev.de/images/20170627_Die_Zukunft_des_Verbrennungsmotors.pdf.

Report on 2016 Air Quality in Paris

On 28 June 2017 AirParif published a report on the air quality measured in 2016 in Paris and the surrounding Ile-de-France region.

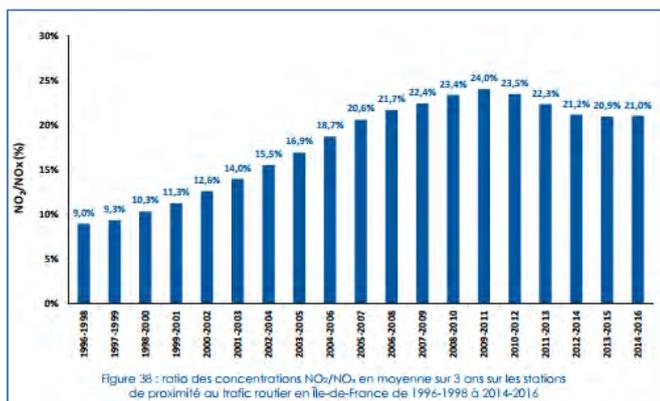
NO₂ and PM₁₀ concentrations remain a problem, with high persisting exceedances. A severe episode was encountered in December 2016 but overall, a decreasing tendency is nevertheless observed. PM_{2.5} and ozone concentrations continued to exceed the objective.

Regarding PM_{2.5}, 11 million inhabitants are potentially exposed to exceedance of the French objective of 10 µg/m³. Concentrations are generally 1.4 times higher in background monitoring stations away from traffic and almost twice higher close to traffic. The annual limit of 25 µg/m³ is met across the whole region.

	Normes à respecter	Normes à respecter dans la mesure du possible		Tendances
	Valeur limite	Valeur cible	Objectif de qualité	2006-2016
PM ₁₀	Dépassée		Dépassé	↘
PM _{2.5}	Respectée	Dépassée	Dépassé	↘
NO ₂	Dépassée		Dépassé	↘
O ₃		Respectée	Dépassé	→
Benzène	Respectée		Dépassé	↘

The decrease in NO₂ concentrations was confirmed in 2016 but they remain in average twice higher than the limit of 40 µg/m³ on busiest roads. 1.4 million persons are potentially exposed to NO₂ exceedances, this is 10% of the region's inhabitants but 50% of Parisians are concerned.

The three-year average NO₂/NO_x ratio at monitoring stations close to traffic peaked in the period 2009-2011. It then reduced and has now stabilized since 2012-2014.



The AirParif report (in French) is at www.airparif.fr/_pdf/publications/bilan-2016.pdf.

UK Roadside Inspections of Lorries to check for Emissions Cheating Devices

On 25 June 2017 the UK Department for Transport (DfT) and Department for Environment, Food & Rural Affairs (Defra) announced that from August 2017, roadside checks of lorries carried out by the Driver and Vehicle Standards Agency (DVSA) will include emissions cheating devices.

DVSA's enforcement staff and their European counterparts have found evidence that drivers and operators use emissions cheat devices to cut the cost of operating. These include using devices designed to stop emissions control systems from working; removing the diesel particulate filter; using cheap, fake emissions reduction devices or diesel exhaust fluid; using illegal engine modifications which result in excessive emissions; and removing or bypassing the exhaust gas recirculation valve.

DVSA enforcement officers will give the driver and operator 10 days to fix the emissions system if they find it has been tampered with. If the emissions system is not fixed within 10 days, DVSA will issue a fine and stop the vehicle being used on the road. DVSA enforcement staff can insist that a vehicle is taken off the road immediately if they find a driver or operator is repeatedly offending.

DVSA will investigate all Great Britain operators cheating emissions and pass the findings to the Traffic Commissioners for Great Britain, who have the power to remove operator licences. DVSA will also continue to work with their counterpart agencies across Europe, and beyond, to make sure that all offences committed by non-Great Britain hauliers are dealt with locally.

More info is at www.gov.uk/government/news/lorry-emissions-checks-to-start-at-the-roadside.

London Buses Retrofit Programme

On 28 June 2017 the Mayor of London, Mr Sadiq Khan, announced a new retrofit programme for around 5000 buses to meet the Euro VI standard.

Through a new £86.1 million (€97.6 million) retrofit programme, more than half of London's entire bus fleet will be upgraded to meet the latest Euro VI emissions

standard. Transport for London (TfL) will work with bus operators and five chosen suppliers (AmmineX, Baumot Twintec, Eminox, HJS, and Proventia) to install new exhaust systems which will reduce NO_x and particulates. Diesel Particulate Filters (DPFs) and Selective Catalytic Reduction (SCR) systems will be installed to reduce the buses pollution to air.

Currently 700 to 800 new low-emission buses are being introduced to the fleet every year, with diesel-only buses being phased out. From 2018, all new double-deck buses will be hybrid, electric, or hydrogen. In addition all buses within the central London Ultra-Low Emission Zone will be Euro VI hybrids by 2019.

The Mayor of London has also set out in his draft Transport Strategy that by 2037 at the latest, all 9200 buses across London will be zero-emission.

Commission requests Romania to ensure Proper Air Quality Monitoring

On 14 June 2017 the European Commission sent a letter of formal notice to Romania over significant gaps in monitoring air pollution.

This first warning covers the monitoring network of a wide range of zones and agglomerations as well as all major pollutants including sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and oxides of nitrogen (NO_x), particulate matter (PM), lead, benzene, carbon monoxide (CO) and ozone (O₃), arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons (PAHs).

Proper monitoring is a fundamental pre-requisite for verifying compliance with the different EU air quality standards. EU legislation on ambient air quality and cleaner air for Europe requires Member States to assess air quality throughout their territory and to take measures to limit the exposure of citizens to pollutants.

According to the Commission, Romania has failed to establish a monitoring network compliant with EU standards and requirements to effectively assess and improve air quality.

Poland urged to communicate Measures to reduce Emissions from Petrol Vapour

On 14 June 2017 the European Commission sent a reasoned opinion to Poland whose authorities failed to communicate measures to reduce emissions from petrol vapour.

EU Member States had to transpose a 2014 rule on reducing the amount of petrol vapour emissions released in the air during the refuelling of vehicles at service stations by March 2016. Poland has not yet notified its relevant national legal instruments.

The Commission said the Directive is an essential instrument to protect human health and the environment by limiting the emission of Volatile Organic Compounds (VOCs) from petrol into the air. They cause excessive

levels of toxic benzene and photochemical formation of ozone which causes respiratory illnesses, such as asthma. In addition, ozone is a greenhouse gas.

The Commission therefore gave Poland two months to reply. In the absence of a satisfactory response, the Commission may refer Poland to the EU Court of Justice.

NORTH-AMERICA

CARB Research Seminar on Heavy-duty Low NOx Technologies

On 15 June 2017 the California Air Resources Board (CARB) held a research seminar on evaluating technologies and methods to lower nitrogen oxide (NOx) emissions from heavy-duty vehicles.

Chris Sharp and Ian Smith from Southwest Research Institute (SwRI) presented the latest results of the CARB heavy-duty low NOx programme in which the Manufacturers of Emission Controls Association (MECA) is involved. The main goal of the project was to demonstrate that modern heavy-duty engines can achieve a target of 0.02 g/bhp-hr for tailpipe NOx emission, which represents a 90% reduction from the US EPA 2010 standard, with currently available emissions control technology. An additional goal of the project was that the final configurations of engine and aftertreatment systems should be consistent with a path toward meeting current and future heavy-duty greenhouse gas (GHG) and fuel economy standards.

The final system selected for the CNG engine was a combination of advanced air-fuel control strategies, close-coupled three-way catalyst (TWC), and conventional under-floor TWC. NOx emissions measured from the final CNG engine were 0.01 g/bhp-hr over the FTP certification cycle.

The final system selected for the diesel engine was a combination of cold-start engine calibration and an advanced aftertreatment system. NOx emissions from the final diesel system were measured with three different aftertreatment catalyst aging stages: degreened, thermal aging, and thermal and chemical aging. The NOx emissions over the FTP cycle were 0.008 g/bhp-hr, 0.012 g/bhp-hr, and 0.034 g/bhp-hr for the degreened, thermal aging only, and thermal and chemical aging, respectively.

A copy of the SwRI slides and a recording of the seminar are at www.arb.ca.gov/research/seminars/sharp/sharp.htm.

California fines Two Companies for Illegal Aftermarket Parts

On 16 June 2017 the California Air Resources Board (CARB) announced a settlement with two companies, Derive Systems and Hypertech, who advertised and sold illegal aftermarket parts, especially tuner products made for diesel pick-up truck engines.

Derive, a parent-company of performance part manufacturer Bully Dog Technologies, paid \$281 840

(€252 000) to resolve the sale of diesel and gasoline aftermarket parts sold in California from 2010 through 2012. The affected parts replaced original emission components on cars and trucks such as the intake and exhaust systems, or employed different engine calibration software to increase vehicle power. The parts had not been evaluated by CARB to demonstrate that they did not negatively impact the vehicle's emissions.

Hypertech was fined \$225 000 (€200 000) for selling uncertified diesel tuners/programmers, fuel pumps, thermostats and pressure regulators from 2011 through 2013.

Fines will support air pollution research, cleaner diesel school buses, CARB said.

Canadian Tier 4-Equivalent Standards for Locomotives published

On 28 June 2017 Transport Canada's finalized locomotive emission standards were published in the Canada Gazette.

These final Canadian emission standards for locomotives are closely aligned with the US Tier 4 locomotive emissions standards that were finalized by the US EPA in 2008 and which became effective in 2015 in the US for line-haul and switcher locomotives.

The locomotives' regulation is at www.gazette.gc.ca/rp-pr/p2/2017/2017-06-28/html/sor-dors121-eng.php.

ASIA PACIFIC

New Vehicular Emissions Scheme in Singapore

On 13 June 2017 Singapore National Environment Agency (NEA) confirmed that the new Vehicular Emissions Scheme (VES) will replace from 1 January 2018 the Carbon Emissions-based Vehicle Scheme (CEVS) for all new cars, taxis, and newly imported used cars.

The VES incentivises the purchase of vehicles that perform better than Euro 6 by providing a rebate or imposing a surcharge.

Under Euro 6, Particulate Matter (PM) emissions from Port Fuel Injection (PFI) vehicles are not regulated. NEA will also exempt PFI cars from PM testing at type-approval.

However, in the absence of PM emissions type-approval data, NEA will require PM emissions data of PFI vehicles for the sake of VES classification.

NEA will provide car dealers with an additional six months from the commencement of the VES to submit their PM emissions readings. All vehicles registered from 1 January 2018 to 30 June 2018 will be exempted from the PM criteria under the VES. After this transition period, PFI vehicles that do not have PM emissions submitted can still be imported into Singapore as long as they meet the Euro 6 emission standards but they will fall into the maximum VES surcharge band with a \$20 000 (€12 900) surcharge.

Taiwan issues Air Quality Emergency Action Plan

On 6 June 2017 Taiwan's Environmental Protection Administration (EPA) published revised "Emergency Steps to Prevent Air Quality from Deteriorating".

It was the first time the air quality measures have been updated in 17 years, and they will now include a PM_{2.5} air quality warning system. Taiwan's EPA is hoping the updated measures, which are designed to give early warnings of pollution problems, will help improve air quality by getting polluting factories to lower their operating loads or keep polluting vehicles off the streets.

Under the revised air quality control steps, air pollution alerts are divided into two categories: "early warning" and "serious deterioration." The early warning category consists of "second-degree" and "first-degree" early warnings. Taiwan's EPA will issue a second-degree early warning when average PM_{2.5} concentrations over a 24-hour period reach 35.5 µg/m³ and a first-degree early warning when PM_{2.5} concentrations reach 54.5 µg/m³. Under second-degree early warnings, factories will be advised to lower their operating loads, and burning objects outdoors or allowing a vehicle engine to idle while the vehicle is parked will be prohibited. When a first-degree early warning is issued, roads will be watered, reward points for taking public transportation will be increased, and checks of two-stroke motorcycles and pollution control equipment used by big restaurants will be stepped up.

Under the category of serious deterioration, there are three degrees of early warning, starting with "third-degree" when average PM_{2.5} concentrations hit 150.5 µg/m³, "second-degree" warning when average PM_{2.5} concentrations hit 250.5 µg/m³, and a "first-degree" warning when average PM_{2.5} concentrations hit 350.5 µg/m³. Under third- and second-degree warnings, factories will be required to run at lower capacities to limit air pollutants, and the use of two-stroke motorcycles and diesel trucks will be restricted or banned. Outdoor construction or paving roads will also be prohibited under these conditions. If a first-degree serious deterioration warning is issued, all vehicles, except for electric cars and vehicles produced after 1 January 2012, will be barred from the roads, according to the EPA.

According to Taiwan's EPA data, 24-hour average PM_{2.5} concentrations have never exceeded 250 µg/m³.

ICCT Report on In-Use Emissions of Indian Vehicles

On 26 June 2017 the International Council on Clean Transportation (ICCT) published a report on laboratory and on-road emissions testing of in-use passenger vehicles in India.

The ICCT contracted the International Centre for Automotive Technology (ICAT) of India to conduct

laboratory and on-road testing of three in-use passenger vehicles, two diesel and one gasoline.

For laboratory testing, emissions were measured under the Modified Indian drive cycle (MIDC), similar to NEDC, and the World harmonized Light Duty test cycle (WLTC); cold- and hot-start tests were performed for each vehicle and drive cycle.

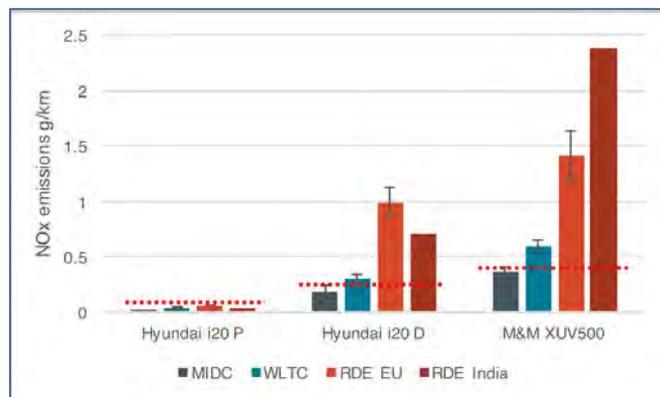
On-road testing was performed using a Portable Emissions Measurement System (PEMS) under two different routes: one following the European Real Driving Emissions (RDE) protocol and another one following Indian driving conditions.

The test vehicles were a Hyundai Elite I20 petrol, a Hyundai Elite I20 diesel and a Mahindra & Mahindra XUV 500 W6, all Model Year 2015 and certified to Bharat Stage (BS) IV, with less than 17000 km. Emissions control included a Three-Way Catalyst (TWC) for the petrol car, and Exhaust Gas Recirculation (EGR) for both diesel cars.

The lab results show that emissions for the three vehicles under MIDC are below type-approval values for all regulated pollutants. WLTC emissions were higher than MIDC emissions for all vehicles; on the gasoline vehicle, WLTC emission for all pollutants remained nevertheless below regulatory limits, but both diesel vehicles had NO_x and PM emissions above BS IV limits. Hot-start MIDC emissions were lower for the petrol vehicles as the TWC reached light-off temperature faster than under cold-start; for the diesel vehicles however, hot-start MIDC NO_x emissions were consistently higher than under cold-start, for both MIDC and WLTC tests.

Real driving emissions during PEMS testing showed a substantial increase compared to MIDC emission standard values. NO_x emissions of diesel vehicles were 4 to 6 times higher than the BS IV standard. For the petrol car, CO emissions increased by almost a factor 4 under RDE conditions.

Fuel consumption was 20 to 25% higher under RDE for all 3 vehicles when compared to type-approval values.



The ICCT report on in-use emissions of Indian vehicles is at http://theicct.org/sites/default/files/publications/PV-in-use-emissions-testing-India_ICCT-consultant-report_20170329.pdf.

Vietnam to introduce E5 Gasoline in 2018

On 12 June 2017 the Vietnamese Government announced the phase out of RON 92 gasoline starting 1 January 2018.

RON 92 gasoline will be available in the market until 31 December 2017. Beginning 1 January 2018 only E5 biofuel, a blend of 95% RON 92 gasoline and 5% ethanol, and a higher grade of E0 gasoline, RON 95, will be made available in the Vietnamese market.

UNITED NATIONS

Environment and Health Conference Declaration

On 15 June 2017 the Sixth Ministerial Conference on Environment and Health jointly organized in Ostrava, Czech Republic, by the World Health Organization (WHO) Regional Office for Europe, the United Nations Economic Commission for Europe (UNECE), and the United Nations Environment Programme (UNEP) closed with a declaration which identifies 7 key focus areas for action.

These are improved indoor and outdoor air quality; ensuring universal, equitable and sustainable access to safe drinking-water, sanitation and hygiene; minimizing the adverse effects of chemicals on human health and the environment; preventing and eliminating the adverse environmental and health effects, costs and inequalities related to waste management and contaminated sites; strengthening adaptive capacity and resilience to health risks related to climate change and supporting measures to mitigate climate change; supporting the efforts of European cities and regions to become healthier and more inclusive, safe, resilient and sustainable; and building the environmental sustainability of health systems.

The Ministers in particular agreed to advocate the health benefits of sustainable production and consumption, a transition from fossil to renewable energy in an appropriate time frame, the use of clean and safe technologies, and a shift to low-emission and energy-efficient transport and mobility integrated with urban and spatial planning.

The declaration notes that by the end of 2018, national portfolios of actions on environment and health will be developed, focusing on a number of areas such as improving air quality. Actions will be planned to meet the value of the WHO air quality guidelines.

The WHO ministerial declaration is at www.euro.who.int/_data/assets/pdf_file/0007/341944/201706151-Ostrava-declaration-signed.pdf.

WMO reports Extremely High Temperatures in May and June 2017

On 20 June 2017 the World Meteorological Organization (WMO) reported that parts of Europe, the Middle East, North Africa and the USA have seen extremely high temperatures in May and June 2017, with a number of records broken.

Average global surface temperatures over land and sea were the second highest on record for the first five months of 2017. Only 2016 saw higher global temperatures due to a combination of a very powerful El Niño event, which has a warming impact, and long-term climate change caused by greenhouse gas emissions. So far in 2017 there has been no El Niño event. Climate change scenarios predict that heatwaves will become more intense, more frequent and longer. It is also expected that the number of hot days will continue to rise.

More information is available at <https://public.wmo.int/en/media/news/high-temperatures-and-heatwaves-take-hold>.

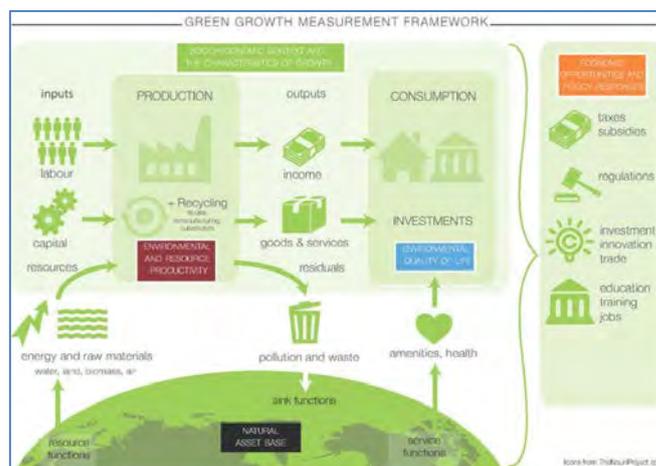
GENERAL

OECD Report on Green Growth Indicators

On 20 June 2017 the Organisation for Economic Co-operation and Development (OECD) published a new report on Green Growth Indicators.

The report uses a range of indicators covering everything from land use to CO₂ productivity and innovation to show where 46 countries rank on balancing economic growth with environmental pressures over the period 1990-2015. It finds that Denmark, Estonia, the UK, Italy and the Slovak Republic have made the most progress on green growth since 2000.

The report shows that since the 1990s all OECD and G20 countries have increased their overall environmentally-adjusted productivity – a way of measuring economic productivity that accounts for pressures like pollution and the use of natural resources. However, according to OECD, no country is performing well on all green growth dimensions and most of the countries studied have yet to fully disconnect economic growth from fossil fuel use and pollutant emissions.



Carbon productivity (GDP per unit of CO₂ emitted) has improved, with half of the 35 OECD members decoupling emissions from growth. Switzerland and Sweden showed the highest level of carbon productivity, while the Slovak Republic, Latvia and Poland all reduced CO₂ emissions as GDP rose.

A more nuanced picture emerges however when trade flows are factored in and emissions are considered from the perspective of final demand. Most OECD countries are net importers of CO₂ emissions, so when the CO₂ emitted during production stages of goods or services abroad is included, only 12 OECD countries decoupled emissions from GDP.

Of the 46 countries examined, Iceland, Costa Rica and Sweden have the highest share of renewables in their energy mix. The BRIICS (Brazil, Russia, India, Indonesia, China, and South-Africa) have a higher average share of renewables at 14.8% than OECD countries at 9.6%, but the share has dropped in the BRIICS since 1990 while it has risen in the OECD area.

According to the report, a surge in innovation and green technologies in the early 2000s boosted productivity and growth, but since 2011 inventive activity has slowed in all major technological areas related to the environment. About 90% of green technologies originate in OECD countries, but the contributions of China and India are rising fast.

The OECD report is at www.oecd.org/environment/green-growth-indicators-2017-9789264268586-en.htm.

CLEPA Position Paper on Post-2020 CO₂ Targets

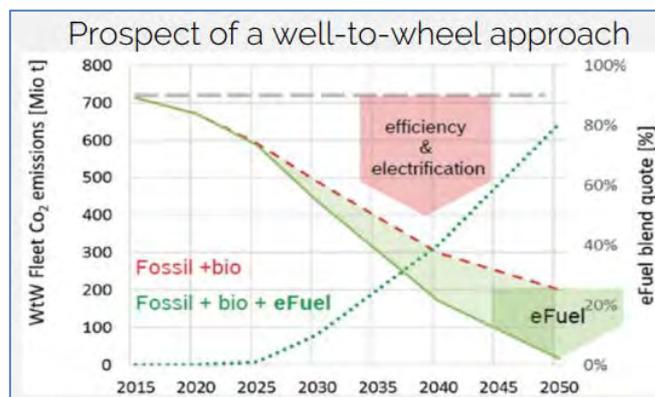
On 7 June 2017 the European Association of Automotive Suppliers (CLEPA) issued its position paper on EU post-2020 CO₂ emissions reduction targets.

CLEPA noted that European automotive component suppliers lead the world in technologies for efficient, low-emissions vehicles, offering diverse technologies and solutions to reduce CO₂ emissions. A large variety of smart, safe and sustainable technology solutions will be required to meet society's ever more diverse mobility needs. Technology-neutrality remains a key necessity in CO₂ reduction policy, opening up several technological pathways to low carbon mobility. Electrification offers an important route to decarbonisation while at the same time the further improvement of the internal combustion engine remains an indispensable path to achieve the 'Paris' climate change mitigation goals. Advanced alternative fuels as well as off-cycle technologies offer additional significant CO₂ reduction potential that should be unlocked by supportive policy.

According to CLEPA, an approximate 20 to 25% reduction in CO₂ per kilometre compared to 2020 targets can be reached by 2030 with available technologies.

CLEPA noted that measures to sustainably de-fossilise fuel will be key in the future CO₂ reduction strategy. By 2030, EU electricity generation is projected to be only 49% renewable. Therefore, other low-carbon transport fuel solutions are needed to contribute, and a broader policy approach is required including the deployment of advanced alternative fuels.

CLEPA considers that data is currently insufficient for the application and enforcement of a complete life-cycle analysis and that, as a first next step, a well-to-wheel approach is most appropriate for measuring CO₂ emissions into the atmosphere beyond the 2030 timeframe.



Finally, CLEPA emphasized that building on Europe's industrial strength, policy makers are tasked to promote low-carbon mobility in a sustainable and competitive way – meeting ambitious environmental targets, strengthening EU technology leadership and underpinning growth and employment in Europe.

The CLEPA position on post-2020 CO₂ targets is at <http://clepa.eu/wp-content/uploads/2017/06/CLEPA-Position-Paper-on-post-2020-CO2-emission-reduction-targets-in-Europe.pdf>.

FuelsEurope Position Paper on Post-2020 CO₂ Targets

On 14 June 2017 FuelsEurope, the association of the European refiners, released a position paper on post-2020 CO₂ targets for cars and vans.

The oil industry is of the opinion that the EU's transport greenhouse gas (GHG) reduction policy should be holistic, and include in addition to lower carbon fuels and vehicles, traffic demand, infrastructure improvements, and driver education/training/ behaviour. FuelsEurope believes that the current tank-to-wheel (TTW) approach for the vehicle efficiency standards has been effective in promoting improvements in the internal combustion engines-based vehicles.

FuelsEurope calls for a technology-neutral approach towards ambitious but achievable targets such that they can be cost-effective and delivered by different technologies. Counting electricity used in vehicles as zero CO₂ emissions does not reflect the reality of their actual contribution to CO₂ emissions across the economy. There should be a clear plan on how to address real life-cycle CO₂ emissions of powertrain technologies for the longer term.

While a TTW approach is recognised for the time being to enable comparison of indicated performance with real driving results, FuelsEurope supports to start looking into ways to include LCA-based real GHG emissions of drive-train technologies in future vehicle efficiency legislation.

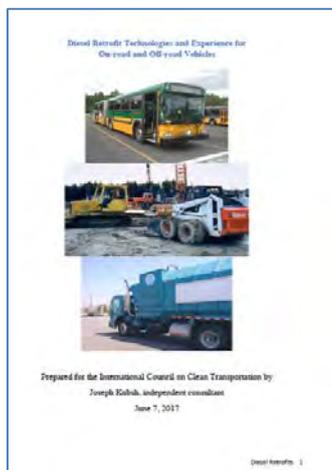
FuelsEurope also calls for the recognition of the CO₂ reduction contribution from fuels (e.g. from sustainable biofuels) into CO₂ vehicle efficiency standards.

Finally, the oil industry recommends a revision downwards of the non-compliance penalty (currently 95 € penalty per 1 g/km above the fleet average CO₂).

The position of FuelsEurope on post-2020 CO₂ targets is at www.fuelseurope.eu/uploads/Modules/Resources/fuelseurope-position-on-the-vehicle-efficiency-standards-post-2020.pdf.

ICCT Report on Retrofit Technologies and Experience

On 13 June 2017 the International Council on Clean Transportation (ICCT) published a new report on retrofit technologies and experience with on-road and off-road vehicles.



The report, prepared by Dr Joseph Kubsh, former Executive Director of the Manufacturers of Emission Controls Association (MECA), summarizes important features and experiences of successful retrofit programme efforts primarily in the US and Europe. It highlights the range of retrofit technologies that have been successfully used to reduce exhaust emissions (including diesel particulate

and NO_x emissions) from older, existing on-road and off-road diesel engines.

The ICCT report focuses on high efficiency Diesel Particulate Filters (DPF) and Selective Catalytic Reduction (SCR) systems, since these retrofit technologies provide the highest reduction efficiencies for diesel particulates and NO_x emissions. Diesel retrofit technology verification protocols have been established in both the US and Europe to ensure retrofit technologies provide proven and durable emission reductions. The report includes a comparison table of the elements of the US EPA & CARB, VERT, and UN Regulation No 132 retrofit standards.

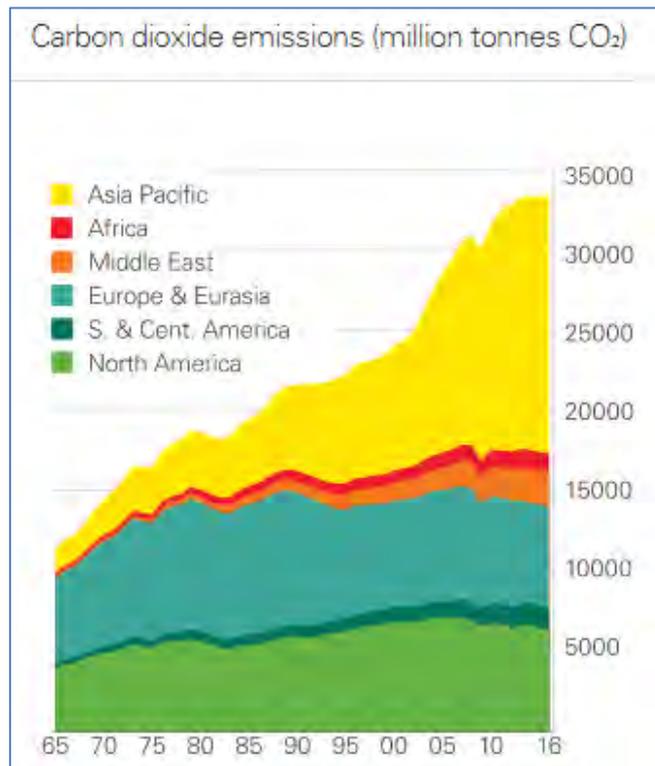
Other important aspects of successful retrofit programmes (in addition to using verified technologies) include an application engineering approach that selects the appropriate retrofit technology based on the vehicle/engine application, its duty cycle and available fuel quality, continued maintenance of the engine and retrofit technology, professional installation of the retrofit device, and training programs for end users.

The ICCT report on retrofit is at http://theicct.org/sites/default/files/publications/Diesel-Retrofits_ICCT_Consultant-Report_13062017_vF.pdf.

BP Statistical Review of World Energy

On 13 June 2017 the 2017 edition of the BP Statistical Review of World Energy was published.

It demonstrates the long-term transitions now underway in the energy markets, with a shift to slower growth in global energy demand, demand moving strongly towards the fast-growing developing economies of Asia, and a marked shift towards lower carbon fuels as renewable energy continues to grow strongly and coal use falls.



In 2016 global energy demand grew by 1% – similar to rises of 0.9% and 1% seen in 2015 and 2014 respectively and significantly lower than the 10-year average rate of growth of 1.8%. China and India accounted for half of all growth.

Global oil consumption grew strongly, rising by 1.6%. Strong increases in demand were seen from India and Europe and while demand from China continued to grow, it was lower than in recent years.

Global natural gas consumption rose by 1.5% in 2016, slower than the 10-year average rate of 2.3%. However, there were strong increases in gas consumption in Europe (up 6%), the Middle East (up 3.5%) and China (up 7.7%).

Renewables were the fastest growing energy source in 2016. Not including hydroelectric power, renewable energy grew by 12%. Renewables now provide a share of just under 4% of primary energy. In 2016, China became the world's largest single producer of renewable power, overtaking the US; Asia Pacific overtook Europe and Eurasia to become the largest producing region for renewable power.

Emissions of CO₂ from energy consumption increased by only 0.1% in 2016. During 2014-16, average emissions growth has been the lowest over any three-year period since 1981-83.

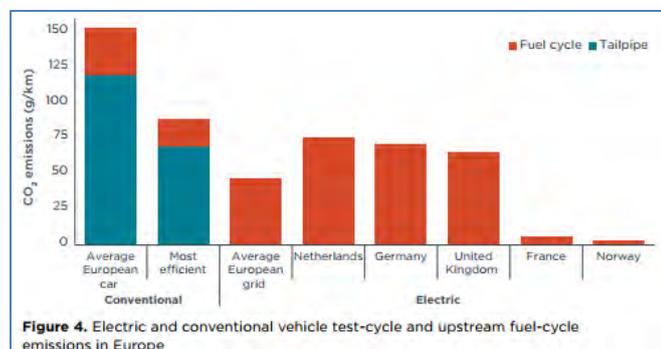
The BP report is at www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html.

ICCT Paper on Electric Vehicles' Role in CO₂ Regulations in US and EU

On 22 June 2017 the International Clean Council on Transportation (ICCT) published a working paper titled 'Integrating electric vehicles within US and European efficiency regulations'.

This paper assesses options for integrating electric vehicles (EVs) within US and European CO₂ emission and efficiency regulations through 2030. It evaluates future EVs penetration under three regulatory approaches: life-cycle accounting, tailpipe accounting (i.e. EVs are counted as zero), and the use of multipliers or super-credits (i.e. EVs get counted multiple times). These three regulatory scenarios are assessed for their impact on the relative cost-effectiveness of EVs versus combustion vehicle technologies, the regulating efficiency improvements of combustion vehicles, and the implications for fleet-wide CO₂ emission reductions.

The use of EV multipliers or super-credits come with a substantial environmental cost.



According to ICCT, accounting for EVs as having zero CO₂ emissions improves the cost-effectiveness of the vehicles as a compliance strategy, reducing the cost per CO₂ reduction by 23 to 33%, as compared to more scientifically correct upstream grid accounting. This puts lower-range electric vehicles on par with advanced combustion and hybrid technology. This is a substantial enticement to automakers deliberating greater deployment of EVs versus other technologies. Doing so comes at a modest environmental cost, losing approximately 4 to 6% of regulatory CO₂ benefits as EVs are gradually deployed in the fleet through 2030. As compared to the scenarios where multipliers or super-credits erode up to 26-41% of the environmental benefits, accounting EVs as zero provides a reasonable trade-off to spur the development of the market.

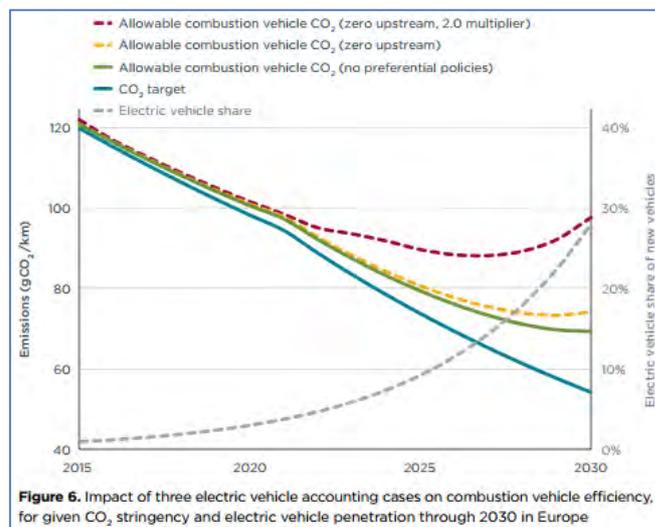
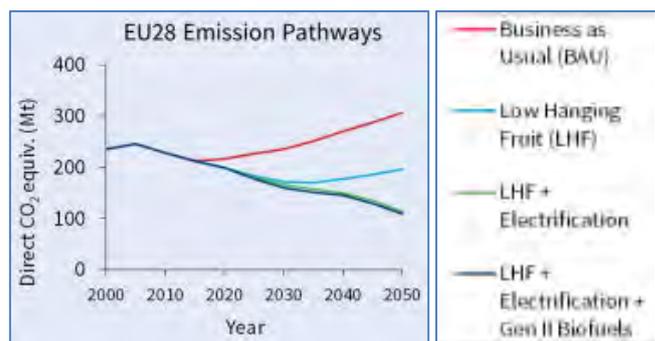


Figure 6. Impact of three electric vehicle accounting cases on combustion vehicle efficiency, for given CO₂ stringency and electric vehicle penetration through 2030 in Europe

T&E Policy Recommendations on Heavy-Duty Decarbonisation

On 22 June 2017 environmentalist NGO Transport & Environment (T&E) published a new roadmap to climate-friendly road freight and buses in Europe.

This report assesses how the EU and Nordic countries could achieve zero greenhouse gas (GHG) emissions from road freight and buses by 2050. It analyses "off the shelf" technologies and strategies (defined as 'low hanging fruit'), such as improving fuel efficiency in diesel trucks or moving more freight into railways. In addition, it also assesses how to move beyond and fully decarbonise the road freight sector. Technologies considered include catenary-hybrid, battery electric, hydrogen and power to liquid.



Whilst decarbonising road freight is possible, it will not happen without ambitious policy interventions, at all levels. T&E therefore recommends:

- CO₂ standards for trucks and trailers.
- a zero emission vehicle (ZEV) mandate/quota for buses and delivery trucks.
- road charges, tolls and fuel taxes are key drivers of lower carbon trucking.
- zero-emission freight strategies for cities need to be adopted across Europe.

- building the right infrastructure for battery electric, e-highway, or hydrogen trucks.
- zero-emission liquid fuels cannot be a stand-alone solution to decarbonising transport but could play a complementary role in a fully decarbonised transport system (e.g. powering an e-highway truck going off the highway to the warehouse).

The T&E report is at

www.transportenvironment.org/sites/te/files/publications/2017_06_Roadmap_climate-friendly_road_freight_buses_Europe_2050_final.pdf.

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FORTHCOMING CONFERENCES

13th International CTI Conference: SCR Systems/Off-Highway Applications

5-7 July 2017, Stuttgart, Germany

http://cti.euroforum.de/en/events/scr_systems_2017

The conference will discuss international emissions legislation; real-driving emissions legislation and experience; global SCR trends and product line evolution to support changing market needs; development of innovative SCR components; new sensor developments; retrofitting; and off-highway technology trends.

Diesel Powertrains 3.0

11-12 July 2017, Ludwigsburg, Germany

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

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

13th International Conference on Engines & Vehicles (ICE2017)

10-14 September 2017, Capri, Italy

www.sae-na.it/index.php/en/2016-03-19-14-13-16/2016-03-19-14-14-16/welcome

Topics to be addressed include engine modelling and diagnostics; engine combustion; new engines, components, actuators & sensors; hybrid and electric powertrains; fuels and lubricants; and exhaust aftertreatment and emissions.

Emissions 2017

12-13 September 2017, Frankfurt, Germany

<https://gamcinc.com/conferences/emissions/?id=1>

The forum will address advances in emission technology and management systems related to OEMs, suppliers (all tiers), component manufacturers, governmental and non-governmental agencies.

10th Integer DEF Forum USA 2017

26-28 September 2017, San Antonio, USA

www.integer-research.com/conferences/def-forum-usa-2017

2017 Aachen Colloquium Automobile and Engine Technology

9-11 October 2017, Aachen, Germany

www.aachener-kolloquium.de

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

7th Integer Emissions Summit & AdBlue® Forum India 2017

11-12 October 2017, New Delhi, India

www.integer-research.com/conferences/ies-india-2017

The conference will examine the progress made towards Bharat VI a year on from the government's announcement regarding plans to implement the stringent emissions standards by 2020.

GreenPort Congress 2017

11-13 October 2017, Amsterdam, Netherlands

www.greenport.com/congress

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

5th International Conference Real-Driving Emissions

16-18 October 2017, Berlin, Germany

<https://real-driving-emissions.iqpc.de>

The IQPC RDE conference will discuss the latest state of affairs around the implementation of RDE procedures in Europe, with a special focus on its consequences for engine and exhaust technology and further developments on local and global markets.

SAE 2017 International Powertrains, Fuels and Lubricants Meeting

16-19 October 2017, Beijing, China

www.sae.org/events/pfi

G.STIC 2017 – Global Science, Technology & Innovation Conference

23-25 October 2017, Brussels, Belgium

www.gstic.org

The objective of this conference is to underpin the technological discussions in the UN and other international forums as they relate to the Sustainable Development Goals, the climate goals and Means of Implementation.

10th Integer Emissions Summit USA 2017

7-8 November 2017, Pittsburgh, USA

www.integer-research.com/conferences/ies-usa-2017

15th FAD-Conference

8-9 November 2017, Dresden, Germany

www.fad-diesel.de/conference-2017

The FAD conference will focus on drive technologies and environmental impact; Real-Driving Emissions – milestones of implementation; exhaust aftertreatment for on-road applications; contributions of science and research; emission concepts for non-road diesel engines; exhaust aftertreatment for gas engines; special requirement of exhaust aftertreatment for hybrid drives; emission strategies and solutions for large engines; new exhaust aftertreatment concepts; service time and aging of exhaust aftertreatment systems; and future fuels and exhaust aftertreatment.

22nd International Transport and Air Pollution Conference (TAP 2017)

15-16 November 2017, Zürich, Switzerland

<http://tapconference.org>

The conference topics include exhaust and non-exhaust emissions from transport modes (measurements and modelling); urban and suburban air quality; energy demand and greenhouse gas emissions from transport modes; and transport policies and mobility challenges of the future.

Clean Air Forum

16-17 November 2017, Paris, France

www.euconf.eu/clean-air/index.html

The European Clean Air Forum, organized by the European Commission, will provide a basis for structured dialogues, exchange of knowledge and good practices, and to enhance capacity of relevant stakeholders to improve air quality. It aims to reflect on the development of policies, projects and programmes in the context of air pollution and air quality, and facilitate the implementation of European, national and local air policies. It will focus on three themes: air quality in cities; agriculture and air quality and clean air business opportunities.

Heavy-Duty, On- and Off-Highway Engines 2017

28-29 November 2017, Augsburg, Germany

www.atzlive.de/en/events/heavy-duty-on-and-off-highway-engines

Main subject areas of the conference include new diesel, gas, and dual-fuel engines, electrification, and reducing pollution.

10th International AVL Exhaust Gas and Particulate Emissions Forum

20-21 February 2018, Ludwigsburg, Germany

www.avl.com/web/guest/-/10th-avl-international-exhaust-gas-and-particulate-emissions-forum

8th AVL Large Engines TechDays

11-12 April 2018, Graz, Austria

www.avl.com/-/8th-avl-large-engines-techdays

WCX18: SAE World Congress Experience

10-12 April 2017, Detroit, USA

www.wcx18.org

Deadline for abstract: 1 September 2017

39th International Vienna Motor Symposium

27-28 April 2018, Vienna, Austria

<https://wiener-motorensymposium.at>

Deadline for abstract: 30 September 2017

40th International Vienna Motor Symposium

16-17 May 2019, Vienna, Austria

<https://wiener-motorensymposium.at>