

NEWSLETTER

International Regulatory Developments

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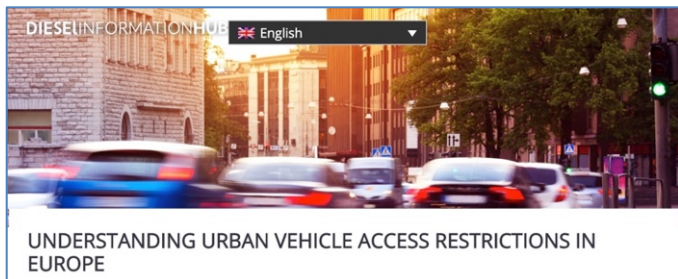
AECC Wishes for the New Year

The AECC team wishes you a healthy, happy and successful 2020. We look forward to working with you for cleaner air.



Urban Vehicle Access Regulations Article on AECC Diesel Information Hub

AECC has published the latest article on the Diesel Information Hub, titled 'Understanding Urban Vehicle Access Regulations in Europe'. It investigates some of the main concerns related to restrictions, including inconsistency, the burden on businesses, enforcement and the use of the term 'Diesel ban'.



The article also highlights some of the zones planned or in operation around Europe and can be found at dieselinformation.aecc.eu/understanding-urban-vehicle-access-restrictions-europe.

EUROPE

Commission launches the European Green Deal

On 11 December 2019, the European Commission published The European Green Deal. The Green Deal is intended to 'reset the Commission's commitment to tackling climate and environmental-related challenges. ... It is a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. It also aims to protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-

related risks and impacts. At the same time, this transition must be just and inclusive.'

The document provides an initial roadmap of the key policies and measures needed to achieve the European Green Deal and will be updated as required. It says that all EU actions and policies will have to contribute to the objectives of the European Green Deal.

The Commission's objective to achieve climate neutrality by 2050 will be enshrined in legislation, with a 'Climate Law' to be proposed by March 2020. It will also present a plan to increase the greenhouse gas (GHG) emission reductions target for 2030 to at least 50% and towards 55% of 1990 levels.



In the section titled 'Accelerating the shift to sustainable and smart mobility', the document sets out the Commission's priorities for transport. It wants to see 'a substantial part' of road freight moved onto rail and inland waterways. The Commission will consider how to achieve effective road pricing, either through the 'Eurovignette' Directive or via alternative measures.

The document says that production and deployment of sustainable alternative transport fuels should be increased and gives targets for the number of public recharging and refuelling of zero- and low-emission vehicles. It wants transport to become 'drastically less polluting, especially in cities'. The Commission is going to put forward more stringent air pollutant emissions standards and wants to revise CO₂ emission standards for cars and vans by June 2021.

A section of the European Green Deal called 'A zero pollution ambition for a toxic-free environment' sets out the ambition to better monitor, report, prevent and remedy pollution from air, water, soil and consumer products. The Commission will adopt a zero pollution action plan in 2021. It will 'draw on lessons learnt from the evaluation of current air quality legislation, strengthening provisions to help local authorities achieve cleaner air, and will propose alignment of air quality standards more closely with World Health Organisation recommendations.

The European Green Deal communication is at ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf.

A roadmap giving proposed timings of actions related to the Green Deal can also be found at ec.europa.eu/info/sites/info/files/european-green-deal-communication-annex-roadmap_en.pdf.

Fitness Check of Ambient Air Quality Directives

On 29 November 2019, the European Commission released a Fitness Check of the two Ambient Air Quality (AAQ) directives 2008/50/EC and 2004/107/EC.

The check concludes that the directives have been partially effective in improving air quality and achieving air quality standards. It says they have guided the establishment of a representative high-quality monitoring of air quality, set clear air quality standards, and facilitated the exchange of reliable, objective, comparable information on air quality, including to a wider public. They have been less successful in ensuring that sufficient action is taken by EU Member States to meet air quality standards and keep exceedances as short as possible.

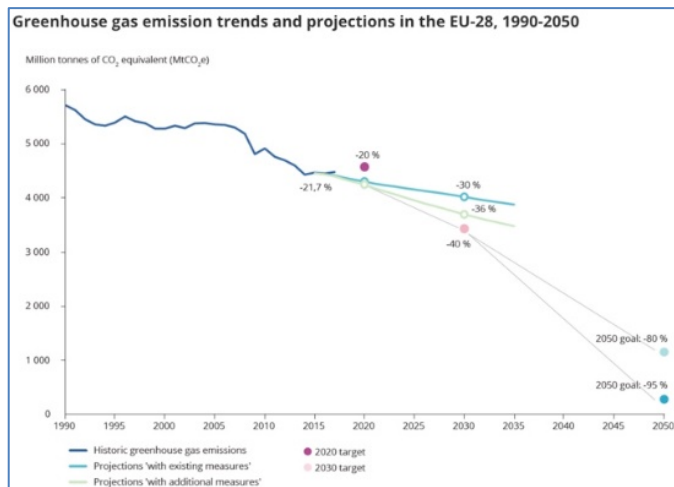
Nevertheless, the available evidence indicates the AAQ Directives have contributed to a downward trend in air pollution and reduced the number and magnitude of exceedances. It concludes by saying that additional guidance, or clearer requirements in the AAQ Directives themselves, could help to make monitoring, modelling and the provisions for plans and measures more effective and efficient.

The Fitness Check is available at ec.europa.eu/environment/air/quality/aqd_fitness_check_en.htm.

EEA State of the Environment Report

On 4 December 2019, the European Environment Agency (EEA) published its 2020 State of the Environment Report (SOER).

The report says that Europe will not achieve its 2030 goals without urgent action during the next 10 years to address the alarming rate of biodiversity loss, increasing impacts of climate change and the overconsumption of natural resources. It does add however that there is reason for hope, amid increased public awareness of the need to shift to a sustainable future, technological innovations, growing community initiatives and stepped up EU action like the European Green Deal.



The SOER provides a snapshot of where Europe stands in meeting 2020 and 2030 policy targets as well as longer term 2050 goals and ambitions to shift to a sustainable, low carbon future. Overall environmental trends in Europe have not improved since the last EEA SOER in 2015. The assessment notes that while most of the 2020 targets will not be achieved, especially those on biodiversity, there is still a chance to meet the longer-term goals and objectives for 2030 and 2050.

The full SOER can be accessed at www.eea.europa.eu/highlights/soer2020-europes-environment-state-and-outlook-report.

Sweden announces Changes to Ordinance on Super-green Vehicles

On 5 December 2019, the Swedish government announced an Ordinance to amend the Ordinance on super-green vehicles. This proposes that the bonus awarded for cars with a low climate impact is to be based on an increased CO₂ limit of 70 grams/kilometre, up from 60 g/km.

The change is being made to take account of changes to the testing procedures, as the Worldwide Harmonised Light Vehicles Test Procedure (WLTP) generally leads to higher measured emission values than the previously used New European Driving Cycle (NEDC).

The notification states that this measure is deemed necessary and appropriate, as the incentive for the public to replace older cars by cars with a lower climate impact can be retained.

The notification can be seen at ec.europa.eu/growth/14236037&CFOTOKEN=152a8dc6cc627664-99E4A692-E37F-5E18-4A826BAF1DF6917B.

UKERC Publishes Review of Energy Policy 2019

On 9 December 2019, the UK Energy Review Centre (UKERC), published its 2019 *Review of Energy Policy* in the UK. Included in this is an assessment of the impact of the rise in Sport Utility Vehicle (SUV) sales on CO₂ emissions.

Whilst it acknowledges that the shift from diesel to petrol and the slow uptake of battery electric vehicles have contributed to the increase in CO₂ emissions from cars in the last two years, it says that the contribution of emissions from SUVs has increased significantly. The report points to flaws in EU regulations which allow 'manufacturers of larger, heavier cars to have higher levels of emissions per kilometre'.

Its recommendations, said to be necessary if the UK is to achieve net-zero greenhouse gas emissions by 2050, include bringing forward the phase-out of fossil-fuelled vehicles to 2030, as well as immediate action to 'counter the rapid increase in sales of larger cars (including SUVs).

The full report is available to read at www.ukerc.ac.uk/publications/rep19.

European Council Proposal for Regulation Amendments

On 11 December 2019, the Council of the European Union published a proposal for amendments to Regulation (EU) 715/2007 on type approval for light passenger and commercial vehicles. This follows the ruling of the General Court in December 2018, which found that conformity factors (CFs) could only be introduced as part of the Regulation and not via a comitology procedure.

The main points highlighted were that Council agreed to maintain the level of conformity factors (CF) set in the proposal (both the temporary and full step 6d), although Council proposed a change on how the CF should be defined, taking into consideration the measurement margin i.e. $CF=1+\text{margin}$ ($\text{margin}=0.43$) linked to the use of the Portable Measurement Emissions System (PEMS). The Council would require the Commission to review every two years (with a view to revising downwards) the level of the conformity factors, taking into account the technical progress linked to the use of PEMS.

The full text of the Council's proposal can be found at data.consilium.europa.eu/doc/document/ST-15042-2019-INIT/en/pdf.

ENVI Committee Timeline for Review of Proposed Regulation Amendments

On 16 December 2019, the Environment Committee (ENVI) of the European Parliament issued a timeline for review of the proposed amendments to Regulation (EU) 715/2007, introducing conformity factors into the Regulation.

The draft report will be considered by ENVI on 20 and 21 January 2020, with a deadline for amendments a week later on 28 January. There will be a vote in ENVI on 18 or 19 March 2020, followed by a vote in plenary later in the month.

More information is available on the ENVI site at www.europarl.europa.eu/committees/en/envi/subject-files.html?id=20191216CDT03201.

Euro 5 for Motorcycles and Mopeds enters into Force from January 2020

As of 1 January 2020, all new type-approved motorcycles and mopeds sold in the European Union (EU) and the European Free Trade Area (EFTA) have to meet the new Euro 5 environmental standard that will replace the current Euro 4 specification.

For existing moped and motorcycle models type-approved before 1 January 2020, Euro 5 will become mandatory as of the first day of 2021. This brings the gaseous pollutant emissions of L-category vehicles (i.e. mopeds, motorcycles, tricycles and quadricycles) to the same level as Euro 6 cars.

Under the new Euro 5 standard, tailpipe emissions of mopeds, motorcycles, tricycles and quadricycles will not be allowed to exceed 1 000 mg/km of carbon monoxide (CO), 100 mg/km total hydrocarbons (THC), 68 mg/km non-methane hydrocarbons (NMHC), 60 mg/km of oxides of nitrogen (NO_x) and 4.5 mg/km of particulate matter (PM). These Euro 5 tailpipe pollutant emission limit values are the same as those of Euro 6 for cars.

A press release from ACEM, the European Association of Motorcycle Manufacturers, is at acem.eu/new-euro-5-environmental-standard-for-motorcycles-and-mopeds-to-enter-into-force-in-2020.

Outcomes of the Second EU Clean Air Forum

On 12 December 2019, the Council of the European Union published an information note from the Slovak delegation on the outcomes of the second EU Clean Air Forum, held in Bratislava on 28 and 29 November 2019. The forum focused on four themes: air quality and health; air quality and energy; air quality and agriculture; and clean air funding mechanisms. It brought together over 400 decision-makers, stakeholders and experts on these topics to reflect on the development and implementation of effective European, national and local air policies, projects and programmes.

The Clean Air Forum saw a clear confirmation of the scientific underpinning of the health effects of air pollution. The panellists and participants noted the existing gap between EU air quality standards and WHO air quality guidelines. At the same time, it was pointed out that enforcement is paramount when standards are not met. The importance of the Ambient Air Quality Directives as a driver for action at national level was underlined.

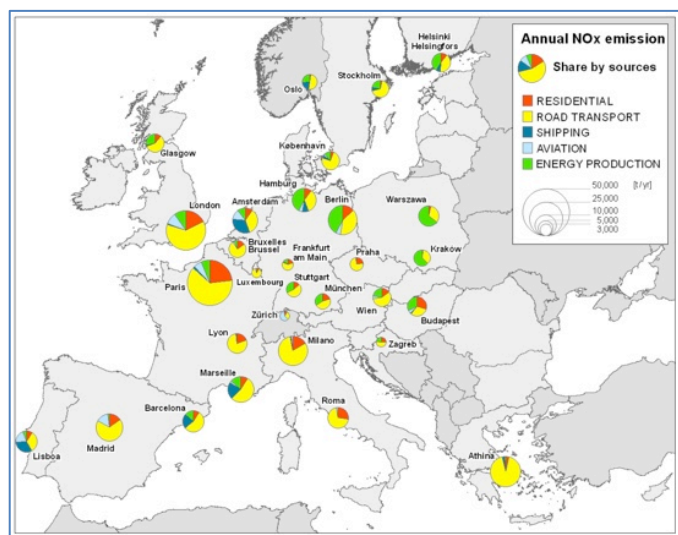
The discussion on EU funding mechanisms for action on and innovation for air quality concluded that action for clean air can be used as leverage to fund the climate transition: the direct benefits of clean air actions – which often also benefit the climate – can be communicated to citizens more easily, which makes funding more easily acceptable and supported. Speakers underlined the importance of tapping into all relevant funds available, as indirect funding will remain the most important source for air quality action. Leveraging private investment can provide additional funds. Panellists also called for coherence in providing and using funding, in order to avoid negative side-effects resulting from other EU-funded actions on air quality.

The forum concluded with a reflective and forward-looking debate on the general challenge that air pollution poses and how this should be tackled over the coming years. In particular, this included lessons learnt from the Fitness Check of the Ambient Air Quality Directives (see AECC News of 13 December 2019), which was published by the Commission on 28 November 2019.

The complete information note is available to read at data.consilium.europa.eu/doc/document/ST-15080-2019-INIT/en/pdf.

Urban NO₂ Atlas developed by JRC

On 27 November 2019, the European Commission’s EU Science Hub published the Urban NO₂ (nitrogen dioxide) Atlas developed by its Joint Research Centre (JRC). This provides factsheets intended to help design effective air quality measures to reduce NO₂ concentration within European cities.



The Atlas identifies the main sources of NO₂ pollution for each city examined, which should help policymakers design actions that target them. For example, when road transport is one of the main sources, it is suggested that restrictions or charges could be applied to the largest polluters.

For the 30 European cities analysed in the report, the average contribution of transport to overall nitrogen oxides (NO_x) emissions was 47%. Within the whole EU, road transport is the largest contributor to NO_x (NO and NO₂) pollution, ahead of the energy, commercial, institutional and household sectors. As shown by the report, the shares of road transport in total local NO_x emissions differ considerably across Europe. In Athens and Milan over 70% of emissions comes from transport, while in Lisbon, where shipping emissions are high, road transport is only responsible for 20% of NO_x pollution. The map below shows that, except in Greece, diesel fuelled vehicles are responsible for the bulk of road transport NO_x emissions across all EU countries. It should be noted that data used would not take account of the impact of real-driving emissions regulation.

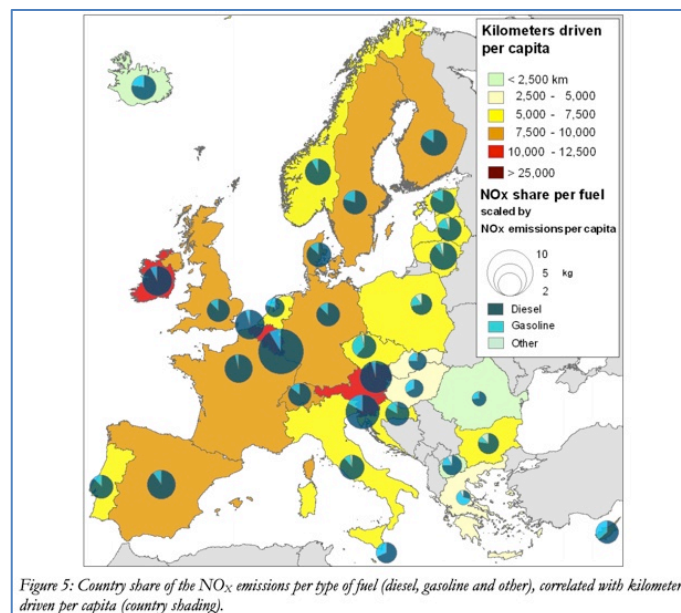
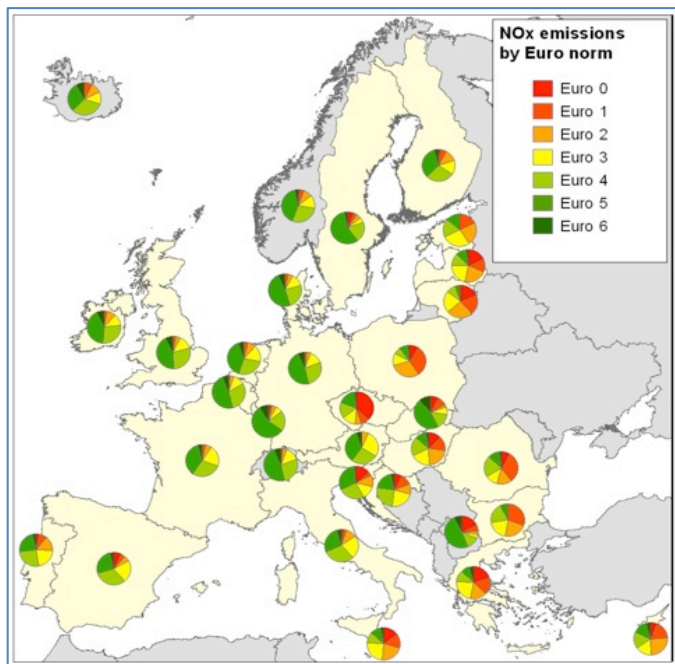


Figure 5: Country share of the NO_x emissions per type of fuel (diesel, gasoline and other), correlated with kilometers driven per capita (country shading).

The Atlas also shows NO_x emissions by Euro standard (see below), highlighting an East-West divide, with a larger proportion of older cars still on the roads in Eastern Europe.

JRC scientists estimate that, through reducing the flow of NO_x-emitting traffic, cities could lower NO₂ emissions by an average of 40%. Around 15% reduction could come from passenger diesel cars, 13% from trucks and 6% from vans. The local effectiveness of traffic measures largely depends on the share of road transport in NO_x emissions.

The report concludes that NO_x-emitting traffic flows can be reduced by limiting the access of highly polluting vehicles – primarily older diesel cars – to inner areas of cities. It says that the same result can also be achieved by encouraging electric vehicles and fostering the use of public transport, bikes and walking.



The Atlas can be accessed at ec.europa.eu/jrc/en/news/air-quality-traffic-measures-could-effectively-reduce-no2-concentrations-40-europe-s-cities.

Priority Dossiers under the Croatian EU Council Presidency

On 19 December 2019, the European Parliament issued a briefing note on the priorities for the first Croatian Presidency of the EU Council. The four main priority areas are: a Europe that is developing; a Europe that connects; a Europe that protects, and an influential Europe.

Environment and sustainability is part of 'a Europe that is developing'. The Programme for the environment and climate action (LIFE) 2021-2027 is expected to feature prominently. The Croatian Presidency also intends to work towards the implementation of the Paris Agreement, and legislative proposals connected to the European Green Deal (see item above) will be adopted and published in the coming months.

The briefing note is available to read at [www.europarl.europa.eu/RegData/etudes/BRIE/2019/644220/EPRS_BR_I\(2019\)644220_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2019/644220/EPRS_BR_I(2019)644220_EN.pdf).

New Rules to determine which Investments are Green

On 16 December 2019, the European Parliament and Council reached agreement on new criteria to determine whether an economic activity is environmentally sustainable. EU taxonomy provides investors with clarity on which activities are considered environmentally and socially sustainable, transparent credentials for financial products to divert

financial flows to sustainable economic activities and it will help achieve the goal of a climate-neutral EU.

The so-called "taxonomy regulation" stipulates that the following environmental objectives should be considered when evaluating how sustainable an economic activity is: climate change mitigation and adaptation; sustainable use and protection of water and marine resources; transition to a circular economy, including waste prevention and increasing the uptake of secondary raw materials; pollution prevention and control; and protection and restoration of biodiversity and ecosystems.

The agreement will have to be approved first by the two committees involved and by a plenary vote. The Commission will regularly update the technical screening criteria for the transition and enabling activities. By 31 December 2021, it should review the screening criteria and define criteria for when an activity has a significant negative impact on sustainability.

The full press release can be found at www.europarl.europa.eu/news/en/press-room/20191217IPR69205/climate-change-new-rules-agreed.

NORTH AMERICA

Eight US States commit to Faster Transition to Zero Emission HDVs

On 12 December 2019, California, Connecticut, Maine, Massachusetts, New Jersey, Oregon, Rhode Island, and Vermont, as well as the District of Columbia, announced that they have committed to move forward together to develop an agreement and action plan to put hundreds of thousands more zero-emission trucks and buses onto their roads and highways. The Statement of Intent is intended to support accelerated deployment of medium- and heavy-duty zero emission trucks and buses.

According to the states, new technology developments in the medium- and heavy-duty sector are making zero-emission public transit and school buses commercially viable, as well as in a growing number of other applications, such as delivery vans and garbage and utility service vehicles. California has invested nearly \$1 billion (€0.9 billion) into a variety of demonstration and pilot projects to accelerate and promote the commercialisation of zero- and near-zero medium and heavy-duty trucks and buses. In addition, the other participating states are providing incentives for zero-emitting freight trucks, transit buses, and school buses; introducing electric shuttle and urban buses into transit fleets; allocating Volkswagen settlement funds toward medium- and heavy-duty vehicle electrification; and piloting innovative approaches such as vehicle-to-grid electric school buses.

The Statement of Intent can be found at www.nescaum.org/documents/medium-and-heavy-duty-zev-statement-of-intent.pdf.

SOUTH AND CENTRAL AMERICA

Mexico postpones ULSD Fuel Rule for Pemex

On 18 December 2019, the Mexican Energy Regulatory Commission (CRE) voted to defer for at least five years a rule requiring Pemex, the national oil company, to produce, distribute and sell ultra-low sulphur diesel (ULSD) outside the three main metropolitan areas of Mexico City, Guadalajara and Monterrey. Under an original ruling, Pemex was meant to switch to ULSD nationwide from the end of 2018.

A report in Mexico News Daily suggests that, rather than helping Pemex, the ruling may mean that it loses market share as other companies fill the gap.

The report can be found at mexiconewsdaily.com/opinion/changes-in-rules-for-pemex-hit-private-fuels-market/.

ASIA PACIFIC

Tehran proposes Air Pollution Reduction Plan

On 4 December 2019, the Tehran Times reported that the Municipality of Tehran has prepared a comprehensive plan to mitigate air pollution in the metropolis, based on which a total budget of 174 trillion rials (approximately €3.7 billion) is required over the course of four years.

The plan covers all sources of pollution, with poor quality private and public transport vehicles identified as major contributors. Finance will be made available for improving emissions from trucks and buses through retrofit, replacing diesel-engine motorcycles with electric ones, and scrapping old cars to replace them with new vehicles. The catalysts in 30 000 taxis will also be replaced.

The full package of measures is intended to reduce primary particulate pollution by 55%.

The report is available to read at www.tehrantimes.com/news/442665/Tehran-s-air-pollution-mitigation-needs-4-billion.

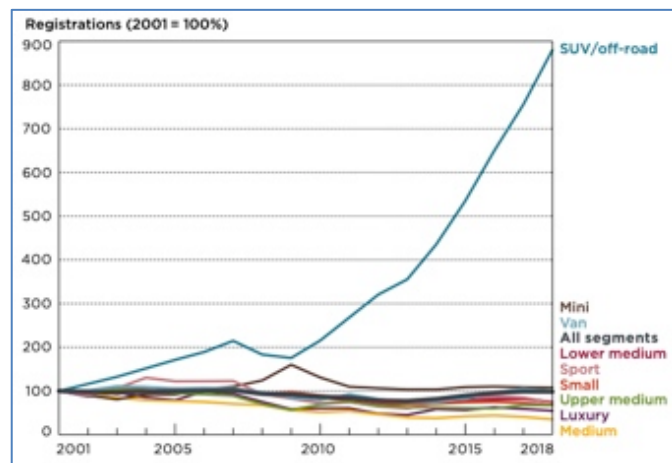
GENERAL

ICCT releases European Vehicle Market Statistics Pocketbook

On 16 December 2019, the International Council on Clean Transportation (ICCT) published its *European Vehicle Market Statistics Pocketbook 2019/20*.

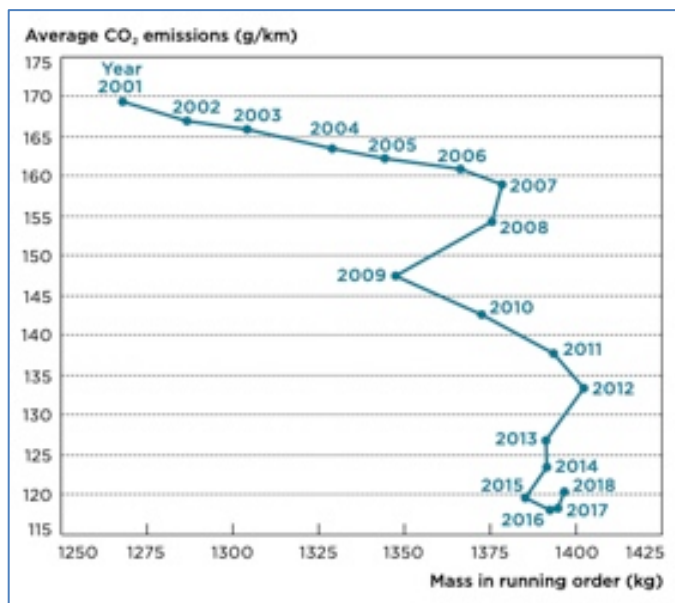
This ICCT publication offers a statistical portrait of passenger car and light commercial vehicle fleets in the European Union, updated annually. The emphasis is on vehicle technologies and emissions of greenhouse gases and other air pollutants.

By far the strongest growth in vehicle sales took place in the sport utility vehicle (SUV) segment. Approximately 5 million new cars in 2018 were SUVs, more than eight times as many as in 2001. At the same time, small diesel, small gasoline, and medium-sized diesel vehicles – all with comparatively low CO₂ emission values – lost more than 15 percentage points from 2015 to 2018. These relatively small vehicles were replaced by medium-sized gasoline vehicles and SUVs.



The vast majority of Europe's new cars are powered by gasoline or diesel motors. The market share of hybrid electric vehicles (HEV) in the EU was 3% of all new car sales in 2018. In 2018, plug-in hybrid (PHEV) and battery electric vehicles (BEV) each made up about 1% of new vehicle registrations in the EU. Top EU markets include Sweden, where 6% of new sales were PHEVs, and the Netherlands, where 5% of new sales were BEVs. Outside the EU, sales of electric vehicles are particularly high in Norway, where 18% of new cars sold in 2018 were PHEV, 31% were BEV, and an additional 11% were HEV.

The average mass of new cars in the EU was 1 397 kg in 2018. This is about 10% higher than 15 years before. The average mass of German and Swedish new car fleets was significantly above the EU average, at 1 469 and 1 582 kg, respectively. In contrast, customers in the Netherlands opted for significantly lighter cars, with an average weight of 1 314 kg.



RESEARCH SUMMARY

Effects of Emissions and Pollution

Short term exposure to fine particulate matter and hospital admission risks and costs in the Medicare population: time stratified, case crossover study, Yaguang Wei, et al.; *BMJ* (2019), Vol. 367:l6258, [doi: 10.1136/bmj.l6258](https://doi.org/10.1136/bmj.l6258).

Long-term exposure to ambient PM_{2.5} and health impacts in megacity of Rome, Italy, Patrick Amoatey, et al.; *Clinical Epidemiology and Global Health* (in press), [doi: 10.1016/j.cegh.2019.11.009](https://doi.org/10.1016/j.cegh.2019.11.009).

Health effects from freshly emitted versus oxidatively or photochemically aged air pollutants, Chelsea Weitekamp, et al.; *Science of The Total Environment* (in press), [doi: 10.1016/j.scitotenv.2019.135772](https://doi.org/10.1016/j.scitotenv.2019.135772).

Long-term fine particulate matter exposure and cardiovascular mortality in the general population: a nationwide cohort study, In-Soo Kim, et al.; *Journal of Cardiology* (in press), [doi: 10.1016/j.jicc.2019.11.004](https://doi.org/10.1016/j.jicc.2019.11.004).

Interventions to reduce ambient air pollution and their effects on health: An abridged Cochrane systematic review, J. Burns, et al.; *Environment International* (February 2020), Vol. 135: 105400, [doi: 10.1016/j.envint.2019.105400](https://doi.org/10.1016/j.envint.2019.105400).

Health impact assessment by the implementation of Madrid City air-quality plan in 2020, Rebeca Izquierdo, et al.; *Environmental Research* (in press), [doi: 10.1016/j.envres.2019.109021](https://doi.org/10.1016/j.envres.2019.109021).

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Sensitivity analysis of area-wide, mobile source emission factors to high-emitter vehicles in Los Angeles, Makoto Kelp, et al.; *Atmospheric Environment* (in press), [doi: 10.1016/j.atmosenv.2019.117212](https://doi.org/10.1016/j.atmosenv.2019.117212).

Source apportionment of particle number size distribution in urban background and traffic stations in four European cities, Ioar Rivas, et al.; *Environment International* (February 2020), Vol. 135, 105345, [doi: 10.1016/j.envint.2019.105345](https://doi.org/10.1016/j.envint.2019.105345).

Estimating exposure to fine particulate matter emissions from vehicle traffic: Exposure misclassification and daily activity patterns in a large, sprawling region, Mohammad Tayarani, et al.; *Environmental Research* (in press), [doi: 10.1016/j.envres.2019.108999](https://doi.org/10.1016/j.envres.2019.108999).

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Emissions Measurements and Modelling

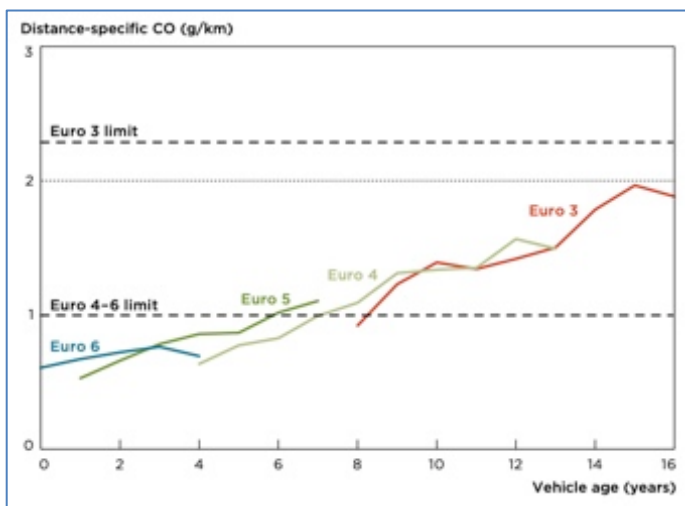
Variation Trends and Principal Component Analysis of Nitrogen Oxide Emissions from Motor Vehicles in Wuhan City from 2012 to 2017, Daoru Liu, et al.; *Science of The Total Environment* (in press), [doi: 10.1016/j.scitotenv.2019.134987](https://doi.org/10.1016/j.scitotenv.2019.134987).

Measuring and modeling the primary organic aerosol volatility from a modern non-road diesel engine, Shantanu Jathar, et al.; *Atmospheric Environment* (in press), [doi: 10.1016/j.atmosenv.2019.117221](https://doi.org/10.1016/j.atmosenv.2019.117221).

Control Technology-Driven Changes to In-Use Heavy-Duty Diesel Truck Emissions of Nitrogenous Species and Related Environmental Impacts, Chelsea Preble, et al.; *Environ. Sci. Technol.* (in press), [doi: 10.1021/acs.est.9b04763](https://doi.org/10.1021/acs.est.9b04763).

Exhaust emissions from diesel engines fuelled by different blends with the addition of nanomodifiers and HVO, Dobrzyńska Elżbieta, et al.; *Environmental Pollution* (in press), [doi: 10.1016/j.envpol.2019.113772](https://doi.org/10.1016/j.envpol.2019.113772).

ICCT says that through use of remote sensing instruments, the picture of the on-road emissions performance of the current vehicle fleet is becoming clearer. As part of a remote sensing measurement campaign in London it was possible to quantify the observable increase in carbon monoxide (CO) emissions with vehicle age that it says is symptomatic of deteriorated exhaust aftertreatment systems for gasoline passenger cars. ICCT says that in-service conformity and minimum durability requirements are necessary to guarantee the emissions performance of vehicles over their complete lifetime.



The pocketbook can be downloaded from theicct.org/sites/default/files/publications/European_vehicle_market_statistics_20192020_20191216.pdf.

Modelling of particle size distributions produced by a Diesel engine fueled with different fossil and renewable fuels under like urban and extra-urban operating conditions, Francisco Martos, et al.; *Fuel* (in press), doi: [10.1016/j.fuel.2019.116730](https://doi.org/10.1016/j.fuel.2019.116730).

Emissions Control, Catalysis, Filtration

Designed synthesis of highly active CeO₂-ZrO₂-Al₂O₃ support materials with optimized surface property for Pd-only three-way catalysts, Shanshan Li, et al.; *Applied Surface Science* (in press), doi: [10.1016/j.apsusc.2019.144866](https://doi.org/10.1016/j.apsusc.2019.144866).

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Diesel Particulate Filter Cleaning Effectiveness: Estimated Ash Loading, Quantified Particulate Removal, and Post-cleaning Filter Pressure Drop, John Fox, et al.; *Emiss. Control Sci. Technol.* (2019), doi: [10.1007/s40825-019-00149-8](https://doi.org/10.1007/s40825-019-00149-8).

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FORTHCOMING CONFERENCES

Oxford Air Quality Meeting

10 January 2020, Oxford, UK

www.oaqm.org

Air pollution and Health: Recent Advances to Inform EU Policies

21-22 January 2020, Brussels, Belgium

www.healtheffects.org/sites/default/files/draft-programme-brussels-workshop-january2020.pdf

Direct-Injection Two-Stroke Engines International Workshop & Conference

13-14 February 2020, Rueil-Malmaison, France

<http://di2-stroke-engine.ifp-school.com/>

11th International AVL Exhaust Gas and Particulate Emissions Forum

3-4 March 2020, Ludwigsburg, Germany

www.avl.com/web/de/-/11th-international-avl-exhaust-gas-and-particulate-emissions-forum

Top-class speakers from Germany and abroad will present the latest results of the enhancements of low-emission propulsions and report on current results in exhaust gas aftertreatment, CO₂ reduction, reduction of air pollution, regenerative fuels, hybridized propulsions, well-to-wheel considerations and new exhaust gas measurement technology. This informative conference will also include an exhibition with a presentation on the latest solutions in the field of exhaust gas measurement technology.

CLEPA 2020 Aftermarket Conference

25-26 March 2020, Brussels

clepa.eu/events/clepa-2020-aftermarket-conference

SAE World Congress Experience (WCX)

21-23 April 2020, Detroit, USA

www.sae.org/attend/wcx

41st International Vienna Motor Symposium

22-24 April 2020, Vienna, Austria

wiener-motorensymposium.at/en

TRA2020 Rethinking Transport towards Clean and Inclusive Mobility

27-30 April 2020, Helsinki, Finland

traconference.eu

TRA, The Transport Research Arena is the biggest European Research and Technology Conference on transport and mobility. In 2020 TRA is themed "Rethinking transport - towards clean and inclusive mobility" and brings together the experts from around the world to discuss the newest innovations and the future of mobility and transport.

SIA Powertrain & Energy

3-4 June 2020, Rouen, France

www.sia.fr/evenements/193-sia-powertrain-energy-rouen-2020

CO₂ Reduction for Transport Systems Conference

7-8 July, Turin, Italy

conferences.ata.it

8th International MinNOx Conference

22-23 September 2020, Berlin, Germany

<https://www.iav.com/en/events/minnox/>

Deadline for abstract: 27 March 2020

SAE Powertrains, Fuels and Lubricants

22-24 September 2020, Krakow, Poland

www.sae.org/pfl

Deadline for abstract: 18 February 2020

29th Aachen Colloquium

5-7 October 2020, Aachen, Germany

www.aachener-kolloquium.de/en

Deadline for abstract: 31 January 2020

SAE Heavy-Duty Diesel Emissions Control Symposium

13-14 October 2020, Gothenburg, Sweden

www.sae.org/attend/heavy-duty-diesel-emissions-control-symposium

IRU World Congress

19-21 October 2020, Berlin, Germany

www.iruworldcongress.com

2020 Annual POLIS Conference

2-3 December 2020

<https://www.polisnetwork.eu/2020-annual-polis-conference>

The Polis Annual Conference provides an opportunity for cities and regions to showcase their transport achievement to large audience of mobility experts, practitioners and decision makers.

Call for speakers opens in March 2020