

NEWSLETTER

International Regulatory Developments

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EUROPE

Portugal's Presidency of the EU

On 1 January 2021, Portugal took over the Presidency of the European Union, adopting the motto "Time to deliver: a fair, green and digital recovery".

A central theme of Portugal's Presidency will be to strengthen the European social model, so as to 'transmit a sense of confidence to citizens'. The aim will be to ensure that the dual climate and digital transition is achieved in an inclusive way, without leaving anyone behind, whilst addressing the social dimension of the pandemic.

In promoting the EU as a leader in climate action, Portugal wants to build capacity to adapt to the effects of climate change and promote the competitive advantages of a decarbonised and resilient economic model; prioritise the implementation of the European Green Deal, with a view to sustainable economic recovery; approve the first European Climate Law and support all efforts to turn Europe into the first carbon neutral continent by 2050; ensure the common commitment to reduce CO₂ emissions by at least 55%, in relation to 1990, by 2030; and facilitate the transition to a competitive and carbon neutral economy and promote sustainable growth, the circular economy, as well as innovation and the security of energy supplies.

The website of the Portugal EU Presidency is at www.2021portugal.eu.

EU-UK Trade and Cooperation Agreement

On 24 December 2020, the European Union and United Kingdom reached agreement on the terms of future cooperation.

The draft Trade and Cooperation Agreement consists of a free trade agreement, a new partnership for security and an agreement on governance. The free trade agreement provides for zero tariffs and zero quotas on all goods that comply with the appropriate rules of origin. It also provides for continued and sustainable air, road, rail and maritime connectivity, though market access falls below what the Single Market offers. The agreement enables the UK's continued participation in a number of flagship EU programmes for the period 2021-2027 - subject to a financial contribution by the UK to the EU budget -, such as Horizon Europe.

Both parties have committed to ensuring a robust level playing field by maintaining high levels of protection in areas such as environmental protection, the fight against climate change and carbon pricing, social and labour rights, tax transparency and state aid, with effective, domestic enforcement, a binding dispute settlement mechanism and the possibility for both parties to take remedial measures.

More detail on the agreement is available at ec.europa.eu/commission/presscorner/detail/en/IP_20_2531.

Corrigendum to Heavy-Duty Vehicle Regulation (EU) 2019/1939

On 15 January 2021, a corrigendum to Commission Regulation (EU) 2019/1939 of 7 November 2019 amending Regulation (EU) No 582/2011 was published in the Official Journal of the EU.

This regulation relates to auxiliary emission strategies, access to vehicle OBD information and vehicle repair and maintenance information, measurement of emissions during cold engine start periods and use of portable emissions measurement systems (PEMS) to measure particle numbers, with respect to heavy-duty vehicles.

The correction relates to the table of test parameters and basis for measurements specified within the table.

Details can be found at eur-lex.europa.eu/legal-content/EN/TXT.

EC's Second Clean Air Outlook Report

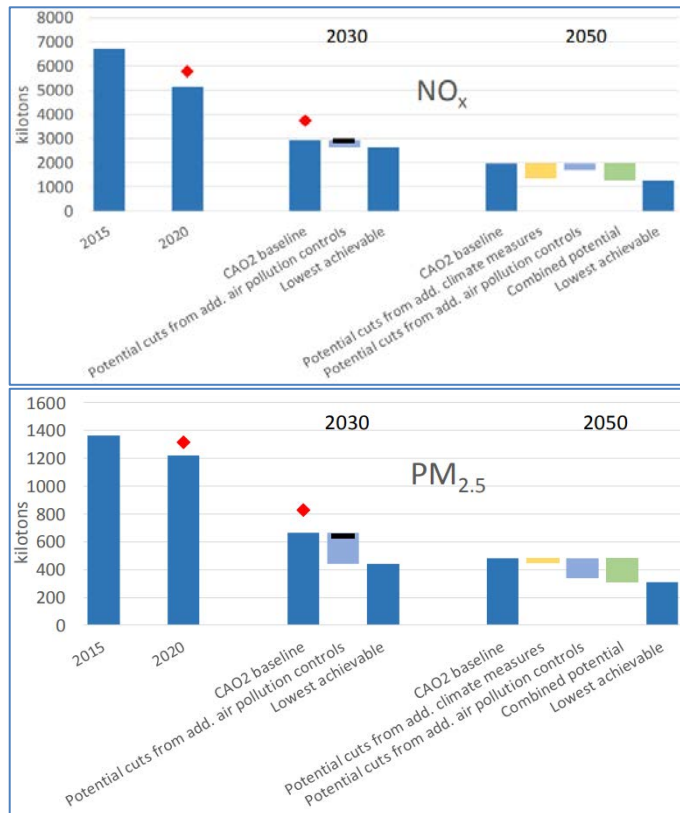
On 8 January 2021, the European Commission published its Second Clean Air Outlook report, which presents the prospects for reducing air pollution in the European Union up to 2030 and beyond. The headline conclusion is that the number of premature deaths due to air pollution could be reduced by around 55% in 2030 compared to 2005, if Member States implemented all measures agreed and announced under the existing EU legislation regulating sources of air pollution and limiting climate change. It also stresses that more could be done, as there are still plenty of measures for reducing air pollution that would bring more benefits than costs to society.

The report shows that with the full implementation of all existing legislation, most Member States would be on track to fulfil the 2030 reduction commitments for four out of the five air pollutants regulated under the National Emission reduction Commitments being sulfur dioxides, nitrogen oxides, non-methane volatile organic compounds and fine particulate matter.

The additional clean air measures announced in the National Air Pollution Control Programmes would accelerate further the projected improvements. However, these measures would not be enough to reduce ammonia emissions, which originate at 90% from the agricultural sector, to maximum permitted levels, as fifteen Member States would still have to urgently take actions beyond those announced in their national programmes.

The outlook report examines climate scenarios with regard to their effects on air pollution in the modelling work underpinning this Clean Air Outlook. Some of these scenarios are based on the cases developed for the Commission's

'Long-term strategic vision for a prosperous, modern, competitive and climate neutral economy'.



This shows that in the long term (2050), actions to fight climate change always help to reduce air pollutant emissions. The climate scenario reflecting a move towards a circular economy and lifestyle change is the one that contributes most to reducing air pollutant emissions.

The Second Clean Air Outlook is available at eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2021%3A3%3AFIN&qid.

European Parliament Think Tank Report on Critical Raw Materials for the EU

On 18 December 2020, the European Parliament Think Tank published a briefing on critical raw materials (CRMs) for the European Union.

The briefing says that the pandemic has highlighted the risk involved, including for the EU, in relying heavily on external suppliers. The EU's 30 CRMs combine two characteristics: they are strategically important for its industry and economy, and there are high risks associated with securing their supply. It states that the notion of strategic autonomy calls for a more autonomous and independent EU policy, including in the area of CRMs. The twin transition to a green and digital future relies particularly on the safe and diverse supply of CRMs. In its journey to a low-carbon economy, the EU should however

make sure it does not replace its reliance on fossil fuels with a reliance on CRMs.

The European Parliament itself has been a long-standing supporter of a thorough and coordinated EU CRMs strategy based on resource efficiency, re-use, recycling and substitution, but also on using the Union's diplomatic heft to ensure fair and sustainable international supply. In its resolution of 25 November 2020, the Parliament stressed that Europe needs to boost its capacity for all stages of the raw materials value chain, namely mining, recycling, smelting, refining and transforming. It also called for widening the scope of the critical raw materials action plan and the CRM Alliance to also include an integrated ecosystem for the whole range of materials, metals and minerals required for making the industrial transition.

The briefing can be found at [europarl.europa.eu/RegData/etudes/BRIE/2020/659426/EPRS_BRI\(2020\)659426_EN.pdf](http://europarl.europa.eu/RegData/etudes/BRIE/2020/659426/EPRS_BRI(2020)659426_EN.pdf).

ENVI Report on Targets for Materials Use and Consumption Footprint

On 27 January 2021, the Environment (ENVI) Committee of the European Parliament adopted its report on the new EU Circular Economy Action Plan, with 66 votes in favour, 6 against and 7 abstentions.

The ENVI Committee calls for science-based binding 2030 EU targets for materials use and consumption footprint, covering the whole lifecycle of each product category placed on the EU market. The MEPs are urging the Commission to introduce in 2021 harmonised, comparable and uniform circularity indicators for material and consumption footprints.

The Committee also calls on the Commission to propose product-specific and/or sector-specific binding targets for recycled content, while ensuring the performance and safety of the products concerned and that they are designed to be recycled.

The press release can be found at europarl.europa.eu/news/en/meps-call-for-binding-2030-targets-for-materials-use-and-consumption-footprint.

Draft Legislative Initiative on Rights and Standards in Value Chains

On 27 January 2021, the Legal Affairs Committee of the European Parliament voted to pave the way for a new EU law that requires companies to comply with human rights and environmental standards within their value chains.

The draft legislative initiative (adopted by 21 votes in favour, one against and one abstention) calls on the Commission to urgently present a law that ensures companies are held accountable and liable when they harm - or contribute to harming - human rights, the environment and good governance. It must also guarantee access to legal remedies for victims.

Binding EU due diligence rules would oblige companies to identify, address and remedy aspects of their value chain (all operation, direct or indirect business relations, investment chains) that could or do infringe on human rights (including social, trade union and labour rights), the environment (including contributing to climate change) and good governance.

The initiative states that all companies that want to access the EU internal market, including those established outside the EU, would have to prove that they comply with environmental and human rights due diligence obligations.

The European Parliament's press release is at europarl.europa.eu/news/en/meps-hold-companies-accountable-for-harm-caused-to-people-and-planet.

Delayed Publication of EU Sustainable Finance Taxonomy Package

On 18 January 2021, Euractiv reported that the European Commission has been forced to delay publication of detailed implementing rules on the EU's sustainable finance taxonomy because of the sheer number of comments received and a threat of blockage from eastern and southern EU Member States.

A public consultation on the draft rules closed on 18 December with more than 46 000 answers received and thousands of pages of feedback. As a result, the final proposal, initially due to be published by 1 January, was delayed with no clear indication of when it will come out.

The guidelines are aimed at steering private investors towards environmentally sustainable companies, by laying down detailed emissions thresholds defining which economic activity can be considered "sustainable". Other categories in the taxonomy include "transition" and "enabling" economic activities.

According to Euractiv, the proposal 'caused an uproar' among eastern and southern EU Member States, who complained that natural gas had been denied "transition" fuel status in the draft guidelines, even when it replaces coal in power generation. On 18 December, the day when the public consultation came to a close, a group of 10 EU countries submitted a "working non-paper" to the European Commission expressing their concerns.

Euractiv also reports that almost every EU country or interest group had complaints about the draft delegated act, saying that the taxonomy risked creating a "green bubble" that would see investors rushing to buy stocks from a handful of firms considered truly "sustainable" under EU rules.

The European Commission is now said to be reworking its proposal and will present an updated draft to EU national representatives during a meeting of the EU Member States expert group (MSEG) on sustainable finance, scheduled for 26 January.

EURACTIV understands that the final version draft delegated act could be published sometime between late January and mid-February. EU countries will then be faced with a binary choice: either they adopt the draft without changes, or they reject it as a bloc.

The Euractiv report can be found at euractiv.com/section/energy-environment/news/brussels-postponed-green-finance-rules-after-10-eu-states-wielded-veto.

Parliamentary Q&A on PHEV Emissions

On 18 January 2021, EU Commissioner for the Internal Market, Mr Thierry Breton, responded to a parliamentary question from Ms Marianne Vind (S&D, DK) regarding the environmental credentials of plug-in hybrid electric vehicles (PHEVs).

Ms Vind referred to research showing that PHEVs are being charged to a much lesser extent than first assumed, specifically from the International Council on Clean Transportation (ICCT), which estimated that company cars and private cars run on electricity just 20-37% of the time. In her question to the European Commission, she asked for the Commission's assessment of the lifecycle emissions analysis of PHEVs compared with that of conventional cars and electric cars, and how the Commission will ensure that the legislation reflects the science, so that PHEVs do not "crowd out genuinely climate-friendly electric vehicles". Ms Vind also asked if the Commission will set concrete targets on when hybrid cars should be phased out or banned altogether.

In response, Commissioner Breton said that the Commission is aware of the reports by non-governmental organisations on PHEVs, which indicate that on average the CO₂ emissions under real-world conditions are higher than those recorded during type approval. He stated that the main factor in this is the specific charging behaviour of individual PHEV drivers, which "may differ from the assumed EU average".

Commissioner Breton confirmed that the Commission has introduced type approval requirements requiring all new cars, including PHEVs, to be equipped with on-board fuel consumption monitoring meters from 1 January 2021 onwards, and that the Commission will monitor this data and will look at how the official CO₂ emission values can become more representative of real-world emissions. It will consider a "more adequate representation of individual driver behaviour" and possible changes to the type approval legislation in the revision of the CO₂ targets for cars and vans planned for June 2021.

Ms Vind's question can be found at europarl.europa.eu/doceo/document/E-9-2020-006273_EN.pdf with Mr Breton's response at europarl.europa.eu/doceo/document/E-9-2020-006273-ASW_EN.pdf.

Commission President Speech to Hydrogen Council

On 19 January 2021, European Commission President von der Leyen made a speech to the Hydrogen Council.

Mrs von der Leyen said that clean hydrogen is a perfect means towards our goal of climate neutrality and demonstrates that we can reconcile our economy with the health of our planet. She confirmed that low carbon hydrogen can be part of the transition, but only renewable hydrogen will bring us to climate neutrality.

Commission President von der Leyen also said that the EC wants to make clean hydrogen the best choice in economic terms and that, with the right investment and the right policies, clean hydrogen can go mainstream. She went on to clarify the actions being taken by the EU in four areas, namely target-setting, investment, regulation and alliances.

Mrs von der Leyen concluded by saying that bold decisions are needed to remove four billion tons of CO₂ in order to achieve climate neutrality by 2050.

The full text of the speech is at ec.europa.eu/commission/presscorner/detail/en/SPEECH_21_158.

EPRS Report on Implementation of EU Air Quality Legislation

On 18 January 2021, the European Parliamentary Research Service (EPRS) published an implementation assessment of selected EU air quality legislation. This European implementation assessment (EIA) has been prepared in support of an implementation report on air quality drawn up by the European Parliament's Committee on the Environment, Public Health and Food Safety (ENVI). Along with the two Ambient Air Quality Directives, the implementation report also looks at the implementation of the Industrial Emissions Directive and EU type-approval legislation, namely, the two regulations setting emission standards (Euro 5/6 and Euro VI) for light- and heavy-duty vehicles.

The EIA states that the 2008 Ambient Air Quality (AAQ) Directive suffers from deficiencies ('ambiguities') in its provisions that, in certain cases, have resulted in incorrect siting of pollution sampling and related doubts about the representativeness and comparability of sampled data. Therefore, it proposes that the legal framework needs to be revised so as to remove all deficiencies that could lead to practical situations where pollution is not sampled correctly, and which could have strong negative effects on the measures taken by the relevant authorities to tackle the problem. It also suggests that there is a need for EU-level harmonisation of the way air quality data is communicated to the public.

Over the past decade, both the number and the magnitude of exceedances have decreased for most pollutants and in

most Member States. Both industry and road transport have played a role in this process. However, despite this general improvement trend, the periods of exceedances have not been kept as short as possible in all instances as required by the two AAQDs. In particular, exceedances for certain pollutants (notably particulate matter, nitrogen dioxide, ozone and benzo(a)pyrene) are still widespread and persistent and lead to harmful effects for the environment and for health, in particular.

The EIA says that infringement procedures, in addition to being lengthy, do not always succeed in enforcing compliance with the EU air quality standards to the extent that, in some cases, Member States do not comply with decisions of the Court of Justice of the European Union.

It goes on to say that there are several examples of EU policies, both in the area of air quality and in other EU policy areas, whose design and/or implementation undermine the achievement of EU air quality objectives because of coherence-related problems. Such policy areas include the IED, the environmental (emissions) performance aspects of the EU type-approval framework for vehicles with internal combustion engines, climate action (and related energy) policy, and agriculture. According to the EPRS report, the policy coherence issues identified need to be addressed as a matter of priority, so as to ensure that EU policies create synergies, facilitating the achievement of the air quality objectives, rather than inconsistencies and policy failures with detrimental health and environmental effects.

Finally, the EIA found that air quality policies and legislation, especially regarding the AAQDs and the Industrial Emissions Directive (IED), should be harmonised at EU level as opposed to a situation where Member States act on their own. Although this EIA does not present findings on the implementation of the Euro 5/6 and Euro VI Regulations (because the results of the Commission's ex-post evaluation of the regulations were not available), it claims to make an original contribution to the ENVI implementation report by delivering new knowledge on a "major and very pertinent problem relating to emissions from internal combustion engine vehicles", the legacy of on-road polluting vehicles.

The research paper published in Annex I to the EIA maps and assesses the policy measures applied by a sample of 10 agglomerations across the EU with the aim of tackling the 'legacy' issue (along with other pollution sources relevant to each specific agglomeration). It thus also contributes to a better understanding of the policy measures taken at agglomeration level with the aim of complying with the EU standards established by the AAQDs.

The full Implementation Assessment can be found at [europarl.europa.eu/RegData/etudes/STUD/2021/654216/EPRS_STU\(2021\)654216_EN.pdf](https://europarl.europa.eu/RegData/etudes/STUD/2021/654216/EPRS_STU(2021)654216_EN.pdf).

On the basis of this report, the ENVI committee proposed a motion for a European Parliament Resolution. Amongst its

recommendations are proposals for air quality standards to cover other non-regulated pollutants and for ambitious standards to be adopted.

ENVI says that Air Quality Plans are often ineffective at delivering results and calls for minimum requirements and best practices to be shared. The committee also states that persistent exceedances of air quality standards by Member States indicate their lack of commitment to adopting more effective measures, and the ineffectiveness of the current enforcement procedure. It therefore urges the Commission to review the current enforcement procedure for the AAO Directives.

The ENVI motion is available at europarl.europa.eu/doceo/document/ENVI-PR-663232_EN.pdf.

EPRS Report on Sustainable and Smart Mobility Strategy

On 20 January 2021, the European Parliamentary Research Service (EPRS) published a briefing on the European Commission's Sustainable and Smart Mobility Strategy. The document outlines the strategy, explains the reactions of some stakeholders and provides an outlook on next steps.

The briefing says that the strategy aims to rebuild the transport sector, making it smarter and greener, in line with the ambition of the European Green Deal and the objectives of the EU's Digital Strategy. It explains that the mobility strategy is complemented with an action plan listing 82 initiatives in 10 key areas for action ('flagships') with concrete measures to be adopted over the next four years.

Three approaches are to be applied to all modes of transport. First, to reduce the dependence on fossil fuels by replacing existing fleets with low- and zero-emission vehicles and increasing the use of renewable and low-carbon fuels. Second, to increase the use of less-polluting modes and shift a substantial part of today's inland freight carried by road (75%) onto rail and inland waterways. And third, to internalise the external costs.

A set of milestones is to keep the strategy on track. By 2030, the Commission aims to have in Europe at least 30 million zero-emission cars on the road and 100 climate-neutral cities, double high-speed rail traffic (compared to 2015), achieve carbon neutrality for scheduled, collective travel for journeys under 500 km, and ensure that automated mobility is deployed at large scale.

By 2050, the Commission expects that in the EU, nearly all cars, vans, buses and new trucks are to be zero-emission, rail freight traffic will double and high-speed rail traffic triple, while the multimodal trans-European transport network (TEN-T) should be fully operational thus ensuring high-speed connectivity. The Commission wants to achieve this by strengthening the existing rules, proposing new legislation and providing support measures and guidance.

The briefing says that in road transport, the Commission wants to further tighten the CO₂ emission standards for cars and vans as well as for trucks and buses. It intends to propose stricter air pollutant emission standards (Euro 7) for combustion engine vehicles, without however giving any end-date for the sale of combustion-engine cars in Europe. It intends to review the Alternative Fuels Infrastructure Directive and boost the availability of electricity and hydrogen by putting in place more vehicle-charging points.

Covering the reactions of some non-governmental organisations, the EPRS report says that Greenpeace 'decried the lack of binding reduction targets', be it for air travel, the number of privately owned cars or a ban on short-haul flights where there is a greener alternative. It quoted the European automobile manufacturers' (ACEA) warning that the objective of having 30 million zero-emission cars on EU roads by 2030 is 'far removed from today's reality' and is not matched with the ambition to roll out sufficient charging infrastructure. The road transport industry (IRU) cautioned that the strategy, based on an approach measuring only tailpipe emissions, will fail to achieve carbon neutrality. It also risks destroying the coach transport sector, which they see as by far the greenest and most inclusive form of transport. The briefing says that in IRU's view, policies must be based on the well-to-wheel principle and that all fuel alternatives to diesel are needed in the coming decades.

Looking at the outlook for the strategy, the briefing note says that following the action plan and the European Commission's 2021 work programme, the first measures are expected in early 2021. Their impact will depend on whether they are accepted by EU Member States. While some earlier Commission proposals have not been adopted as EU law, the current momentum towards a climate-friendly, post-coronavirus regeneration favours adopting ambitious new legislation (the EU climate law) and revitalising some long-blocked files (Eurovignette).

The EPRS briefing is available in full at [europarl.europa.eu/RegData/etudes/BRIE/2021/659455/EPRS_BRI\(2021\)659455_EN.pdf](http://europarl.europa.eu/RegData/etudes/BRIE/2021/659455/EPRS_BRI(2021)659455_EN.pdf).

Dutch PTI Test for DPF Inspections

On 12 January 2021, the Dutch government adopted a regulation that introduces a new periodic technical inspection (PTI) test for the inspection of diesel vehicles equipped with diesel particulate filters (DPF). The regulation was published in the Government Gazette on 20 January 2021.

The new PTI test involves the use of a particle counting instrument to detect particulate filter removal/tampering or other DPF malfunctions. It will replace older PTI methods, such as smoke opacity tests that are not sensitive enough for modern diesel engines, or the use of on-board diagnostics data to diagnose the DPF during a PTI inspection.

The test is applicable to all diesel cars and commercial vehicles fitted with a DPF at the manufacturing stage. It

involves a quick particle number measurement performed from raw exhaust at the tailpipe at idle using a particle counting device.

The new PTI test enters into force on 1 July 2022. Amendments from the current testing regime include a particle number rejection standard at 1 000 000/cm³ (250 000 under the 2019 rules). Under a transitional arrangement, owners of vehicles registered up to 2016 can avoid repair costs by reporting a defective or removed DPF to the authorities.

The regulation (in Dutch) can be found at wetten.overheid.nl/BWBR0025798/2021-01-21.

Thirteen Cities sign Green City Accord

On 21 January 2021, the European Commission announced that 13 cities have signed the Green City Accord, an EC initiative 'to make cities greener, cleaner and healthier. The Green City Accord, launched in October 2020, is a movement of European mayors committed to making cities cleaner and healthier. It aims to improve the quality of life of all Europeans and accelerate the implementation of relevant EU environmental laws. By signing the Accord, cities commit to addressing five areas of environmental management: air, water, nature and biodiversity, circular economy and waste, and noise.

With regard to air pollution, mayors commit to achieving significant improvement in air quality by moving closer to respecting the WHO's air quality guidelines and ending exceedances of EU air quality standards as soon as possible. They commit to establishing baseline levels and setting ambitious targets that go beyond minimum requirements set by EU laws within two years of signing. Furthermore, mayors make commitments to implementing policies and programmes in an integrated manner, to achieve their targets by 2030, reporting on implementation and progress every three years.

The first signatories of the Accord are Lahti and Turku in Finland; Argostoli and Fyli in Greece; Cesena in Italy; Oslo in Norway; Braga, Cascais, Guimarães, Penafiel, Póvoa de Varzim and Torres Vedras in Portugal; and Logroño in Spain.

Information on the Green City Accord is at ec.europa.eu/environment/topics/urban-environment/green-city-accord_en.

and the statement announcing the first signatories at ec.europa.eu/environment/news/thirteen-european-cities-have-signed-green-city-accord-2021-01-21_en.

UK City Leaders call for WHO Standards by 2030

On 27 January 2021, a group of UK city mayors called on the government to boost spending on air pollution.

The group, coordinated by UK:100, wants a clause in the proposed Environment Bill that enshrines in law the

commitment to achieve World Health Organisation guidelines by 2030. They are also calling for at least £1.5 (€1.7) billion to help local authorities tackle air pollution through incentivising cleaner vehicles, public transport, cycling and walking 'because action on clean air can't wait'.

The letter follows a coroner's ruling that air pollution contributed to the death of a nine-year-old girl in London. It is available to read at uk100.org/blog/2021/01/city-leaders-call-tougher-pollution-targets-and-ps15bn-air-pollution-fund.

AECC Response to Air Quality Directives Inception Impact Assessment

On 13 January 2021, AECC responded to the European Commission consultation on proposed roadmap for the revision of the Ambient Air Quality Directives.

AECC stated that it fully supports the revision of the Ambient Air Quality Directives. Clean Internal Combustion Engines (ICEs) have a role to play in further reducing air pollutant concentrations in European cities. AECC pointed out that its projects demonstrate the technical feasibility for reducing pollutant emissions using advanced emission control systems for light- and heavy-duty vehicles. These will continue to contribute to reduce air pollutant concentrations in the air and to improve Ambient Air Quality in Europe.

The document also said that as technology continues to improve, the future of personal transport in cities will comprise a range of technologies, from 'conventional' petrol and diesel to electrified engines - mild, full or plug-in hybrid - as well as electric cars powered by batteries and even fuel cell models. These will all be needed to replace older, more polluting vehicles on European roads.

AECC's response reiterated the three overarching principles for Euro 7/VII that are needed to improve air quality in Europe. There must be a focus on real world emissions along with fuel- and technology-neutral standards and the legislation should be made according to a 'total system approach' using a 'whole vehicle basis'.

The AECC consultation response can be found at aecc.eu/wp-content/uploads/2021/01/210113-AECC-position-on-AQ-roadmap-v1.pdf.

AECC Response to Consultation on Navigation and Inland Waterway Plan

On 13 January 2021, AECC responded to the European Commission's public consultation on the roadmap for the Navigation and Inland Waterway Action and Development in Europe (NAIADES) III Action Plan 2021-2027.

AECC confirmed its belief that Inland Waterways Transport (IWT) must be fit for the future if it is to be integrated to the multimodal mobility of people and freight. This is particularly important as the European Green Deal communication calls

for a shift of a substantial part of the 75% of inland freight transport currently carried by road to inland navigation and rail, highlighting the importance that the inland barges will have in the future. AECC welcomes and supports this. In addition, AECC feels the IWT has to comply with emissions requirements similar to those for on-road heavy-duty vehicles, contributing to cleaner European towns and cities.

A key point is that the transition towards a climate-neutral fleet by 2050 should also include innovation steps towards achieving a renewal of the fleet, considering the best available technology to power the vessels in the short and medium term. This should take into account that NRMM, like the IWT, are mainly powered by off-road internal combustion engines.

The response concludes that because these vessels will become an important link in the personal and freight mobility chain and will be constantly present inside those European towns and cities built next to inland waterways, they should have to comply with emissions requirements similar to those applicable to heavy-duty vehicles.

The full AECC response is available to read at aecc.eu/wp-content/uploads/2021/01/210113-NAIADES-consultation-AECC-comments-v1.pdf.

AECC Response to Consultation on NRMM Road Circulation Requirements

On 21 January 2021, AECC responded to the European Commission's public consultation on road circulation requirements for mobile machinery regarding the possibility of developing a proposal for harmonising technical safety requirements for the road circulation of self-propelled and towed non-road mobile machinery (NRMM).

AECC welcomes the proposal to harmonise technical safety requirements for the road circulation of NRMM, which will allow the machines to move and operate safely around European roads and in towns and cities. In addition, AECC believes these machines should comply with emissions requirements similar to those for on-road heavy-duty vehicles, contributing to cleaner roads and urban areas.

The AECC consultation response is at aecc.eu/wp-content/uploads/2021/01/210121-NRMM-consultation-AECC-comments.pdf.

NORTH AMERICA

US EPA Request for Information on 1986 Aftermarket Catalyst Policy

On 14 December 2020, the US EPA published the Notice of Availability of the Revised EPA Tampering Policy in the Federal Register, which includes a Request for Information regarding the 1986 Aftermarket Catalyst Policy. This notice seeks to inform the EPA to make a future decision on

whether and how to update or withdraw the 1986 policy on the sale and use of aftermarket catalytic converters.

The 1986 catalyst policy included performance criteria for replacement catalysts (e.g. control emissions of NOx with 30% effectiveness for at least 25 000 miles) for use on light-duty gasoline motor vehicles that were beyond their emissions warranty.

The EPA is now asking questions of the policy including: whether it has achieved the goal of supporting state inspection and maintenance programs by encouraging the development of inexpensive replacement catalysts; whether EPA should establish a consistent policy for all types of replacement aftertreatment systems; how it affects the market for aftermarket catalysts and how and whether it creates confusion given the existence of CARB's exemption programme; how it impacts the cost of replacement catalysts and what might happen if it is withdrawn; and what is an appropriate timeline for an orderly transition should EPA withdraw or replace the 1986 policy.

Comments can be submitted until 12 February 2021. The Notice of Availability can be found at [federalregister.gov/documents/2020/12/14/2020-27433/notice-of-availability-of-epa-tampering-policy-and-rfi](https://www.federalregister.gov/documents/2020/12/14/2020-27433/notice-of-availability-of-epa-tampering-policy-and-rfi).

U.S. Executive Order on Protecting Public Health and Environment

On 20 January 2021, on the day of the Presidential inauguration, US President Joe Biden issued an Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis.

The Executive Order states that it is the policy of the new Administration to listen to the science, to improve public health and protect the environment, to ensure access to clean air and water...and to reduce greenhouse gas emissions. It directs all executive departments and agencies to immediately review and take action to address the promulgation of Federal regulations and other actions during the last 4 years that conflict with these important national objectives, and to immediately commence work to confront the climate crisis.

Specifically, the Executive Order refers to 'establishing ambitious, job-creating fuel economy standards' and 'protecting our air from harmful pollution'. With regard to the former, the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," 84 Fed. Reg. 51310 (September 27, 2019), is to be reviewed by April 2021; and the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, 85 Fed. Reg. 24174 (April 30, 2020), is to be reviewed by July 2021. These reviews will consider whether to propose suspending, revising, or rescinding the respective rules.

Regarding air pollution, there will be reviews of the National Emission Standards for Hazardous Air Pollutants: Coal- and

Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review,” 85 Fed. Reg. 31286 (May 22, 2020), by August 2021; “Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process,” 85 Fed. Reg. 84130 (December 23, 2020), as soon as possible; “Strengthening Transparency in Pivotal Science Underlying Significant Regulatory Actions and Influential Scientific Information,” 86 Fed. Reg. 469 (January 6, 2021), as soon as possible.

The Executive Order can be read in full at [whitehouse.gov/briefing-room/2021/01/20/executive-order-protecting-public-health-and-environment](https://www.whitehouse.gov/briefing-room/2021/01/20/executive-order-protecting-public-health-and-environment).

US EPA Technical Amendments to Heavy-Duty Vehicle Regulations

On 23 December 2020, the US EPA issued two actions regarding technical adjustments to testing procedures for vehicle and engine emission programmes. These amendments are intended to increase compliance flexibility, improve harmonisation with other requirements, increase clarity, correct errors, and remove outdated and unnecessary regulatory text.

The first action is a final rulemaking intended to reduce testing burden and improve accuracy of emission testing procedures for heavy-duty vehicles and engines. They mainly apply to measurement of greenhouse gases, although some also apply to criteria pollutants such as NOx. The action also amends test procedures for exhaust emissions standards for light-duty vehicles, heavy-duty vehicles, highway motorcycles, locomotives, marine engines, other nonroad engines and vehicles, and stationary engines.

A supplemental notice of proposed rulemaking (SNPRM) would issue corrections, clarifications, flexibilities, and adjustment factors to improve the Greenhouse gas Emissions Model (GEM) compliance tool for heavy-duty vehicles. The proposed amendments would be required for model year 2022 and later vehicles and optional for model year 2021. Comments can be made for 60 days after the notice is published in the Federal Register.

The final rulemaking can be found at [epa.gov/sites/production/files/2021-01/documents/hd-tech-amendment-firm-2020-12-23.pdf](https://www.epa.gov/sites/production/files/2021-01/documents/hd-tech-amendment-firm-2020-12-23.pdf) and the supplemental notice at [epa.gov/sites/production/files/2021-01/documents/hd-tech-amendment-snprrm-2020-12-23.pdf](https://www.epa.gov/sites/production/files/2021-01/documents/hd-tech-amendment-snprrm-2020-12-23.pdf).

Canada Clean Fuel Standard

On 18 December 2020, Canada published its proposed Clean Fuel Regulations, which would require liquid fossil fuel primary suppliers (i.e., producers and importers) to reduce the carbon intensity (CI) of the liquid fossil fuels they produce in and import into Canada from 2016 CI levels by 2.4 gCO₂e/MJ in 2022, increasing to 12 gCO₂e/MJ in 2030. The

proposed Regulations would also establish a credit market whereby the annual CI reduction requirement could be met via three main categories of credit-creating actions: (1) actions that reduce the CI of the fossil fuel throughout its lifecycle, (2) supplying low-carbon fuels, and (3) specified end-use fuel switching in transportation.

Between 2021 and 2040, the cumulative GHG emission reductions attributable to the proposed Regulations are estimated to range from 173 to 254 megatonnes of carbon dioxide equivalent (Mt CO₂e), with a central estimate of approximately 221 Mt. To achieve these GHG emission reductions, the modelling conducted for this analysis estimates that the proposed Regulations could result in societal costs that range from \$14.1 (€9.0) to \$26.7 (€17.1) billion, with a central estimate of \$20.6 (€13.2) billion.

It is estimated that the proposed Regulations would increase production costs for primary suppliers, which would increase prices for liquid fuel consumers (i.e., households and industry users). In addition, credit revenues would decrease the costs of production for low-carbon energy suppliers, which would make low carbon energy sources (e.g., biofuel and electricity) relatively less expensive in comparison. These price effects are expected to lead to decreased end-use demand for fossil fuels and increased end-use demand for lower carbon energy sources, thereby reducing national GHG emissions.

The detailed proposals are available to read at [gazette.gc.ca/rp-pr/p1/2020/2020-12-19/html/reg2-eng.html](https://www.gazette.gc.ca/rp-pr/p1/2020/2020-12-19/html/reg2-eng.html).

ASIA PACIFIC

Japan Green Growth Strategy

On 25 December 2020, the Japanese government set out its plans to meet a goal of carbon neutrality by 2050.

Along with moving away from the use of fossil fuels as sources of energy, Japan says that by the mid-2030s it wants to end the sale of new passenger vehicles solely powered by gasoline.

A report on the government’s announcement is at [japantoday.com/category/tech/japan-unveils-green-growth-plan-for-2050-carbon-neutral-goal](https://www.japantoday.com/category/tech/japan-unveils-green-growth-plan-for-2050-carbon-neutral-goal).

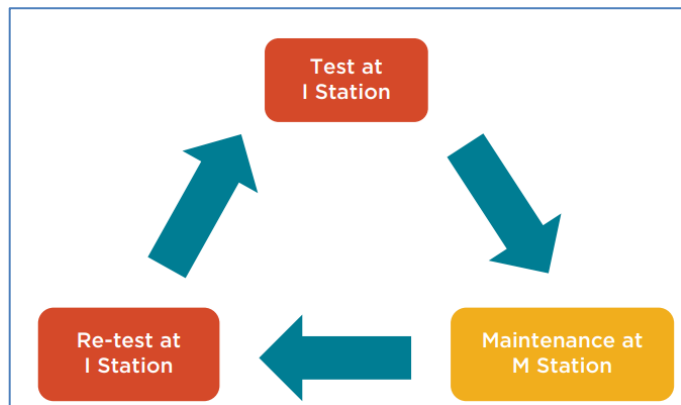
ICCT Analysis of China Inspection and Maintenance Programme

On 11 December 2020, the International Council on Clean Transportation (ICCT) published its analysis of the inspection and maintenance (I/M) programme introduced in June 2020 in China.

ICCT says that China took a big step towards further reducing in-use vehicle emissions when it released a final notice of the establishment of this programme. It states that the most important feature of this new programme is that it establishes a closed-loop management mechanism whereby

non-compliant vehicles must be repaired at an accredited maintenance station before they can operate on the road.

The policy document requires local authorities to establish and implement the system, describes the process for I/M, specifies the responsibilities of various agencies, and calls for strengthening the supervision and management of I/M stations.



ICCT says that successful implementation will depend on a few crucial factors, including the data-sharing mechanism and requirements, maintenance capabilities of maintenance stations, and the quality of compliance and enforcement in cases of violations such as replacing emission control devices temporarily or falsifying emissions test results.

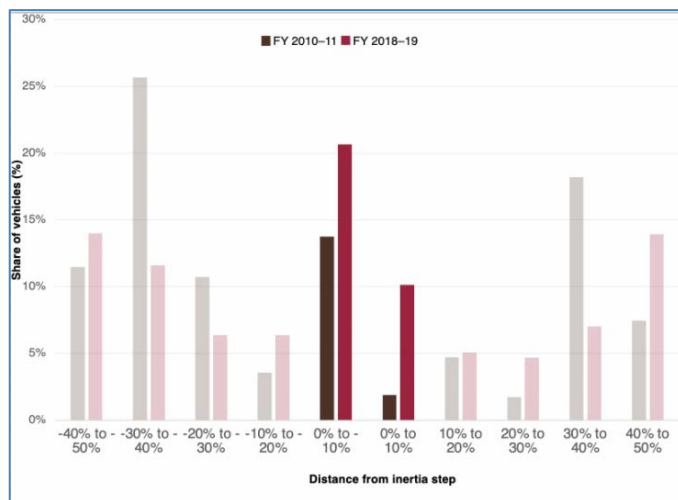
The ICCT report can be found at theicct.org/sites/default/files/publications/China-IM-policy%20update-dec2020.pdf.

Study of India's Fuel Economy Test Procedure

On 13 January 2021, the International Council on Clean Transportation (ICCT) published a blog with results of a study claiming that vehicle weight reduction can be used to exploit a loophole in India's current emissions testing procedure.

The CO₂ values used for fuel efficiency standards are measured in a test lab where environmental conditions are controlled and kept constant. The test procedure takes into consideration several forces that act upon a car in actual conditions, including vehicle inertia, defining a series of inertia classes. These classes are made up of weight categories in which the difference between the minimum and maximum weights typically varies from 60kg to 230kg.

ICCT points out that every vehicle whose reference mass falls between the minimum and maximum weight defined for an inertia class is assigned the same inertia on the dynamometer. This means that if manufacturers reduce weight just enough to put the vehicle at the upper end of an inertia class (i.e., just below an inertia weight class step), this provides an artificial advantage because the vehicle model will be portrayed by the test as more fuel efficient than it is.



The NGO says that its analysis shows how India's present inertia-class based test procedure can allow manufacturers to achieve lower CO₂ values by simply minimally reducing weight to the extent that the vehicle falls in a lower inertia class. It states that the reverse is also a concern, as manufacturers can also increase the weight of their vehicles without impacting the CO₂ emissions in the lab results as long as the vehicle remains within the same inertia class.

ICCT concludes that the current test procedure is obsolete and says that India should adopt the Worldwide Light vehicle Test Procedure (WLTP) as soon as possible so that the gap between test and real-world fuel efficiency can be reduced.

The ICCT blog can be found at theicct.org/blog/staff/inertia-class-india-jan2021.

Air Quality Impacts of Palm Biodiesel in Indonesia

On 12 January 2021, the International Council on Clean Transportation (ICCT) published a white paper on the air quality impacts of blending palm biodiesel, based on analysis carried out in Indonesia.

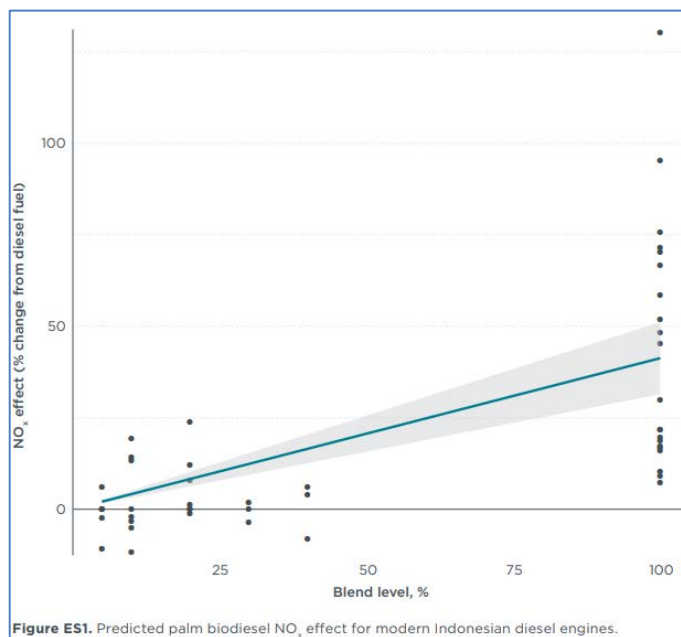
This study builds on a 2018 ICCT paper that analysed the effects of biodiesel blending on air pollutant emissions in Indonesia. The analysis also accounts for recent trends, including the implementation of advanced emission control technologies, common rail fuel injection systems, and low-sulfur diesel fuel (LSD). The effects of biodiesel on nitrogen oxides (NO_x), hydrocarbons, carbon monoxide, and particulate matter emissions are analysed.

Results show that blending palm biodiesel in diesel fuel increases NO_x emissions, and these effects are especially pronounced with LSD and common rail injection systems. According to ICCT, the trend, shown in the figure below, is statistically significant and suggests an increase in NO_x emissions of 12%, 17%, and 41% for B30 (a 30% blend rate), B40, and B100 (pure biodiesel) in future years in Indonesia. Additionally, modern injection systems and fuels

diminish the expected reductions of PM, CO, and HC from biodiesel compared to diesel fuel.

ICCT notes however, that given the large variation in the dataset, there is uncertainty as to the precise magnitude of the biodiesel NOx effect.

In 2019, Indonesia blended palm biodiesel into conventional (fossil) diesel fuel at a 20% rate (B20) and blend rates are expected to continue increasing. Indonesia's Ministry of Energy and Mineral Resources (MEMR) announced the implementation of B30 this year, and there is interest in increasing targets up to B100, or pure biodiesel, in the future.



The government plans to update the current Euro 2/II standards for diesel vehicles to Euro 4/IV to be fully implemented in 2022.

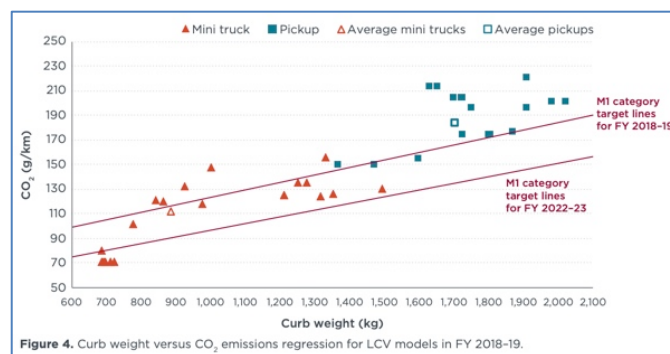
The white paper is available to read at theicct.org/sites/default/files/publications/Indonesia-air%20quality-eng-jan2021.pdf.

Fuel Consumption from Light Commercial Vehicles in India

On 29 January 2021, the International Council on Clean Transportation (ICCT) published a working paper on fuel consumption from light commercial vehicles (LCVs) in India in fiscal year 2018-19. The purpose of the paper is to help regulators develop an effective CO₂ standard by establishing a baseline of fuel consumption for new LCVs sold in India.

ICCT says that results show that the fleet average CO₂ emissions level for LCVs in India was 143.1 grams per kilometre in FY 2018-19. If India's existing passenger car fuel efficiency standards were adapted for LCVs, the fleet average CO₂ target for FY 2018-19 would be 141.6 g/km, or

about 1% less. Additionally, while the fleet average CO₂ emissions of India's LCVs is 9.4% lower than the European Union's LCV fleet, India's fleet is lighter and thus has to meet a stricter CO₂ target. Based on fleet average weight, Indian LCVs would have to further improve by 12% to meet the EU targets for 2019.



The NGO states that if mandatory CO₂ emission standards are implemented, this would stimulate the inclusion of additional fuel efficiency technologies such as idle start-stop, low-resistance tires, and low viscosity engine oils.

The ICCT working paper is available to read at theicct.org/publications/fuel-consumption-lcv-india-jan2021.

UNITED NATIONS

Climate & Clean Air Coalition's Global Sulfur Strategy

On 8 December 2020, the Climate & Clean Air Coalition (CCAC) published a blog highlighting progress since the introduction of its *Global Strategy to Introduce Low-Sulfur Fuels and Cleaner Diesel Vehicles*.

CCAC says that, if fully implemented, the strategy could come close to eliminating high sulfur fuels and reduce at least 90% of small particulate emissions and black carbon from on-road vehicles. It states that the Coalition's support to governments from across Africa has enabled many countries to begin the move to low sulfur fuels and cleaner vehicles, including the harmonisation of standards in Western, Eastern, and Southern Africa.

In November 2016, thirty-eight Coalition countries signed the Marrakech Communiqué, which commits countries to reduce black carbon emissions through cleaner diesel fuels and vehicles. Action includes developing national implementation plans that outline timelines for the nationwide introduction of such standards, developing and refining black carbon inventories and projections beginning with strengthening capacities and efforts to do so, and to share information on existing or planned black carbon mitigation actions with the Coalition.

CCAC also developed a roadmap for the adoption of clean fuel and vehicle standards for Southern and Western Africa.

The work was intended to inform the development of regional and national roadmaps for the adoption and implementation of harmonised clean fuels and vehicle standards. In 2019, through the support of the CCAC, 13 Southern African countries agreed on a roadmap to cleaner fuels: <50 ppm for importing countries by the end of 2022, <50 ppm for refining countries by the end of 2025; and 10 ppm for all countries by 2030.

In 2020, the environment and energy ministers of all the 15 countries of the Economic Community of West African States (ECOWAS) adopted a comprehensive set of regulations for introducing cleaner fuels and vehicles in the region. Specific regulations include a sulfur fuel standard of 50 ppm in petrol and diesel for all imported fuels from January 2021, mandatory compliance to a minimum of EURO IV vehicle emission standards for all vehicles, and a plan to improve the fuel efficiency of imported vehicles.

CCAC concludes by saying that the ultimate goal of its Global Sulfur Strategy is for all countries to reach low sulfur fuels (50 ppm) by 2025 and most countries to reach 10 ppm fuels by 2030. With only 40 countries with ultra-low sulfur diesel standards, the Coalitions aims to expand implementation of the Global Strategy in countries and cities around the world.

The CCAC blog can be found at ccacoalition.org/en/news/setting-motion-cleaner-fuels-and-vehicles-africa.

UNEP Global Climate Litigation Report

On 26 January 2021, the United Nations Environment Programme (UNEP) published its *Global Climate Litigation Report* for 2020, noting that people are increasingly turning to the courts to compel governments and businesses to respect and accelerate commitments on climate change.

According to the report, the number of climate change litigation cases has surged in the last four years and now stands at 1 550 in 38 countries (39 including the courts of the European Union). As of 1 July 2020, some 1 200 of these cases were filed in the United States and 350 in all other countries combined.

UNEP's Executive Director, Mr Inger Andersen, said that "The report shows how climate litigation is compelling governments and corporate actors to pursue more ambitious climate change mitigation and adaptation goals."

Most of the legal actions have been launched against governments, including both national and local authorities. However, companies are also being targeted for failing to incorporate climate change into their decision making and for not disclosing climate-related risks to their shareholders.

The report says that a growing number of lawsuits are drawing on existing national and international laws that guarantee citizens a fundamental right to a healthy environment. Advocates have used such laws to force oil

companies to keep fossil fuels in the ground, hold businesses liable for pollution and compel governments to enact climate-related policies. It also said that litigation is being used to stop governments from evading or weakening existing environmental legislation.

The UNEP report is available to download at unep.org/resources/report/global-climate-litigation-report-2020-status-review.

GENERAL

C40 Cities Statement on New Leadership Standards

On 7 January 2021, the C40 group of cities published a statement confirming that its new Leadership Standards for 2021-2024 went into effect on 1 January. C40 says that this sets "a new global benchmark for climate ambition and leadership".

The first of the five leadership standards is *Plan*, meaning that each city has adopted a resilient and inclusive climate action plan aligned with the 1.5°C ambition of the Paris Agreement, and updates it regularly. The *Deliver* standard states that in 2024, a city remains on track to deliver its climate action plan, contributing to increased resilience, equitable outcomes and halving C40's overall emissions by 2030.

Mainstream means that cities use the necessary financial, regulatory and other tools at their disposal to address the climate crisis and mainstream their equitable climate targets into the most impactful city decision-making processes.

With the *Innovate* standard, a city innovates and starts taking inclusive and resilient action to address emissions beyond the direct control of the city government, such as associated with goods and services consumed in their city. The final leadership standard is *Lead*, meaning that mayors and cities demonstrate global climate leadership and inspire others to act in support of the Paris Agreement.

The C40 Leadership Standards can be found at c40.org/blog_posts/statement-by-the-c40-cities-steering-committee.

HEAL Proposals to Portuguese Presidency on Zero Pollution Ambition

On 29 January 2021, the Health and Environment Alliance (HEAL) wrote to Mr António Costa, the Portuguese Prime Minister, with proposals for the European Commission to take during his country's Presidency 'to make a healthy, sustainable and just recovery a reality'.

HEAL says it is concerned by the absence of a commitment to a zero pollution ambition for a toxic-free environment in the Presidency programme. The NGO goes on to make proposals on specific policies that it says should be taken during Portugal's Presidency.

On air pollution, it wants to see full and swift alignment of EU standards with World Health Organisation guidelines. With regard to climate change, HEAL calls for Portugal to support trilogue negotiations to increase the EU's 2030 greenhouse gas target to 65% reduction.

The letter can be read in full at env-health.org/wp-content/uploads/2021/01/HEAL-letter--Portuguese-presidency_20210129.pdf.

RESEARCH SUMMARY

Effects of Emissions and Pollution

Long-term exposure to fine particulate matter and incident asthma among elderly adults, Dong-Wook Lee, *Chemosphere* (in press), [doi: 10.1016/j.chemosphere.2021.129619](https://doi.org/10.1016/j.chemosphere.2021.129619).

Associations of long-term exposure to traffic-related air pollution with risk of valvular heart disease based on a cross-sectional study, Yaxian Pang, et al.; *Ecotoxicology and Environmental Safety* (February 2021), Vol. 209, 111753, [doi: 10.1016/j.ecoenv.2020.111753](https://doi.org/10.1016/j.ecoenv.2020.111753).

Prenatal exposure to air pollutants and early childhood growth trajectories: A population-based prospective birth cohort study, Yafei Tan, et al.; *Environmental Research* (March 2021), Vol. 194, March 2021, 110627, [doi: 10.1016/j.envres.2020.110627](https://doi.org/10.1016/j.envres.2020.110627).

Exposure to diesel exhaust particles results in altered lung microbial profiles, associated with increased reactive oxygen species/reactive nitrogen species and inflammation, in C57Bl/6 wildtype mice on a high-fat diet, Sarah Daniel, et al.; *Part Fibre Toxicol* (2021), Vol. 18, 3, [doi: 10.1186/s12989-020-00393-9](https://doi.org/10.1186/s12989-020-00393-9).

Long-term low-level ambient air pollution exposure and risk of lung cancer – A pooled analysis of 7 European cohorts, Ulla Hvidtfeldt, et al.; *Environment International* (January 2021), Vol. 146, 106249, [doi: 10.1016/j.envint.2020.106249](https://doi.org/10.1016/j.envint.2020.106249).

Long-term exposure to ambient air pollution and risk of dementia: Results of the prospective Three-City Study, Marion Mortamais, et al.; *Environment International* (March 2021), Vol. 148, 106376, [doi: 10.1016/j.envint.2020.106376](https://doi.org/10.1016/j.envint.2020.106376).

Personal exposure to equivalent black carbon in children in Milan, Italy: time-activity patterns and predictors by season, L. Boniardi, et al.; *Environmental Pollution* (in press), [doi: 10.1016/j.envpol.2021.116530](https://doi.org/10.1016/j.envpol.2021.116530).

Long-term exposure to ambient air pollution and obesity in school-aged children and adolescents in Jiangsu province of China, Hao Zheng, et al.; *Environmental Research* (in press), [doi: 10.1016/j.envres.2021.110804](https://doi.org/10.1016/j.envres.2021.110804).

Air Quality, Sources and Exposure

Improvements in air quality in the Netherlands during the corona lockdown based on observations and model simulations, Guus Velders, et al.; *Atmospheric Environment* (February 2021), Vol. 247, 118158, [doi: 10.1016/j.atmosenv.2020.118158](https://doi.org/10.1016/j.atmosenv.2020.118158).

Analysis of lockdown for CoViD-19 impact on NO₂ in London, Milan and Paris: What lesson can be learnt? Maria Collivignarelli, et al.; *Process Safety and Environmental Protection* (February 2021), Vol. 146, pp. 952-960, [doi: 10.1016/j.psep.2020.12.029](https://doi.org/10.1016/j.psep.2020.12.029).

Were traffic restrictions in Madrid effective at reducing NO₂ levels?, Rafael Salas, et al.; *Transportation Research Part D: Transport and Environment* (February 2021), Vol. 91, 102689, [doi: 10.1016/j.trd.2020.102689](https://doi.org/10.1016/j.trd.2020.102689).

Emissions Measurements and Modelling

A Vehicle Activity-Based Windowing Approach to Evaluate Real-World NOx Emissions from Modern Heavy-Duty Diesel Trucks, Rasik Pondicherry, et al.; *Atmospheric Environment* (in press), [doi: 10.1016/j.atmosenv.2020.118169](https://doi.org/10.1016/j.atmosenv.2020.118169).

Evaluation of Emissions Benefits of OBD-based Repairs for Potential Application in a Heavy-duty Vehicle Inspection and Maintenance Program, Yu Jiang, et al.; *Atmospheric Environment* (in press), [doi: 10.1016/j.atmosenv.2021.118186](https://doi.org/10.1016/j.atmosenv.2021.118186).

The effect of after-treatment techniques on the correlations between driving behaviours and NOx emissions of passenger cars, Jianbing Gao, et al.; *Journal of Cleaner Production* (March 2021), Vol. 288, 125647, [doi: 10.1016/j.jclepro.2020.125647](https://doi.org/10.1016/j.jclepro.2020.125647).

Evaluating the ammonia emission from in-use vehicles using on-road remote sensing test, Qijun Zhang, et al.; *Environmental Pollution* (February 2021), Vol. 271, 116384, [doi: 10.1016/j.envpol.2020.116384](https://doi.org/10.1016/j.envpol.2020.116384).

Application of a Diffusion Charger to Quantify Real-Time Particle Emissions from Light-Duty Vehicles: a Comparison Study with a Particle Size Spectrometer, Heejung Jung, et al.; *Emiss. Control Sci. Technol.* (2021), [doi: 10.1007/s40825-020-00179-7](https://doi.org/10.1007/s40825-020-00179-7).

Characterization of commercial vehicles' start-up operations from in-use data, Chen Zhang, et al.; *Transportation Research Part D: Transport and Environment* (February 2021), Vol. 91, 102694, [doi: 10.1016/j.trd.2020.102694](https://doi.org/10.1016/j.trd.2020.102694).

Emissions Control, Catalysis, Filtration

Modeling and Optimization of Multi-functional Ammonia Slip Catalysts for Diesel Exhaust Aftertreatment, Thomas Torp, et al.; *Emiss. Control Sci. Technol.* (2021), [doi: 10.1007/s40825-020-00183-x](https://doi.org/10.1007/s40825-020-00183-x).

The effects of Fe₂O₃ based DOC and SCR catalyst on the combustion and emission characteristics of a diesel engine fueled with biodiesel, Zhiqing Zhang, et al.; *Fuel* (April 2021), Vol. 290, 120039, [doi: 10.1016/j.fuel.2020.120039](https://doi.org/10.1016/j.fuel.2020.120039).

Effects of iron-based fuel borne catalyst addition on combustion, in-cylinder soot distribution and exhaust emission characteristics in a common-rail diesel engine, Junheng Liu, et al.; *Fuel* (April 2021), Vol. 290, 120096, [doi: 10.1016/j.fuel.2020.120096](https://doi.org/10.1016/j.fuel.2020.120096).

Estimating the effectiveness of vehicle emission regulations for reducing NOx from light-duty vehicles in Korea using on-road measurements, Junhong Park, et al.; *Science of The Total Environment* (in press), [doi: 10.1016/j.scitotenv.2020.144250](https://doi.org/10.1016/j.scitotenv.2020.144250).

Experimental Investigation of the Effect of Pore Size Distribution on Nano-particle Capture Efficiency Within Ceramic Particulate Filters, Sandeep Viswanathan, et al.; *Emiss. Control Sci. Technol.* (2021), [doi: 10.1007/s40825-021-00184-4](https://doi.org/10.1007/s40825-021-00184-4).

Exhaust non-volatile particle filtration characteristics of three-way catalyst and influencing factors in a gasoline direct injection engine compared to gasoline particulate filter, Haoye Liu, et al.; *Fuel* (April 2021), Vol. 290, 120065, [doi: 10.1016/j.fuel.2020.120065](https://doi.org/10.1016/j.fuel.2020.120065).

Strategies for improving the emission performance of hybrid electric vehicles, S. Bagheri, et al.; *Science of The Total Environment* (in press), [doi: 10.1016/j.scitotenv.2020.144901](https://doi.org/10.1016/j.scitotenv.2020.144901).

Transport, Climate Change & Emissions

Comparative life cycle assessment of conventional, electric and hybrid passenger vehicles in Spain, Gonzalo Naranjo, et al.; *Journal of Cleaner Production* (in press), [doi: 10.1016/j.jclepro.2021.125883](https://doi.org/10.1016/j.jclepro.2021.125883).

Highly porous ceramics production using slags from smelting of spent automotive catalysts, Yunji Ding, et al.; *Resources, Conservation and Recycling* (March 2021), Vol. 166, 105373, doi: [10.1016/j.resconrec.2020.105373](https://doi.org/10.1016/j.resconrec.2020.105373).

Pathways to electric mobility integration in the Italian automotive sector, Sara Alla, et al.; *Energy* (April 2021), Vol. 221, 119882, doi: [10.1016/j.energy.2021.119882](https://doi.org/10.1016/j.energy.2021.119882).

Non-exhaust traffic emissions: Sources, characterization, and mitigation measures, Amelia Piscitello, et al.; *Science of The Total Environment* (April 2021), Vol. 766, 144440, doi: [10.1016/j.scitotenv.2020.144440](https://doi.org/10.1016/j.scitotenv.2020.144440).

FORTHCOMING CONFERENCES

Sustainable Internal Combustion Engine Conference

3-4 February 2021, online
sustainable-ic-enginevirtuallive.com/en

11th VERT Forum

25 March 2021, online
vert-dpf.eu/j3/index.php/start-page/events

International Transport and Air Pollution Conference

30 March-1 April 2021 (postponed from September 2020), online
tapconference.org

The main topics of the 24th TAP Conference include energy consumption and GHG emissions from vehicles, open issues for pollutant emissions, such as tampering, retrofits of software and hardware and non-regulated pollutants, emissions from non-road mobile machinery and other transport modes and measurements and simulation of traffic related environmental impacts and air quality.

9th AVL Large Engines Techdays

21-22 April 2021, online
avl.com/large-engines-techdays

42nd International Vienna Motor Symposium

28-30 April 2021, Vienna, Austria
wiener-motorensymposium.at/en

Hydrogen and P2X European Conference

16-17 June 2021, Copenhagen, Denmark (postponed from February 2021)
fortesmedia.com/hydrogen-p2x-2020.4.en.2.1.4.html

8th International MinNOx Conference

16-17 June 2021, Berlin, Germany (postponed from September 2020)
iav.com/en/events/minnox

30th Aachen Colloquium Sustainable Mobility

4-6 October 2021, Aachen, Germany
aachener-kolloquium.de/en/?idU=1

SAE Heavy-Duty Diesel Emissions Control Symposium

5-6 October 2021, Gothenburg, Sweden (postponed from October 2020)
sae.org/attend/heavy-duty-diesel-emissions-control-symposium

CITA International Conference

1-2 June 2022, Amsterdam, Netherlands
citainsp.org/cita-conferences