

NEWSLETTER

International Regulatory Developments

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EUROPE

Commission Roadmap for improving EU Refuelling and Recharging Infrastructure

On 6 April 2020, the European Commission published its roadmap for improving the EU's refuelling and recharging infrastructure. The initiative sets out requirements for expanding the EU's network of recharging and refuelling stations for alternative vehicle fuels, primarily electric batteries, natural gas and hydrogen.

The goal is to install a sufficient number of points in all countries that are easy to access and use. This is needed to encourage people to use low- and zero-emission vehicles in much greater numbers than currently – one of the EU's climate objectives in the new European Green Deal.

The document states that planning under national policy frameworks does not, on average, meet the expected uptake of alternatively fuelled vehicles and the ambitions under the Green Deal. It acknowledges that there is little connectivity or coherence and that current networks are not well equipped to ensure the adequate integration of a rapidly increasing fleet of electric vehicles into the electricity grids, which is expected to create obstacles to vehicle recharging and problems of user acceptance. The Commission says that consumers and businesses also perceive the uneven development of different alternative fuel recharging and refuelling stations as a barrier in acquiring or investing in vehicles powered by alternative fuels.

Policy options are being considered to improve these areas in a technologically neutral way. The roadmap was open for feedback until 4 May 2020, with a full public consultation open until 29 June 2020.

The document can be downloaded from ec.europa.eu/info/law/have-your-say/initiatives/12251-Revision-of-Alternative-Fuels-Infrastructure-Directive.

Launch of European Alliance for a Green Recovery

On 14 April 2020, MEP Pascal Canfin, Chair of the European Parliament's Environment Committee, announced the launch of the European Alliance for a Green Recovery. This is his initiative and comprises Ministers, MEPs, CEOs, NGOs and trade unions.

A 'Call for mobilisation' talks of the need to enshrine the fight against climate change as the core of the economic recovery strategy, at local, national and EU levels.

The signatories to the alliance call for all stakeholders to 'support and implement the establishment of Green Recovery Investment Packages acting as accelerators of the transition towards climate neutrality and healthy ecosystems.'

Mr Canfin's announcement is at

twitter.com/pcanfin/status/1249942451906908160

and the Alliance launch document at

drive.google.com/file/d/1j54QxE-QjhrEHjGb5LrKsHuDAKv8LUq/view.

Greens/EFA Recovery and Resilience Plan

On 28 April 2020, the Greens/EFA group in the European Parliament published its *Recovery and Resilience Plan*, a plan for €5 trillion investment to build a 'more resilient, sustainable and fairer future for Europe and the world.'

The plan proposes that the EU should set a target of 65% greenhouse gas emissions by 2030 and reaching climate-neutrality by 2040. It also says that recovery funds should be invested in clean technologies for 'heavily polluting sectors', such as agriculture, chemicals and transport, to ensure the industries recover along a future-proof and sustainable path towards zero pollution.

The group calls for the EU to build the foundations of a European zero-emissions mobility industry, which is able to meet the increasing demand for alternatives to combustion engines and charging infrastructure for cars, vans, buses and trucks, but also boost supply for the rail sector. This will be accompanied with reskilling programmes, providing new career opportunities to workers leaving the fossil fuel-based transport sector.

It says that it is time to use the European Green Deal and its related strategies as a basis for the reconstruction to come.

The plan is available to read at

extranet.greens-efa.eu/public/media/file/1/6494.

Green Deal: Commission Commitment and MEPs' Call for Delay

On 1 April 2020, Frans Timmermans, Commission Executive Vice-President for the European Green Deal, released a statement reconfirming the Commission's ambitions for the initiative.

In response to the cancellation of the COP-26 summit scheduled for November, he said that the "work that the Commission is doing to present by September 2020 an impact assessed plan to ... cut greenhouse gas emissions by 50-55% compared to 1990 levels is on track, and the Commission will stick to that."

The statement from Mr Timmermans is at

ec.europa.eu/commission/presscorner/detail/en/STATEMENT_20_583.

On the same day, The *Parliament Magazine* reported that a group of nearly 40 MEPs had written to the presidents of the European Commission, Council and Parliament to propose a postponement of the implementation of the European Green Deal.

The letter from the 37 MEPs, 'mostly from the ECR (European Conservative and Reformists) Group', said that the

Commission should re-examine its priorities and scale back its 'pre-crisis ambitions'.

The Parliament Magazine report can be found at www.theparliamentmagazine.eu/articles/news/meps-urge-commission-put-green-deal-ice-amid-covid-19-crisis and the letter has been posted at twitter.com/AlexandrVondra/status/1245007474530410497/photo/1.

ECR Group Comment on Legal Opinion regarding Green Deal Process

On 2 April 2020, the ECR Group of the European Parliament commented on a legal opinion that two of its MEPs – Alexandr Vondra MEP, ECR Coordinator for the Environment Committee, and Anna Zalewska MEP, Shadow Rapporteur for the European Climate Law – had requested.

The conclusion of the legal opinion is that '... the trajectory for achieving climate-neutrality by 2050 is an essential element of the proposal for a Regulation on the European Climate Law and delegating the power to the Commission to set out that trajectory is not in line with Article 290 TFEU (Treaty on the Functioning of the European Union)'.

The ECR Group wants "...a discussion among the Commission, the Parliament, and the Council about the EU's emissions targets and find a realistic way forward that does not undermine the Union's Treaties". Its concern is that the Commission wants to set targets for Member States without involving them.

The ECR Group statement and the legal opinion are at ecrgroup.eu/article/legal_opinion_green_deal_delegated_acts_are_incompatible_with_eu_treaties and www.politico.eu/wp-content/uploads/2020/04/Climate-law-paper-NON_PAPER.pdf?utm_source=POLITICO.EU.

ENVI Committee Exchange of Views with Commissioner Timmermans

On 21 April 2020, MEPs in the Environment (ENVI) Committee of the European Parliament held an exchange of views with Commission Executive Vice-President Mr Frans Timmermans.

Mr Timmermans agreed with the EP's call for the Commission to propose a recovery and reconstruction package that would 'have at its core the Green Deal... to kick start the economy'. He said that we will need to re-invent the way we live and stressed that the European Green Deal is essential for Europe's survival. If the EU doesn't adopt it, when the current main job generator industries run out of steam, it will not have the fiscal power to make the shift. As part of this, the Climate Law should be intertwined with other regulations and directives e.g. Taxonomy, Circular Economy etc. The timetable for the EU Climate Law will be unchanged.

The Commission believes that a green recovery is possible. The European Green Deal is not only a way to confront the climate crisis but will also give Europe a growth strategy. This

strategy needs to create jobs, for example through encouraging installation of solar panels or purchase of new clean or zero emission cars.

Mr Timmermans said that if climate change is neglected it will get worse and so actions have to be taken. For the automotive sector, there are discussions on taking the most polluting cars off the road and replacing with clean or zero emission vehicles. This will be a consideration for Member States as well as the EU Commission.

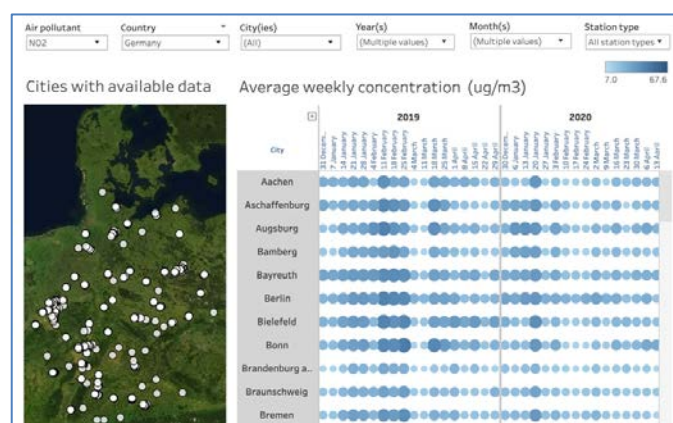
MEPs who spoke on behalf of their political groups were broadly supportive of the Commission's plans to continue with the Green Deal as a central pillar in the economic recovery. Those from the ECR and ID groups are however urging the Commission to abandon the Green Deal.

A press release from the ENVI Committee is at www.europarl.europa.eu/news/en/20200419PR77407/eu-covid-19-recovery-plan-must-be-green-and-ambitious-say-meps.

EEA Air Quality Viewer

On 4 April 2020, the European Environment Agency (EEA) published an online viewer that tracks the weekly average concentrations of nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}). This is in response to the COVID-19 pandemic and has been developed to assess how it has affected concentrations of air pollution.

The EEA says that data from EEA member countries show how concentrations of NO₂ — mainly emitted by road transport — have decreased in many European cities where lockdown measures have been implemented.



Although a decrease in concentrations of PM_{2.5} may also be expected, a consistent reduction cannot yet be seen across European cities. This is likely due to the fact that the main sources of this pollutant are more varied, including at European level the combustion of fuel for the heating of residential, commercial and institutional buildings, industrial activities and road traffic. A significant fraction of particulate matter is also formed in the atmosphere from reactions of other air pollutants, including ammonia — a pollutant typically

emitted from the application of agricultural fertilisers at this time of year.

Other factors, such as weather conditions, may also significantly contribute to the weekly reductions seen in pollutant concentrations. Conversely, changes in meteorology can also lead to increased air pollution and, coupled with the often non-linear relationships between changes in emissions and changes in concentrations, also explain why lower air pollution may not occur at all locations.

The EEA viewer, along with information on methodology used, can be found at

www.eea.europa.eu/themes/air/air-quality-and-covid19/air-quality-and-covid19.

European Parliament Think Tank Briefing on European Climate Law

On 20 April 2020, the [European Parliament Think Tank](#) issued a briefing note on the European Climate Law, highlighting the main points of the proposal.

It provides context to the proposed regulation and considers other climate laws already in place. The report then provides the starting positions of the European Parliament and Council and goes on to look at the changes the proposal would bring. Views of stakeholders are considered.

The note explains that the proposed regulation would require EU institutions and Member States to build on their climate change measures and that the Commission is exploring options for 50-55% greenhouse gas emissions reductions for 2030.

The EU Commission would also have to carry out five-yearly assessments of progress towards objectives and of the consistency of national and EU measures with those objectives. Broad public participation is something that the Commission would have to ensure.

The full report is available to read at [www.europarl.europa.eu/RegData/etudes/BRIE/2020/649385/EPRS_BR I\(2020\)649385_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649385/EPRS_BR I(2020)649385_EN.pdf).

Assessment of Growth, Financial and Regulatory Challenges for Green Deal

On 15 April 2020, the European Parliament Think Tank published a study prepared by the Policy Department for Economic, Scientific and Quality of Life Policies.

The report, titled *Roadmap for Reallocation*, is a critical assessment of the Green Deal's growth, financial and regulatory challenges. It discusses the need for extended Shared Socio-economic Pathways and examines the key growth drivers of the Green Deal. The report also looks at the green investment gap, the optimal mix of taxation and command-and-control measures, trade and competition policy.

The report says that the main challenge to the framework for achieving climate neutrality is how to coordinate and harness individual Member States', producers' or investors' efforts in a Union-wide pathway that embodies the common but differentiated responsibilities of the United Nations Framework Convention on Climate Change.

The study points out that the additional annual investment required to bridge the green investment gap – 250 to 300 billion EUR – is comparable in size to both the fossil-fuel imports of the European Union as well as the (post-tax) fossil-fuel subsidies, i.e. including the estimated damages from climate change and related impacts such as traffic congestion or air pollution. It describes the Green Deal as a reallocation of investment and consumption, rather than a net additional investment, with a positive net effect on sustainable development.

The report warns of a potential risk of a race to the bottom as foreign fossil-fuel producers would ramp up production in an effort to extract maximal value and avoid stranding reserves – known as the Green Paradox.

The study says that the pace of the pathways finally will largely determine the risks to macro-economic and financial stability. Too fast a transition to a climate-neutral Europe may shock the financial system with stranded assets, too slow risks damages to exceed regions' resilience.

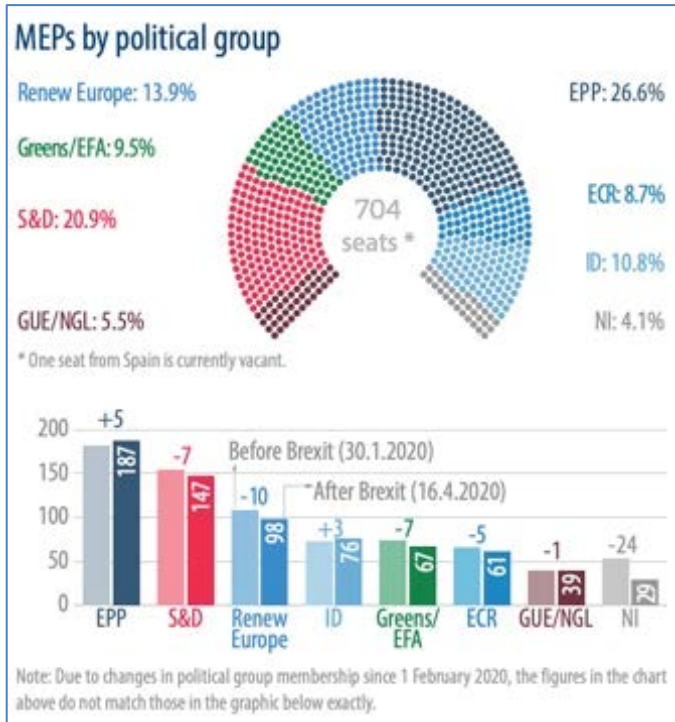
The study can be found at

[www.europarl.europa.eu/RegData/etudes/STUD/2020/648785/IPOL_ST U\(2020\)648785_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2020/648785/IPOL_ST U(2020)648785_EN.pdf).

Post-Brexit Redistribution of Seats in European Parliament

On 23 April 2020, the European Parliament published an infographic showing the distribution of MEPs following the United Kingdom's withdrawal from the European Union.

Of the 73 seats vacated by Members elected in the UK, 27 have been redistributed among 14 Member States, while 46 remain available for potential EU enlargements and/or the possible creation of a transnational constituency in the future. The number of seats in the Parliament has fallen from 751 to 705.



Further analysis can be found on the infographic at [www.europarl.europa.eu/RegData/etudes/ATAG/2020/646202/EPRS_ATAG\(2020\)646202_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/ATAG/2020/646202/EPRS_ATAG(2020)646202_EN.pdf).

NORTH AMERICA

US EPA Proposal to retain Current Standards for Particulate Matter

On 14 April 2020, the US Environmental Protection Agency (US EPA) announced its proposal to retain, without changes, the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM) including both fine particles (PM_{2.5}) and coarse particles (PM₁₀).

The EPA says that with this proposal it is following the principles established in the earliest days of the current administration to streamline the NAAQS review process and to fulfil the statutory responsibility to complete the NAAQS review within a five-year timeframe.

The EPA announcement is at www.epa.gov/newsreleases/epa-proposes-retain-naaqs-particulate-matter.

CARB Amendments to Proposed Advanced Clean Trucks Regulation

On 28 April 2020, the California Air Resources Board (CARB) published proposed amendments to its proposed Advanced Clean Trucks Regulation.

CARB proposes increasing the percentage of zero emission vehicle (ZEV) sales in California across all vehicle groups from 2024 to 2030 and to increase the percentage requirements

from 2030 to 2035 rather than keeping them constant during that period. They also propose to include pickups in the ZEV sales requirement for the Class 2b-3 vehicle group beginning with the 2024 model year, rather than excluding them until 2027. This change will increase the number of minimum ZEVs required to be sold in the Class 2b-3 vehicle group in 2024 through to 2026. CARB says this is supported by new information in recent market announcements showing that a number of zero emission pickup and additional van models will be commercially available from several manufacturers well before the 2024 model year.

Changes in the Class 2b-3 vehicle group are said to be necessary to ensure strong market signals align with future demand for ZEVs. Proposed increases in the Class 7 and 8 tractor group sales percentages are necessary to ensure there are sufficient tractor sales to meet the goal of achieving an all zero-emission drayage fleet by 2035 which would directly benefit disadvantaged communities. In combination, these changes would increase ZEV sales in all vehicle size categories. CARB says that this would provide a clear path towards achieving carbon neutrality by 2045.

The proposals are open for consultation until 28 May 2020 and can be found at ww3.arb.ca.gov/regact/2019/act2019/30daynotice.pdf.

SOUTH-CENTRAL AMERICA

ICCT Cost-benefit Analysis of Euro VI Heavy-duty Standards in Argentina

On 23 April 2020, the International Council on Clean Transportation (ICCT) published a cost-benefit analysis of implementing Euro VI standards for heavy-duty vehicles in Argentina.

The study says that although heavy-duty vehicles (HDVs) are just 3-4% of Argentina's on-road vehicles, not including motorcycles, they contribute an estimated 60% of exhaust fine particulate matter (PM_{2.5}) and 70% of nitrogen oxides (NO_x) emissions from the fleet.

ICCT's analysis uses data specific to Argentina's HDV fleet to compare benefits of introducing the standards with costs of compliance. The authors examine the 15- and 30-year costs and benefits of three implementation start times: by 2021, 2023 (in line with Brazil and Colombia), and 2025. Results show that, over the next 30 years, each \$1 (€0.93) invested in soot-free standards will produce \$3.60 (€3.33) in health benefits from reduced ambient PM_{2.5} alone. Compared with introducing soot-free standards in 2023, doing so two years earlier would add \$124 (€114) million, or 38%, of net benefits over the next 15 years. Delaying the standards to 2025 would diminish the net benefits over the next 15 years by 33% compared with the 2023 timeline and by 51% compared with the 2021 timeline. Thus, while earlier introduction of soot-free standards increases heavy-duty vehicle manufacturing costs in the near term, it also

generates additional long-lasting benefits in the form of improved air quality and health outcomes for Argentines.

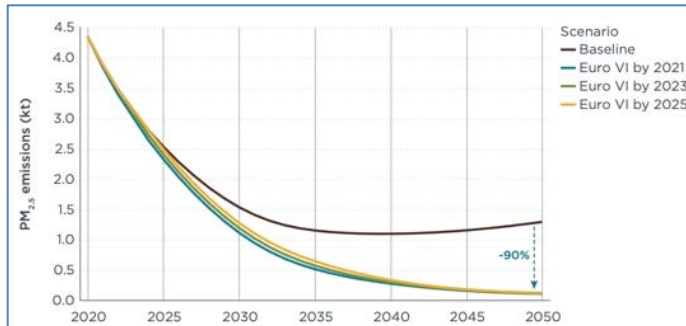


Table ES-1. Cumulative net benefits of Euro VI standards from 2021-2035 and 2021-2050

Net benefits over the period 2021-2035 (15 years)			
Scenario	Cumulative private costs (million U.S.\$)	Cumulative health benefits (million U.S.\$)	Net benefits (million U.S.\$)
Euro VI by 2021	325	776	451
Euro VI by 2023	267	593	327
Euro VI by 2025	213	433	219

Net benefits over the period 2021-2050 (30 years)			
Scenario	Cumulative private costs (million U.S.\$)	Cumulative health benefits (million U.S.\$)	Net benefits (million U.S.\$)
Euro VI by 2021	620	2,202	1,583
Euro VI by 2023	559	1,990	1,432
Euro VI by 2025	502	1,787	1,285

The ICCT report is available at theicct.org/sites/default/files/publications/ArgentinaCBA-HDV-Eng.pdf.

ASIA PACIFIC

Indian Oil Companies confirm Transition to BS-VI Fuel

On 2 April 2020, the three Indian public sector oil marketing companies confirmed that they have fully transitioned to BS-VI compliant petrol and diesel across the country with effect from 1 April.

As a result of the fall in oil prices, they say that they have been able to maintain the basic selling price despite incurring 'incremental operating costs on a sustained basis'.

The full announcement can be found at www.iocl.com/AboutUs/NewsDetail.aspx?NewsID=55014&tID=8.

UNITED NATIONS

International Day of Clean Air for Blue Skies

The United Nations has designated 7 September as the International Day of Clean Air for blue skies. 2020 is the first year for this observance, introduced to build on the 'increasing interest of the international community in clean air, and to emphasise the need to make further efforts to improve air quality, including reducing air pollution, to protect human health.'

More details are available at www.un.org/en/observances/clean-air-day.

Petersberg Climate Dialogue

On 27 April 2020, the High Level Stakeholder Session for the Petersberg Climate Dialogue took place. This is a meeting of about 30 ministers from around the world in advance of the (now cancelled) UN Climate Change Conference (COP26).

European Commission Executive Vice-President Mr Frans Timmermans gave the opening remarks at the meeting, saying that this is a huge opportunity to "be smart and combine a quick recovery with the necessity to move to a green economy". He said that the Commission intends to stick to its agenda as though the COP26 meeting were taking place in November and will therefore be ready with an impact assessed climate target for 2030 in September.

COP26 President and co-chair of the meeting, Mr Alok Sharma (UK), committed to not lose sight of "the huge challenges of climate change". He particularly focused on the transport sector as one area for close attention. As such, energy transition and accelerating the move to zero emission road transport are two of the five key campaigns that the UK is going to be focusing on in the lead up to COP 26.

Mr Sharma said that electric vehicles are expected to be cheaper to buy than fossil fuel cars by the early 2020s and that the challenge of transition for the auto industry is as important as dealing with the economic impact of the current crisis. He went on to say that "we probably need all new vehicles globally to be zero emission by 2040".

Ms Svenja Schulze (Germany), the other co-chair of the meeting, stressed the need for a "climate-friendly restart of the economy" and that "a committed climate protection plan, such as the one in the EU with the Green Deal, is also the right strategy for the way out of the corona crisis".

The respective speeches are available at ec.europa.eu/commission/presscorner/detail/en/statement_20_770, www.gov.uk/government/news/cop26-president-remarks-at-first-day-of-petersberg-climate-dialogue, www.bmu.de/petersberger-klimadialog-klimafreundlicher-neustart-der-wirtschaft-fuehrt-in-krisenfestere-zukunft/.

GENERAL

ICCT Named as Recipient of Skoll Award

On 2 April 2020, the Skoll Foundation named the International Council on Clean Transportation (ICCT) as one of the five winners of its 2020 Skoll Awards for Social Entrepreneurship. The awards 'distinguish transformative leaders whose organisations disrupt the status quo, drive sustainable large-scale change, and are poised to create even greater impact'.

ICCT receives the award for its 'first-rate, unbiased research and analysis...to improve the environmental performance and energy efficiency of road, marine, and air transportation'.

ICCT and the other awardees will receive \$1.5 million (€1.39 million) over three years to increase their impact even further.

The Skoll Foundation announcement can be viewed at skoll.org/2020/04/02/skoll-foundation-announces-2020-awards-for-social-entrepreneurship/.

ICCT Paper on Diesel Sulphur Impact on Euro VI Vehicles

On 21 April 2020, the International Council on Clean Transportation (ICCT) published a paper looking at the impact of fuel sulphur content on the performance and compliance of Euro VI diesel vehicles.

The paper is a literature study, primarily looking at research carried out in countries with national and regional fuel sulphur standards where the risk of fuelling with higher sulphur diesel is high.

ICCT identified risks to Euro VI emissions performance when diesel fuels containing sulphur content greater than 10 ppm are used. These risks involve immediate losses of pollutant conversion efficiency by sulphur poisoning and, in the long term, risks to systems' durability. DOCs and DPFs with low platinum/palladium ratios are the most sensitive technologies to sulphur poisoning. Although vanadium-based selective catalytic reduction (SCR) systems have been universally operated with 50 ppm sulphur diesel, the more advanced zeolite-based catalyst is sensitive to catalyst poisoning at that level.

The main risk of using 50 ppm sulphur fuel comes from long-term exposure. There is a cascading effect that begins with impaired diesel oxidation catalyst (DOC) operation and direct poisoning of catalyst sites in diesel particulate filters (DPFs) and zeolite-SCRs. Poisoning of catalyst sites in the DOC implies that hydrocarbons slip by the catalyst to severely increase exothermal events in the DPF; this, in turn, leads to thermal degradation of the DPF and the SCR located downstream. In this scenario, a vehicle that has an aftertreatment system that is not designed for 50 ppm operation i.e., a post-Euro IV vehicle, would be at high risk of DPF and SCR failure due to thermal degradation.

Finally, ICCT says that when it comes to fuel imports, governments have greater flexibility to shift to lower sulphur 10 ppm fuels and should leapfrog to this level. Countries that invest in 50 ppm sulphur domestic production should plan for 10 ppm production in the near future and adopt fuel quality standards that set this level as the ultimate target.

The ICCT report is available to read at theicct.org/sites/default/files/publications/50-ppm-sulfur-impacts-04.2020.pdf.

Passenger Cars and Light-duty Vehicle Emissions Standards Booklet

On 23 April 2020, Delphi Technologies published its updated Worldwide Emissions Standards booklet for passenger cars and light-duty vehicles.

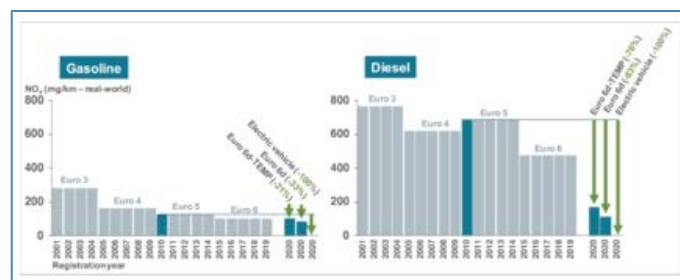
The 2020-21 edition contains in-depth information on Brazil's evolving emissions standards, including a dedicated section for PROCONVE L-7 and L-8 emissions standards, which will go into effect on 1 January 2022, and 1 January 2025, respectively. There is also a newly refined section dedicated to existing and future regulations programmes for electrified vehicles, including the changes made in 2019 to China's New Energy Vehicle (NEV) policies.

Delphi's global emissions standards booklets are at www.delphi.com/innovations/emissions-standards-booklets.

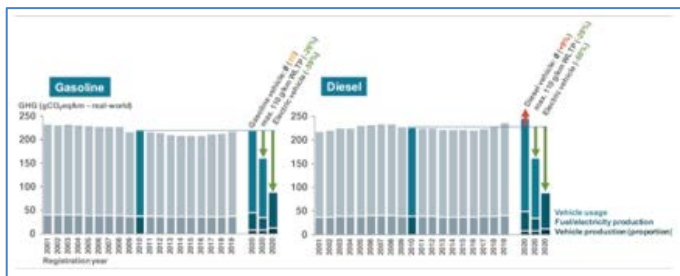
ICCT Analysis of Incentives for promoting New Car Sales in Germany

On 22 April 2020, the International Council on Clean Transportation (ICCT) published a report regarding possible government responses to the downturn in new car sales in Germany.

The paper looks at options that would help the car industry and the environment. It says that, based on limited data from Euro 6d-Temp and 6d cars, NOx emissions of a new gasoline car would be 21-33% lower than its ten-year-old equivalent, while those from a new diesel would be 76-83% lower in the real world than a diesel car registered a decade ago.



When considering greenhouse gases, ICCT calculates a fleet average CO₂ reduction of about 30% if incentives were limited to vehicles with a maximum emission level of 110 g/km CO₂ under WLTP conditions. A fleet reduction twice that much, about 60%, could be achieved by only incentivising the purchase of battery electric vehicles. ICCT says that this holds true even if those vehicles are recharged over their entire lifetime with the (relatively CO₂ intensive) current German electrical grid.



The report then cautions against incentivising Euro 6d vehicles as the standard will be mandatory for all vehicles from January 2021, and a CO₂ emission level of 110-115 g/km will also have to be met, at the European average, by vehicle manufacturers in 2021. It would be more effective, according to ICCT, to provide an increased purchase premium only for electric vehicles in order to incentivise an early market penetration.

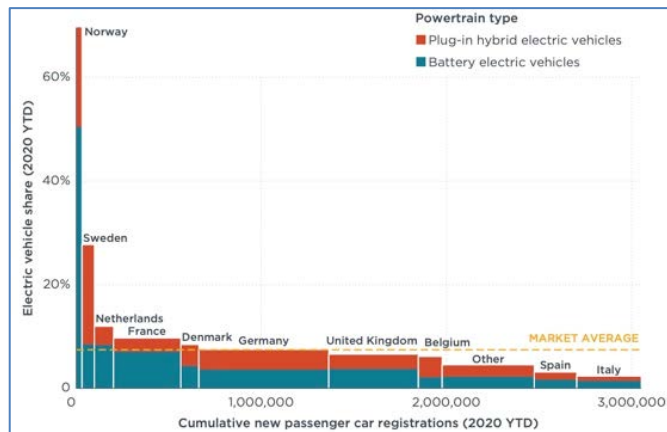
ICCT concludes by saying that it is a relatively small and supposedly affluent group of citizens that benefits from subsidies financed by all taxpayers in return for a limited short-term stimulus for the auto industry. However, the European car industry struggled with surplus capacities already prior to the COVID-19 crisis and is in need of long-term support to manage an ongoing structural transformation. Instead of short-term subsidies, it suggests fundamental reform of the German vehicle taxation system. A higher tax for vehicles with high emissions could finance a bonus payment for vehicles with low emissions, without putting a strain on the national budget and the average taxpayer. This would complement the European CO₂ regulation and would assist vehicle manufacturers in the medium- and long-term with meeting their target values and successfully managing the industrial transition towards emission-free mobility.

The paper can be viewed at theicct.org/blog/staff/premiums-new-car-sales-response-covid-19-case-germany.

ICCT Passenger Car Registration Analysis Q1 2020

On 28 April 2020, the International Council for Clean Transportation (ICCT) published an analysis of European car registrations in the first quarter of 2020.

The report says that if they maintain year-to-date CO₂ emission levels throughout the entire year 2020, the majority of manufacturers would already meet their respective regulatory fleet targets.



There is a higher share of plug-in vehicles in Norway than anywhere else in Europe, with 70% of the market.

The report can be found at theicct.org/sites/default/files/publications/MarketMonitor-EU-FactSheet-20200428.pdf.

New Green NCAP Partners

On 22 April 2020, Green NCAP announced that the automobile clubs of Austria (ÖAMTC) and Switzerland (TCS) have joined the initiative along with their respective test partners IFA and EMPA.

Both organisations are said to have longstanding experience and excellent test expertise with regards to technical compliance emissions and pollutants testing and have been involved in crafting the unique Green NCAP test and assessment protocols from the beginning. The affiliate membership formalises their respective roles, enabling them to effectively drive vehicle improvements and create value for their members.

The announcement is available at www.greenncap.com/press-releases/euro-ncap-mobilizes-new-partners-to-promote-safer-and-cleaner-mobility-in-europe.

Publication of IEA Oil Market Report

On 14 April 2020, the International Energy Agency (IEA) published its Oil Market Report. This has been prepared with the benefit of seeing the impact of coronavirus. On this basis, the IEA is forecasting that global oil demand is likely to fall by a record 9.3 million barrels per day compared with 2019. The forecast assumes that travel restrictions are eased in the second half of 2020.

IEA says that low prices threaten the stability of the industry. Even with demand falling by a record amount this year, oil companies still face the challenges of investing to offset natural production declines and to meet future growth. Global capital expenditure by exploration and production companies in 2020 is forecast to drop by about 32% versus 2019 to \$335 (€309) billion, the lowest level for 13 years. The report concludes that this reduction of financial resources also

undermines the ability of the oil industry to develop some of the technologies needed for clean energy transitions around the world.

The IEA report is available to purchase at www.iea.org/reports/oil-market-report-april-2020.

Hydrogen Europe Initiative on Green Hydrogen

On 14 April 2020, Hydrogen Europe published its report *Green Hydrogen for a European Green Deal*. The report says that Europe including Ukraine has good renewable energy resources, while North Africa has outstanding and abundant resources. Europe can re-use its gas infrastructure with interconnections to North Africa and other countries to transport and store hydrogen. Europe also has a globally leading industry for clean hydrogen production, especially in electrolyser manufacturing. The report says that the European Union has the opportunity to build on these assets and create a world-leading industry for renewable hydrogen production.

It goes on to say that if a 2x40 GW electrolyser market in 2030 is realised alongside the required additional renewable energy capacity, renewable hydrogen will become cost competitive with fossil (grey) hydrogen. GW-scale electrolysers at wind and solar hydrogen production sites will produce renewable hydrogen cost competitively with low carbon hydrogen production (€1.5-2.0/kg) in 2025 and with grey hydrogen (€1.0-1.5/kg) in 2030.

Hydrogen Europe estimates that by realising 2x40 GW electrolyser capacity, producing green hydrogen, about 82 million tonnes of CO₂ emissions per year could be avoided in the EU. Total investment in electrolyser capacity will be €25-30 billion, creating 140 000 - 170 000 jobs in manufacturing and maintenance.

The report can be found at hydrogeneurope.eu/sites/default/files/Hydrogen_Europe_2x40_GW_Green_H2_Initiative_Paper.pdf.

RESEARCH SUMMARY

Effects of Emissions and Pollution

A study of cardiorespiratory related mortality as a result of exposure to black carbon, Kiarash Farzad, et al.; *Science of The Total Environment* (April 2020), 138422, [doi: 10.1016/j.scitotenv.2020.138422](https://doi.org/10.1016/j.scitotenv.2020.138422).

Estimating historical PM_{2.5} exposures for three decades (1987-2016) in Japan using measurements of associated air pollutants and land use regression, Shin Araki, et al.; *Environmental Pollution* (in press), [doi: 10.1016/j.envpol.2020.114476](https://doi.org/10.1016/j.envpol.2020.114476).

Impact of air quality on the gastrointestinal microbiome: A review, Charlotte Dujardin, et al.; *Environmental Research* (July 2020), Vol. 186, 109485, [doi: 10.1016/j.envres.2020.109485](https://doi.org/10.1016/j.envres.2020.109485).

International expert consensus on the management of allergic rhinitis (AR) aggravated by air pollutants: Impact of air pollution on patients with AR: Current knowledge and future strategies, Robert Naclerio, et al.;

World Allergy Organization Journal (March 2020), Vol. 13, 100106, [doi: 10.1016/j.waojou.2020.100106](https://doi.org/10.1016/j.waojou.2020.100106).

Air Quality, Sources and Exposure

The impact of environmental policy stringency on air quality, Ke Wang, et al.; *Atmospheric Environment* (in press), [doi: 10.1016/j.atmosenv.2020.117522](https://doi.org/10.1016/j.atmosenv.2020.117522).

Changes in air quality during the lockdown in Barcelona (Spain) one month into the SARS-CoV-2 epidemic, Aurelio Tobías, et al.; *Science of The Total Environment*, July 2020, Vol. 726, 138540, [doi: 10.1016/j.scitotenv.2020.138540](https://doi.org/10.1016/j.scitotenv.2020.138540).

The spatial relationship between traffic-related air pollution and noise in two Danish cities: Implications for health-related studies, Jibrán Khan, et al.; *Science of The Total Environment* (July 2020), Vol. 726, 138577, [doi: 10.1016/j.scitotenv.2020.138577](https://doi.org/10.1016/j.scitotenv.2020.138577).

The impact of diesel vehicles on NO_x and PM₁₀ emissions from road transport in urban morphological zones: A case study in North Rhine-Westphalia, Germany, Janos Breuer, et al.; *Science of The Total Environment* (July 2020), Vol. 727, 138583, [doi: 10.1016/j.scitotenv.2020.138583](https://doi.org/10.1016/j.scitotenv.2020.138583).

Assessing nitrogen dioxide (NO₂) levels as a contributing factor to coronavirus (COVID-19) fatality, Yaron Ogen, et al.; *Science of The Total Environment* (July 2020), Vol. 726, 138605, [doi: 10.1016/j.scitotenv.2020.138605](https://doi.org/10.1016/j.scitotenv.2020.138605).

Effect of restricted emissions during COVID-19 on air quality in India, Shubham Sharma, et al.; *Science of The Total Environment* (August 2020), Vol. 728, 138878, [doi: 10.1016/j.scitotenv.2020.138878](https://doi.org/10.1016/j.scitotenv.2020.138878).

Emissions Measurements and Modelling

Impact of oxyfunctionalized turpentine on emissions from a Euro 6 diesel engine, Duban García, et al.; *Energy* (in press), [doi: 10.1016/j.energy.2020.117645](https://doi.org/10.1016/j.energy.2020.117645).

PM_{2.5}-bound polycyclic aromatic hydrocarbons (PAHs) and nitrated-PAHs (NPAHs) emitted by gasoline vehicles: Characterization and health risk assessment, Tong Zhao, et al.; *Science of The Total Environment* (July 2020), Vol. 727, 138631, [doi: 10.1016/j.scitotenv.2020.138631](https://doi.org/10.1016/j.scitotenv.2020.138631).

Real-world gaseous and particle emissions of a Bi-fuel gasoline/CNG Euro 6 passenger car, A. Dimaratos, et al.; *Transportation Research Part D: Transport and Environment* (May 2020), Vol. 82, 102307, [doi: 10.1016/j.trd.2020.102307](https://doi.org/10.1016/j.trd.2020.102307).

Emissions Control, Catalysis, Filtration

Interpretation of results, Paper preparation: Soot oxidation in diesel exhaust on manganese oxide catalyst prepared by flame spray pyrolysis, Christian Singer and Sven Kureti; *Applied Catalysis B: Environmental* (April 2020), 118961, [doi: 10.1016/j.apcatb.2020.118961](https://doi.org/10.1016/j.apcatb.2020.118961).

Energy management strategy to reduce pollutant emissions during the catalyst light-off of parallel hybrid vehicles, Alice Guille des Buttes, et al.; *Applied Energy* (May 2020), Vol. 266, 114866, [doi: 10.1016/j.apenergy.2020.114866](https://doi.org/10.1016/j.apenergy.2020.114866).

Investigation of the impact of the configuration of exhaust after-treatment system for diesel engines, Chung Lao, et al.; *Applied Energy* (June 2020), Vol. 267, 114844, [doi: 10.1016/j.apenergy.2020.114844](https://doi.org/10.1016/j.apenergy.2020.114844).

Raman spectroscopy as a powerful tool to characterize ceria-based catalysts, Stéphane Loricant, et al.; *Catalysis Today* (in press), [doi: 10.1016/j.cattod.2020.03.044](https://doi.org/10.1016/j.cattod.2020.03.044).

Three-way catalytic properties and microstructures of metallic glass driven composite catalysts, Masatomo Hattori, et al.; *Catalysis Today* (in press), doi: [10.1016/j.cattod.2020.04.003](https://doi.org/10.1016/j.cattod.2020.04.003).

Numerical investigation of the impact of washcoat distribution on the filtration performance of gasoline particulate filters, Igor Belot, et al.; *Chemical Engineering Science* (August 2020), Vol. 221, 115656, doi: [10.1016/j.ces.2020.115656](https://doi.org/10.1016/j.ces.2020.115656).

Influence of transition metal based SCR catalyst on the NO_x emissions of diesel engine at low exhaust gas temperatures, Ali Keskin, et al.; *Fuel* (August 2020), Vol. 273, 117785, doi: [10.1016/j.fuel.2020.117785](https://doi.org/10.1016/j.fuel.2020.117785).

Transport, Climate Change & Emissions

Empirical Evidence for the Potential Climate Benefits of Decarbonizing Light Vehicle Transport in the U.S. with Bioenergy from Purpose-Grown

Biomass with and without BECCS, Ilya Gelfand, et al.; *Environmental Science and Technology* (February 2020), Vol. 54, doi: [10.1021/acs.est.9b07019](https://doi.org/10.1021/acs.est.9b07019).

Sensitivity Analysis in the Life-Cycle Assessment of Electric vs. Combustion Engine Cars under Approximate Real-World Conditions, Eckard Helmers, et al.; *Sustainability* (2020), Vol. 12, 1241, doi: [10.3390/su12031241](https://doi.org/10.3390/su12031241).

Why have multiple climate policies for light-duty vehicles? Policy mix rationales, interactions and research gaps, Chandan Bhardwaj, et al.; *Transportation Research Part A: Policy and Practice* (May 2020), Vol. 135, pp. 309-326, doi: [10.1016/j.tra.2020.03.011](https://doi.org/10.1016/j.tra.2020.03.011).

FORTHCOMING CONFERENCES

POSTPONED Integer Emissions Summit & AdBlue Forum Europe

27-29 May 2020, Frankfurt, Germany

www.argusmedia.com/en/conferences-events-listing/integer-emissions-summit-europe

ONLINE 32nd International AVL Conference "Engine & Environment" - Zero-impact Mobility

28-29 May 2020, Graz, Austria

www.avl.com/engine-environment

Thermal Management for EV/HEV

2-3 June 2020, Online

www.automotive-iq.com/events-thermal-management-for-evhev-online/

Automotive 48V Power Supply Systems

9-10 June 2020, Online

www.automotive-iq.com/events-innovations-in-48v-technology-online/

POSTPONED Sustainable Internal Combustion Engine Symposium

16-18 June 2020, Stuttgart, Germany

www.sustainable-ic-engine.com/en

The Sustainable Internal Combustion Engine Symposium discusses and debates the future of gasoline, diesel and alternative-fuel IC engines. This conference is about how the traditional automotive powertrain has a long future ahead of it when it is developed and advanced beyond its current brief and design constraints.

ONLINE Cambridge Particle Meeting

19 June 2020, Cambridge, England

www.cambridgeparticlemeeting.org

CANCELLED 24th ETH-Conference on Combustion Generated Nanoparticles

22-25 June 2020, Zürich, Switzerland

www.nanoparticles.ch

The ETH Conference on Combustion-Generated Nanoparticles serves as an interdisciplinary platform for expert discussions on all aspects of nanoparticles, freshly emitted from various sources, aged in ambient air, technical mitigation aspects, impact of particles on health, environment and climate and particle legislation. The conference brings together representatives from research, industry and legislation.

CANCELLED 14th International AVL Symposium on Propulsion Diagnostics

23-24 June 2020, Baden-Baden, Germany

www.avl.com/web/de/-/14th-international-avl-symposium-on-propulsion-diagnostics

ONLINE 8th International Conference of the Fuel Science Center

23-25 June 2020, Aachen, Germany

www.fuelcenter.rwth-aachen.de/cms/Fuelcenter/Austausch/Internationale-Konferenz/~dcsks/8-Internationale-Konferenz/lidx/1/

POSTPONED 4th Real Driving Emissions Forum

30 June-1 July 2020, Prague, Czech Republic

bisgrp.com/event/real-driving-emissions-conference-berlin-2/

TBD CO₂ Reduction for Transport Systems Conference

7-8 July, Turin, Italy

conferences.ata.it

6th International Conference Diesel Powertrains 3.0

8-9 July 2020, Turin, Italy

www.fev.com/en/coming-up/fev-conferences/fev-conference-diesel-powertrains-30/introduction.html

Despite the ongoing public discussion, the modern Diesel engine represents a highly attractive powertrain. The latest developments demonstrate, that Diesel-powered vehicles are among the cleanest vehicles available in the marketplace, while maintaining their superior fuel economy compared to other propulsion systems. Its high efficiency positions the Diesel engine as an attractive element for future powertrain line-ups, even under more tightened regulatory boundary conditions and simultaneously altering market conditions. The conference is for the first time integrating heavy-duty On-/Off-Highway themes into the programme.

SIA Powertrain & Energy

2-3 September 2020, Rouen, France (postponed from June)
www.sia.fr/evenements/193-sia-powertrain-energy-rouen-2020

International Transport and Air Pollution Conference

15-16 September 2020, Graz, Austria
www.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.

11th VERT Forum

17 September 2020, Dübendorf, Switzerland (postponed from March)
www.vert-certification.eu

Future of Biofuels

22-23 September 2020, Copenhagen, Denmark (postponed from June)
fortesmedia.com/future-of-biofuels-2020,4,en,2,1,5.html

8th International MinNOx Conference

22-23 September 2020, Berlin, Germany
www.iav.com/en/events/minnox

SAE Powertrains, Fuels and Lubricants

22-24 September 2020, Krakow, Poland
www.sae.org/pfi

FVV 2020 Autumn Conference

24-25 September 2020, Würzburg, Germany
www.fvv-net.de/en/events

29th Aachen Colloquium

5-7 October 2020, Aachen, Germany
www.aachener-kolloquium.de/en

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

4th International FEV Conference: Zero CO₂ Mobility

10-11 November 2020, Aachen, Germany
www.fev.com/en/coming-up/fev-conferences/fev-conference-zero-co2-mobility/introduction.html

Deadline for abstract: 20 April 2020.

2020 Annual POLIS Conference

2-3 December 2020

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

9th AVL Large Engines Techdays

21-22 April 2021, Graz, Austria

www.avl.com/large-engines-techdays