DECEMBER 2020

NEWSLETTER

International Regulatory Developments

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EUROPE

European Commission Sustainable and Smart Mobility Strategy

On 9 December 2020, the European Commission presented its 'Sustainable and Smart Mobility Strategy' together with an Action Plan of 82 initiatives that will guide its work for the next four years.

In its vision, the Sustainable and Smart Mobility Strategy mentions that the most serious challenge facing the transport sector is to significantly reduce its emissions and become more sustainable. Given its high proportion of total EU greenhouse gas emissions, the EU's goal of at least -55% greenhouse gas reduction target by 2030 and of climate neutrality by 2050 will be reached, only by introducing more ambitious policies to reduce transport's reliance on fossil fuels without delay and in synergy with zero pollution efforts. It mentions that greening mobility must be the new licence for the transport sector to grow and this can be achieved by abundant recharging and refuelling infrastructure for zero-emission vehicles and supply of renewable and low-carbon fuels.

The strategy mentions that all policy levers must be pulled including measures to significantly reduce the current dependence on fossil fuels (by replacing existing fleets with low- and zero-emission vehicles and boosting the use of renewable and low-carbon fuels).

The strategy contains 10 Flagships and several actions are included within. Amongst these actions: boosting the uptake of zero-emission vehicles, renewable and low carbon fuels and related infrastructure. It mentions the standards on CO_2, air pollutant emissions, and public procurement rules, such as those in the Clean Vehicle Directive, will continue to be key policy-drivers in the transition towards zero-emission mobility in road transport. It recognises that significant efforts have been made over the last five years to reduce emissions of air pollutants from motor vehicles.

The strategy highlighted that the upcoming proposal for more stringent air pollutant emissions standards for combustion engine vehicles (Euro 7) will ensure that only future-proof low-emission vehicles come to the market. Amongst other measures, the Commission indicates that the environmental standards should be accompanied by measures that increase demand for low and zero emission vehicles, such as carbon pricing, taxation, road charging, and the revision of rules on the weights and dimensions of heavy-duty vehicles.

The Commission will consider additional measures to support renewable and low carbon fuels, possibly through minimum share or quotas through the revision of the recast Renewable Energy Directive.

Flagship 5 states that fossil-fuel subsidies should end and that smart, distance-based road charging, with varied rates for the type of vehicle and the time-of-use, is an effective tool to incentivise sustainable and economically efficient choices, manage traffic and reduce congestion.

Finally, the document states that the sustainable European transport system that the EU strives for must be smart, flexible and adaptable to ever-changing transport patterns and needs, based on cutting-edge technological advancements to provide seamless, safe and secure connectivity to all European citizens. Transport should showcase European ingenuity and industriousness – standing at the vanguard of research, innovation and entrepreneurship, and driving the twin transitions.

The press release and relevant links can be found at ec.europa.eu/commission/presscorner/detail/en/ip_20_2329.

Online Data Exchange and Notification of EU Type-Approvals Regulation

On 2 December 2020, the Technical Committee on Motor Vehicles (TCMV) unanimously approved the text for Commission Implementing Regulation (EU) 2020/1812 on the online data exchange and the notification of EU type-approvals under Regulation (EU) 2018/858.

In particular, the Regulation requires the approval authority to inform the approval authorities of the other Member States and the Commission on the granting of EU type-approvals, on amendments, refusals and withdrawals through the EU Type Approval Exchange System (ETAES).

This text describes the different security measures to be observed in the ETAES. These include encryption of communication, web security, amongst others. In addition, the measure details the procedure for the exchange of type-approval information.

Pursuant to Article 12(4) of Regulation (EU) 2018/858, the Member States have to establish a list of the EU type-approvals for vehicles, systems, components and separate technical units that they have granted, amended, refused or withdrawn, as well as a list of the technical services which have performed the tests for the respective EU type-approvals. This list would be accessible to the public as from September 2022.

The text of the regulation can be found at eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2020.404.01.0005.

EU-UK Trade and Cooperation Agreement

On 24 December 2020, the European Union and the 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.

EEA Report on Trends and Projections in Europe

On 1 December 2020, the European Environment Agency (EEA) published its Trends and projections in Europe 2020 report, tracks progress the EU's 27 Member States (plus the United Kingdom) are making towards Europe's climate and energy targets. The analysis is based on data on greenhouse gas emissions and energy up to 2019, officially reported in 2020, and complemented by the EEA's own preliminary estimates for missing data.

In 2019, greenhouse gas emissions in the EU-27 decreased by almost 4%. This one-year drop was unprecedented over the last decade and occurred before the effects of the COVID-19 pandemic. The 2019 drop took place in a period of economic growth, reflecting the strong and steady growth of renewable energy in Europe and the result of cumulative long-term, sustained efforts toward lower emissions levels.

Since 1990, greenhouse gas emissions in the EU have been steadily declining, with emissions in the EU-27 falling to 24 % below 1990 levels in 2019. This highlights the results of effective climate policies implemented across the EU and according to EEA, shows that it is clearly possible to achieve more ambitious reduction targets by 2030, paving the way for a climate neutral EU by 2050.

Preliminary EEA data suggest that the EU-27 achieved a total share of energy consumed from renewable sources of 19.4% in 2019. The EU is therefore on track to the 2020 target of a minimum 20% share. EEA says that the COVID-19 pandemic in 2020 is likely to make the 2020 targets easier to achieve, although the impact of COVID-19 related potential reductions might be short-lived and emissions might rebound as economic activities return to pre-COVID levels.

The full report can be found at www.eea.europa.eu/highlights/eu-on-track-to-meet?utm_source=EEA.

Correction of CO_2 Emissions Calculation for Vocational Vehicles

On 15 December 2020, the European Commission published a consultation regarding a proposed implementing regulation to revise the average specific CO_2 emissions calculation upwards to prevent delivery vehicles from being wrongly classified as vocational vehicles.

The draft regulation states that the corrections resulting from heavy-duty vehicles that are certified as vocational vehicles but not registered as such and applied to the annual average specific CO_2 emissions of manufacturers, should be proportionate and dissuasive. This is intended to incentivise a "correct and careful processing of data and to avoid a wrong attribution of CO_2 emissions of such vehicles, either by intention or due to negligence".

The consultation and full draft regulation are at ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12670-Heavy-Duty-Vehicles-vocational-vehicles.

Stakeholder Workshop on the Revision of Renewable Energy Directive

On 11 December 2020, the European Commission organized a stakeholder workshop to discuss on the revision of the Renewable Energy Directive 2018/2001.

The workshop was divided in 7 sections which covered different sectors including Renewable energy in transport. The role of renewables in 2030 on the way to a carbon-neutral economy was also discussed, as well as a European system for certification of renewable and low-carbon fuels, including hydrogen.

The Commission is preparing a review and a revision of the Renewable Energy Directive to ensure that renewable energy contributes to the achievement of the increased greenhouse gas (GHG) emissions reduction target set in the 2030 Climate Target Plan for 2030, as well as to implement the measures proposed in the Energy System Integration and Hydrogen strategies, the Renovation wave initiative, and other initiatives adopted under the European Green Deal.

Along with the stakeholder workshop, the European Commission has launched a public consultation to seek stakeholder views on how the Renewable Energy Directive should be revised.

The consultation is open for comments until 9 February 2021 and can be found at ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12553-Revision-of-the-Renewable-Energy-Directive-EU-2018-2001/public-consultation.

European Climate Pact Launch Event

On 16 December 2020, the European Commission officially launched the Climate Pact, an EU-wide initiative inviting individuals, communities and organisations to get involved in

climate action and build a greener Europe. As the EU's assembly of cities and regions, the European Committee of the Regions (CoR) is committed to actively contributing to the Climate Pact, starting by promoting its objectives and fostering participation, in particular from local and regional authorities across the EU. The Climate Pact is a participatory platform in support of the European Green Deal, the new EU's growth strategy to achieve climate neutrality by 2050.

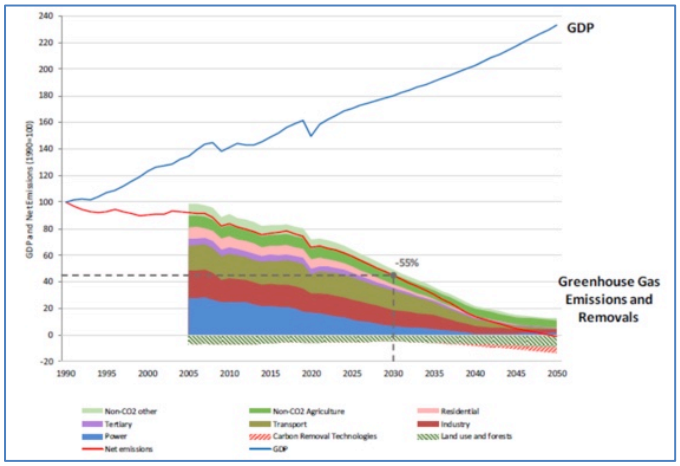
The Climate Pact will provide a space for people from all walks of life to connect and collectively develop and implement climate solutions, be they big or small. Its two main aims are to raise and spread awareness and support climate action across the EU.

More details on the Climate Pact can be found at cor.europa.eu/en/news/Pages/The-Climate-Pact.aspx.

European Parliament Think Tank Briefing on EU Climate Target Plan

On 8 December 2020, the European Parliament's Think Tank published a briefing on the EU's revised climate target plan for 2030.

The Commission's envisaged pathway to climate neutrality and economic growth is illustrated below.



The communication sets out its goal of a jump in the renewable energy share of the transport sector from 6% in 2015 to 24% in 2030. The Commission states that not only road and rail, but also aviation and maritime transport must contribute to the 55% by 2030 target.

The Think Tank highlights a paper by the German Federal Environment Office which outlines the need for an ambitious 2030 climate target and the urgent need to revise the EU ETS and ESR to help reach a new target. It discusses options for reaching targets of between 50 and 65% in emission reductions by 2030.

The briefing notes that the rapporteur in charge, Jytte Guteland (S&D), argued for a 65% target, referencing the United Nations Environment Programme (UNEP) emissions gap report on remaining within the 1.5°C global warming target. The climate target plan was referred to the ENVI committee too, though as a non-legislative communication and with the target included under the legislation for the climate law, no specific action is required or expected from Parliament on the target plan itself. In relation to the climate law proposal, Parliament adopted its position on 8 October 2020, calling for a 60% emission reduction by 2030, in line with the final ENVI committee report. In contrast, the opinion of the Committee on Industry, Research and Energy (ITRE) proposed sticking to the 55% target as earlier called for by Parliament, most recently in its resolution of 15 January 2020 on the European Green Deal.

The full briefing paper can be seen at www.europarl.europa.eu/RegData/etudes/BRIE/2020/659370/EPRS_BRI(2020)659370_EN.pdf.

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 EP briefing can be found at europarl.europa.eu/RegData/etudes/BRIE/2020/659426/EPRS_BRI(2020)659426_EN.pdf.

European Council Conclusions on Hydrogen Market for Europe

On 11 December 2020, the European Council adopted conclusions on steps to be taken towards creating a hydrogen market for Europe, to help the EU meet its commitment to reach carbon neutrality in 2050. The conclusions give political guidance to the implementation of the EU Hydrogen Strategy presented by the European Commission on 8 July 2020.

In its conclusions, the Council recognises the important role that hydrogen, especially from renewable sources, plays in reaching the EU's decarbonisation objectives, economic recovery in the context of COVID-19 and the EU's competitiveness on the global scene. In order for this to happen the EU market for hydrogen needs to be significantly scaled up and become a competitive, liquid market that attracts investments.

The Council recognises that there are different safe and sustainable low-carbon technologies for the production of hydrogen that contribute to the rapid decarbonisation. Member States recognise that emphasis should be given to hydrogen from renewable sources in view of its key role for the achievement of the decarbonisation objective.

The full Council statement is available to read at www.consilium.europa.eu/en/press/press-releases/2020/12/11/towards-a-hydrogen-market-for-europe.

EEA Briefing on Synergies between Air Pollution and Greenhouse Gases

On 10 December 2020, the European Environment Agency (EEA) published a briefing giving an overview of the latest policies and measures reported by Member States to tackle air pollution, as required under the National Emission reduction Commitments (NEC) Directive. It includes an analysis of synergies with the policies reported under the Regulation on a mechanism for monitoring and reporting greenhouse gas emissions (Monitoring Mechanism Regulation), highlighting the importance of coherence between these domains.

The document highlights that one third of national policies and measures to reduce emissions of air pollutants under the NEC Directive have links to national policies to mitigate greenhouse gas emissions under the Monitoring Mechanism Regulation. It also points out that Member States are more likely to report quantified emission reductions for those policies linked to greenhouse gas mitigation and which have been selected for adoption at national level.

EEA says that promoting consistency in reporting policies and measures on air pollution, energy and climate change can reduce red tape, foster policy coherence and support the identification of synergies.

The briefing can be found at www.eea.europa.eu/themes/air/air-pollution-sources-1/national-emission-ceilings/actions-to-reduce-air-pollutant.

Horizon 2020 Conference

From 30 November to 1 December 2020 the 4th edition of the Horizon 2020 European Conference was held. The online event gathered more than 500 participants around 73 research projects on road transport funded as part of H2020.

The conference session Green Vehicles covered projects aiming to improve efficiency and emissions of vehicles. In addition to electric vehicle projects, 2 projects look into the internal combustion engine (ICE).

EAGLE targets an ICE efficiency above 50% with a lean burn concept, while meeting stringent pollutant emission targets. ADVICE looks into advanced levels of hybridisation (HEV and PHEV), focusing on system cost reduction. A session on air quality grouped presentations of three projects that target to improve pollutant emissions of vehicles. GVI looks at a vehicle ranking scheme to promote OEMs going beyond meeting Euro legislation requirements. CARES investigates remote sensing, via point sampling but also plume chasing. uCARE develops tools for vehicle users and stakeholders.

Reply of the sessions are available at egvi.eu/mediaroom/h2020rtr20-replays-are-now-available.

French Market Surveillance Study

On 16 December and during a strategic committee of the automotive industry, the French Ministry for the Ecological Transition released the results of a market surveillance study commissioned at IFP Energies Nouvelles (IFPen).

The study evaluated the emissions of 22 Euro 6d-TEMP vehicles in real use, measuring CO_2, regulated (PN_{23}, NOx, HC, CO) and non-regulated pollutants (PN_{10}, N_2O, CH_4 and NH_3). Various conditions of use were tested on WLTC, medium and dynamic RDE, covering ambient conditions from -2 to + 35° C.

The study concludes that "Euro 6d-TEMP petrol and diesel vehicles on average comply with the normative thresholds in real use on RDE, including under very dynamic driving conditions or in cold climatic conditions. Exceptions concern the NOx emissions of diesel vehicles that do not use urea injection in their pollution control system, the fine particulate emissions from certain gasoline vehicles without a particulate filter and the CO emissions of certain gasoline vehicles under dynamic driving conditions. There are however still significant differences between different technologies. NOx emissions remain higher for diesel, fine particulate emissions are higher for gasoline, even when the impact of diesel particulate filter regeneration is taken into account. Emissions also significantly increase for shorter trips under urban driving conditions, in particular for NOx

(+79% for gasoline and +74% for diesel). The average diesel NOx emissions in urban use are 172 mg/km vs. 40 mg/km for gasoline vehicles."

The study also investigated CO_2 emissions of Plug-in Hybrid Vehicles (PHEVs). It concludes that "results are sensitive to how the vehicle is recharged, but PHEVs are also capable of approaching zero emissions. The real environmental benefit of this vehicle technology therefore depends on its use and on good practices in terms of recharging frequency by the user. Behavioral studies carried out at this stage show that good practices are today less common than the standard hypothesizes, resulting in higher real-use CO_2 emissions than those declared at type approval."

The full report (in French) is available to read at www.ifpenergiesnouvelles.fr/sites/ifpen.fr/files/inline-images/Innovation%20et%20industrie/Motorisations%20thermiques/Etude-emissions-Euro-6d-TEMP_IFPEN-DGEC_Rapport-de-synthese_dec2020.pdf.

Danish Government Agreement on Green Conversion of Road Transport

On 4 December 2020, the Danish Ministry of Taxation has published a multi-party agreement on a 'green conversion of road transport.'

The agreement is expected to achieve 775 000 zero and low-emission cars on Danish roads by 2030, with a 1 million tonne reduction of CO_2 emissions by 2025 and 2.1 million tonnes by 2030. 'The agreement ensures a significant increase in the number of green cars. 775 000 green cars in 2030 is a very big boost compared to the number of green cars on the roads today. The agreement also ensures security for car owners, so that everyday life for ordinary families can be connected throughout Denmark,' said Denmark's minister of taxation, Morten Bødskov.

The registration tax applied to new cars in Denmark is value-based and amounts to 85% of the car's taxable value up to DKK 197 700 (€26 500), and 150% for the value above, according to the ACEA 2020 Tax Guide. The parties have agreed that an extra tier will be introduced, whereby a lower 25% tax rate will be applied to the car's value up to DKK 65 000 (€8 700) in 2021. The 85% tax rate will then be applied up to the slightly higher value of DKK 202 200 (€27 077) in 2021, with the 150% rate above that level.

Back in October 2018, Denmark proposed a ban on the sale of new petrol and diesel vehicles, while also proposing an end to the sale of hybrids following a grace period. The country wants to implement the new rules on internal combustion engines (ICE) from 2030, while consumers will still be able to buy petrol or diesel hybrid models until 2035. Following this, every car sold in the country must be driven by electric power, in part if not fully.

The parties involved in the new agreement agree that a ban on the sale of new diesel and petrol cars by 2030 will be an important step towards a green transport sector. However, a blanket ban on the registration and sale of new diesel and petrol cars in Denmark is not legal under current EU law. The parties have therefore agreed to work at the EU level to develop a plan to phase out new ICE cars and introduce a stop date for their sale on the European market.

The full agreement on the 'green conversion of road transport' can be viewed at www.skm.dk/media/7753/aftaletekst-aftale-om-groen-omstilling-af-vejtransporten.pdf.

Public Consultation on EU Ambient Air Quality Directives

On 17 December 2020, the European Commission launched a consultation on revision of the EU rules on Air Quality.

As part of the European Green Deal, the EU is revising these standards, to align them more closely with the recommendations of the World Health Organization. It also aims to improve overall EU legislation for clean air, building on the lessons learnt from last year's evaluation ('fitness check') of EU rules in this field.

This initiative is meant to tackle three problems related to ambient air quality: (1) EU air quality standards allow higher air pollutant concentrations than is scientifically advisable, (2) there is scope for further improvements to the legislative framework (e.g. in relation to penalties, and public information) and (3) there is scope to better support local authorities in achieving cleaner air through strengthening air quality monitoring, modelling and plans.

The consultation closes on 14 January 2021 and is at ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12677-Revision-of-EU-Ambient-Air-Quality-legislation.

NORTH AMERICA

US EPA finalises Air Quality Standards for Particulate Matter

On 7 December 2020, U.S. Environmental Protection Agency (EPA) Administrator Andrew Wheeler announced the agency's final decision to retain the existing National Ambient Air Quality Standards (NAAQS) for particulate matter (PM).

The EPA says that the decision to retain existing standards set by the Obama-Biden Administration, which applies to the NAAQS for both fine and coarse particulate matter ($PM_{2.5}$ and PM_{10}), comes after careful review and consideration of the most recent available scientific evidence and technical information, consultation with the agency's independent

scientific advisors, and consideration of more than 60 000 public comments on the proposal.

The EPA's press release is available to read at www.epa.gov/newsreleases/epa-finalizes-naaqs-particulate-matter.

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 www.federalregister.gov/documents/2020/12/14/2020-27433/notice-of-availability-of-epa-tampering-policy-and-rfi.

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.

ASIA PACIFIC

China Subsidies for Rural Spending on New Vehicles

On 18 November 2020, China's State Council presented a package designed to encourage consumer spending.

Included in the measures are policies encouraging local authorities to adjust policies capping vehicle purchases to make license plates available to residents and offering subsidies to rural residents who buy trucks with a carrying capacity of no more than 3.5 metric tons and passenger cars with engines no bigger than 1.6 litres.

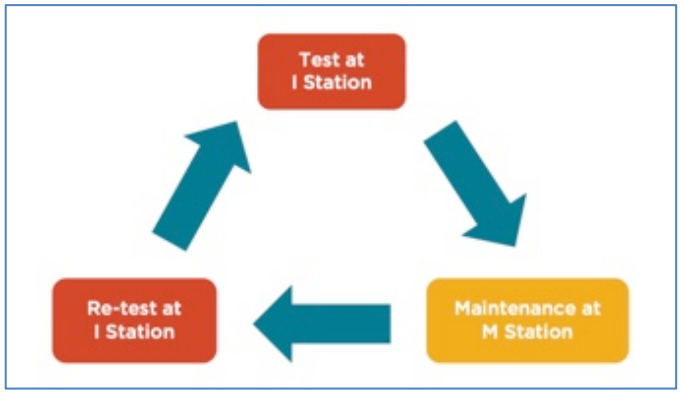
Car owners will receive subsidies if they replace gasoline-powered vehicles that fail to meet national emission standard IV with ones that do.

The State Council press release can be found at english.www.gov.cn/policies/policywatch/202011/24/content_WS5fbc6c3ec6d0f72576940744.html.

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.

The 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.

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.

UNITED NATIONS

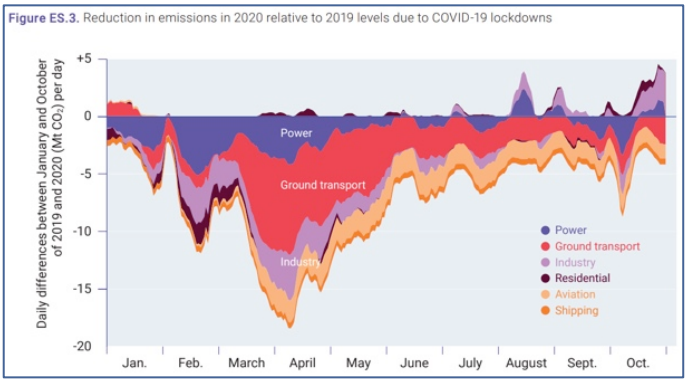
UNEP Emissions Gap Report 2020

On 9 December 2020, the United Nations Environment Programme (UNEP) published its Emissions Gap Report 2020.

Global greenhouse gas (GHG) emissions continued to grow for the third consecutive year in 2019, reaching a record high of 52.4 $GtCO_2e$ (range: ±5.2) without land-use change (LUC) emissions and 59.1 $GtCO_2e$ (range: ±5.9) when including LUC.

There is some indication that the growth in global GHG emissions is slowing. However, GHG emissions are declining in Organisation of Economic Cooperation and Development (OECD) economies and increasing in non-OECD economies. Many OECD economies have had a peak in GHG emissions, with efficiency improvements and growth in low-carbon energy sources more than offsetting the growth in economic activity. Despite improving energy efficiency and increasing low-carbon sources, emissions continue to rise in countries with strong growth in energy use to meet development needs.

CO_2 emissions could decrease by about 7% in 2020 (range: 2–12%) compared with 2019 emission levels due to COVID-19, with a smaller drop expected in GHG emissions as non-CO_2 is likely to be less affected. However, atmospheric concentrations of GHGs continue to rise. However, the report says that the COVID-19 crisis offers only a short-term reduction in global emissions and will not contribute significantly to emissions reductions by 2030 unless countries pursue an economic recovery that incorporates strong decarbonisation.



UNEP comments that the growing number of countries that are committing to net-zero emissions goals by around mid-century is the most significant and encouraging climate policy development of 2020. To remain feasible and credible, it is imperative that these commitments are urgently translated into strong near-term policies and action and are reflected in the nationally determined contributions (NDCs).

According to the report, current NDCs remain seriously inadequate to achieve the climate goals of the Paris Agreement and would lead to a temperature increase of at least 3°C by the end of the century. Recently announced net-zero emissions goals could reduce this by about 0.5°C, provided that short-term NDCs and corresponding policies are made consistent with the net-zero goals.

The full report can be downloaded from www.unep.org/emissions-gap-report-2020

GENERAL

Green NCAP launches Green Vehicle Index Project

On 7 December 2020, Green NCAP announced that it is launching the Green Vehicle Index (GVI) project, a research project funded under the European Union's Framework Programme for Research and Innovation, Horizon 2020. The aim of the project is to accelerate and improve the Green NCAP consumer programme already in place.

The GVI project will provide a scoring methodology to complement pass-fail information and independently assess the full environmental performance of a vehicle in the most comprehensive manner.

The GVI test cycles will include the emission chassis dynamometer measurements of pollutants such as carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NOx), particulate matter (PM) and particle number (PN). Also, Greenhouse gases like carbon dioxide (CO_2) will be measured. A new, unregulated pollutant that will be measured is ammonia (NH_3). The combination of chemical substances referred to as NxOy (with x = 1,2 and y = 1,2) will be split into pollutants NO and NO_2, separately measured against individual performance limits to be developed. Moreover, N_2O emissions will be measured and assessed, which is a greenhouse gas with an exponentially high global warming effect compared to CO_2.

Green NCAP says that the GVI consortium represents a unique mix of mobility clubs, leading testing and certification services suppliers in the automotive field, and expertise and knowledge centres that measure, analyse and model vehicle and transport emissions.

In addition, world key players like the International Consumer Research and Testing (ICRT) organisation brings together 35 leading national consumer organisations worldwide and has a readership of over 100 million consumers in Europe. Motorsport, mobility and consumer organisation Fédération Internationale de l'Automobile (FIA) is also globally active in 141 countries and promotes clean, energy efficient and sustainable vehicles to their members.

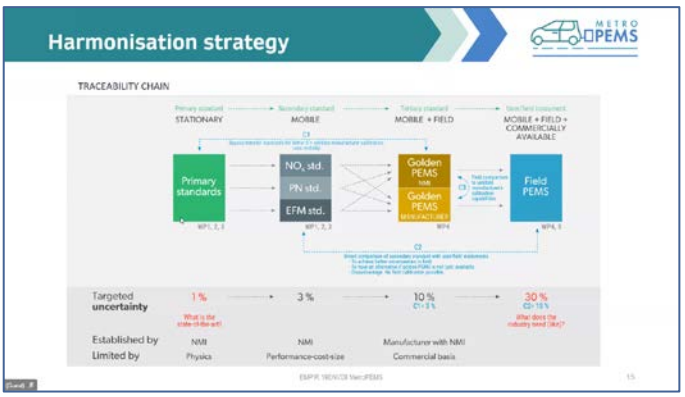
In Europe, Africa and the Middle East 103 Mobility Clubs are affiliated that represent over 36 million members; consumer organisations together constitute the core of the GVI project. Profound experience in all aspects of consumer surveys and how to integrate consumer preferences in rating schemes, scoring methodology, test procedure setup and verification testing (IDIADA, CSI, UTAC), as well as emission research is provided by all, including major European research centres and universities (IFA, TNO, EMPA, BAST, MIRA). Together they also form the backbone of the Green NCAP consumer program.

Further detail on the GVI project can be found at www.greenncap.com/the-gvi-project.

MetroPEMS Project Stakeholder Workshop

From 14 to 15 December 2020, the MetroPEMS project organised a stakeholder workshop. It is funded by the EMPIR initiative, which is co-funded by European Union H2020 programme and Euramet (collaborative alliance of national metrological organizations from member states of the European Union and of the European Free Trade Association).

It was explained the project will develop improved reference materials, calibration facilities and methods for RDE-PEMS to improve the PEMS measurement reliability. The project started on 1 September 2020 and will run for 3 years. The traceability chain relies on a primary, secondary and tertiary standard. The first two are established by the national metrology institutes (NMI).



More information is available at www.metropems.ptb.de/home.

RESEARCH SUMMARY

Effects of Emissions and Pollution

Low levels of fine particulate matter increase vascular damage and reduce pulmonary function in young healthy adults, Lauren Wyatt, et al.; *Particle and Fibre Toxicology* (2020), Vol. 17, Article 58, doi: 10.1186/s12989-020-00389-5.

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Adverse Environmental Exposure and Respiratory Health in Children, Peter Sly, et al.; *Pediatric Clinics of North America* (February 2021), Vol. 68, pp. 277-291, doi: 10.1016/j.pcl.2020.09.018.

Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis, X. Wu, et al.; *Science Advances* (November 2020), Vol. 6, doi: 10.1126/sciadv.abd4049.

Air Quality, Sources and Exposure

COVID-19 mitigation measures and nitrogen dioxide – A quasi-experimental study of air quality in Munich, Germany, Jacob Burns, et al.; *Atmospheric Environment* (in press), doi: 10.1016/j.atmosenv.2020.118089.

Changes in air quality during COVID-19 'lockdown' in the United Kingdom, Calvin Jephcote, et al.; *Environmental Pollution* (in press), doi: 10.1016/j.envpol.2020.116011.

The impact of COVID-19 on air quality levels in Portugal: A way to assess traffic contribution, Carla Gama, et al.; *Environmental Research* (in press), doi: 10.1016/j.envres.2020.110515.

Advances in air quality modeling and forecasting, Alexander Baklanov and Yang Zhang; *Global Transitions* (2020), Vol. 2, pp. 261-270, doi: 10.1016/j.glt.2020.11.001.

Air quality and COVID-19 adverse outcomes: Divergent views and experimental findings, Leonardo Becchetti, et al.; *Environmental Research* (February 2021), Vol. 193, 110556, doi: 10.1016/j.envres.2020.110556.

Emissions Measurements and Modelling

Combustion and emissions from cerium oxide nanoparticle dosed diesel fuel in a high speed diesel research engine under low temperature combustion (LTC) conditions, Felix Leach, et al.; *Fuel* (in press), doi: 10.1016/j.fuel.2020.119636.

Real-world automotive emissions: Monitoring methodologies, and control measures, Avinash Agarwal and Nirendra Mustafi; *Renewable and Sustainable Energy Reviews* (March 2021), Vol. 137, 110624, doi: 10.1016/j.rser.2020.110624.

Emissions Control, Catalysis, Filtration

Lean-Burn Natural Gas Engines: Challenges and Concepts for an Efficient Exhaust Gas Aftertreatment System, P. Lott & O. Deutschmann; *Emiss. Control Sci. Technol.* (in press), doi: 10.1007/s40825-020-00176-w.

DeNOx removal techniques for automotive applications – A review, David Maizak, et al.; *Environmental Advances* (December 2020), Vol. 2, 100021, doi: 10.1016/j.envadv.2020.100021.

Washcoating of catalytic particulate filters studied by time-resolved X–ray tomography, Miroslav Blažek, et al. ; *Chemical Engineering Journal* (in press), doi: 10.1016/j.cej.2020.128057.

DeNOx removal techniques for automotive applications – A review, David Maizak, et al. ; *Environmental Advances* (December 2020), Vol. 2, 100021, doi: 10.1016/j.envadv.2020.100021.

Transport, Climate Change & Emissions

Economic and environmental performances of natural gas for heavy trucks: A case study on the French automotive industry supply chain, E. Ravigné, et al.; *Energy Policy* (in press), doi: 10.1016/j.enpol.2020.112019.

Expected impacts on greenhouse gas and air pollutant emissions due to a possible transition towards a hydrogen economy in German road transport, Lindsey Weger, et al.; *International Journal of Hydrogen Energy* (in press), doi: 10.1016/j.ijhydene.2020.11.014.

From traffic data to GHG emissions: a novel bottom-up methodology and its application to Valencia city, Miguel Pla, et al.; *Sustainable Cities and Society* (in press), doi: 10.1016/j.scs.2020.102643.

FORTHCOMING CONFERENCES

Sustainable Internal Combustion Engine Conference

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

Hydrogen and P2X European Conference

9-10 February 2021, Copenhagen, Denmark (postponed from November 2020)
fortesmedia.com/hydrogen-p2x-2020,4,en,2,1,4.html

11th VERT Forum

25 March 2021, Online
www.vert-certification.eu

International Transport and Air Pollution Conference

30-31 March 2021, Graz, Austria (postponed from September 2020)
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.

9th AVL Large Engines Techdays

21-22 April 2021, Graz, Austria

www.avl.com/large-engines-techdays

42nd International Vienna Motor Symposium

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

8th International MinNOx Conference

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

SAE Heavy-Duty Diesel Emissions Control Symposium

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

CITA International Conference

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