# International Regulatory Developments

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#### **EUROPE**

## **Timeline to new EU Institutional Leadership**

On 25 April 2024, the European Parliamentary Research Service (EPRS) published a timeline setting out the main steps to the EU's institutional leadership, following the upcoming June 2024 European elections.



The timeline covers the EU elections themselves, the formation of political groups and their leaderships, the election of the EU Commission and Council Presidents, College of Commissioners as well as the European Ombudsman.

The EPRS timeline document can be found at europarl.europa.eu/RegData/etudes/ATAG/2024/762293/EPRS\_ATA(20 24)762293\_EN.pdf.

### **Publication of Euro 7 Regulation**

On 8 May 2024, Regulation 2024/1257 on type-approval of motor vehicles and engines and of systems, components and separate technical units intended for such vehicles, with respect to their emissions and battery durability (Euro 7) was published in the Official Journal of the European Union.

This completes the ordinary legislative process, and at the same time specifies the actual implementation dates in the final Regulation. The date from which new types of light-duty

vehicles have to be compliant is 29 November 2026, with new heavy-duty vehicles required to comply with Euro 7 standards from 29 May 2028.

Light-duty	*-	+30 months	New Typ	All Types				
						Small volume mi ri Juy 2000	andacturers	
Heavy-duty	*-		48 months	NEW Type (20 May 202	ni <mark>Alfi</mark>	pt5 229		
						Smi (1.Ju)	ali volume manufacturi y 2011)	85
Tyres				ller	Types C1	New Types C2	New Types C3	

The development of implementing legislation continues through discussions in the AGVES (Advisory Group on Vehicle Emission Standards).

The Regulation is available to read at <u>eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AL\_202401257</u>.

#### Council Adoption of Heavy-Duty Vehicle CO<sub>2</sub> Emission Standards

On 13 May 2024, the European Council formally adopted the regulation on  $CO_2$  emission standards for heavy-duty vehicles, amending and strengthening the existing EU rules. The updated rules will further reduce  $CO_2$  emissions from road transport and will introduce new targets for 2030, 2035 and 2040.

The Council press release says that more robust standards for  $CO_2$  emissions will help increase the share of zeroemission vehicles in the heavy-duty vehicle fleet across the EU, while ensuring that innovation in and the competitiveness of the sector are preserved and enhanced.

Under the revised rules, the scope of the existing regulation will be expanded to make almost all new heavy-duty vehicles with certified  $CO_2$  emissions – including smaller trucks, urban buses, coaches and trailers – subject to emission reduction targets.

The new rules maintain the existing 2025 target currently set at a 15% emissions reduction for heavy lorries weighing over 16t. In line with the EU's climate objectives for 2030 and beyond, the regulation further establishes a 45% emissions reduction target from 2030 (increased from 30%), a 65% emissions reduction target from 2035, and a 90% target from 2040. These targets will apply to medium lorries, heavy trucks weighing over 7.5t and coaches, as well as to corresponding vocational vehicles from 2035 onwards.

The new rules introduce a 100% zero-emission target for new urban buses by 2035, with an intermediate target of 90% for this category by 2030. Inter-urban buses will be exempt from this target, as they will be regarded as coaches for the purposes of measuring emissions reduction.

The regulation will now be signed and published in the Official Journal of the EU. It will enter into force 20 days after its publication.



The effectiveness and impact of the amended regulation will be reviewed by the Commission in 2027. Among other things, the Commission will also have to evaluate the possibility of developing a common methodology for the assessment and reporting of the full lifecycle  $CO_2$  emissions of new heavy-duty vehicles.

The Council press release can be found at <u>consilium.europa.eu/en/press/press-releases/2024/05/13/heavy-duty-vehicles-council-signs-off-on-co2-emission-standards</u>.

On the same date, the European Commission published a press release containing questions and answers on the revised standards.

This covers how the new EU legislation will increase the number of zero-emission heavy-duty vehicles in Europe, the benefits for citizens and industry, the scope of the legislation, the role of renewable and low-carbon fuels, the impact on employment and the exemptions introduced under the legislation.

The Commission Q&A is available to read at ec.europa.eu/commission/presscorner/detail/en/ganda\_24\_2527.

#### **New Release of VECTO Tool**

On 8 May 2024, the new Official Release of the VECTO tool was made available.

This publication includes the contents of the Release Candidate version 4.1.0.3392-RC. Limited extra bugfixes were applied regarding the multistep tool GUI. A notable difference to 4.1.0.3392-RC is the reverting of the CIF format to one single summary section. Nevertheless, the simulation of vocational and non-vocational cycles for vehicle groups 4, 5, 9 and 10 is retained.

The new VECTO version 4.1.3.3415 can be found at code.europa.eu/vecto/vecto/-/releases/Release/v4.1.3.3415.

#### **Publication of Critical Raw Materials Act**

On 3 May 2024, Regulation (EU) 2024/1252 was published in the Official Journal of the European Union. This establishes a framework for ensuring a secure and sustainable supply of critical raw materials and amends Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020.

It is stated that the objective of the Regulation is to improve the functioning of the internal market by establishing a framework to ensure the Union's access to a secure, resilient and sustainable supply of critical raw materials, including by fostering efficiency and circularity throughout the value chain.

To achieve this general objective, the Regulation lays down measures aiming to lower the risk of supply disruptions related to critical raw materials likely to distort competition and fragment the internal market; improve the Union's ability to monitor and mitigate the supply risk related to critical raw

materials; and ensure the free movement of critical raw materials and products containing critical raw materials placed on the Union market while ensuring a high level of environmental protection and sustainability, including by improving their circularity.

The Regulation enters into force on the twentieth day following that of its publication in the Official Journal.

The full text of the Regulation is at <u>eur-lex.europa.eu/eli/reg/2024/1252/oj</u>.

On 23 May 2024, the European Commission published a press release marking the entry into force of the European Critical Raw Materials Act (CRMA), which aims at ensuring a diverse, secure, and sustainable supply of critical raw materials for the EU's industry.

It says Europe now has a regulatory framework to strengthen domestic capacities and consolidate the sustainability and circularity of critical raw material supply chains in the EU, while continuing to pursue its diversification agenda. It adds that with this Act, the EU will strengthen domestic supply and reduce reliance on single suppliers.

The Act establishes benchmarks to increase capacities for extraction, processing, and recycling of critical raw materials in the EU and guide diversification efforts. In addition, it creates a framework to select and implement Strategic Projects, which can benefit from streamlined permitting and enabling conditions for access to finance; as well as sets out national requirements to develop exploration programmes in Europe. Moreover, the Regulation will improve the circularity and the efficient use of the critical raw materials by creating value chains for recycled critical raw materials.

The Commission has opened the Call for Strategic Projects Applications. The first cut-off date for the submission of applications is 22 August.

The Commission CRMA press release is available to read at <u>ec.europa.eu/commission/presscorner/detail/en/ip\_24\_2748</u>.

### **Council Adoption of Net-Zero Industry Act**

On 27 May 2024, the European Council approved a regulation on establishing a framework of measures for strengthening Europe's net-zero technology manufacturing ecosystem, better known as the 'net-zero industry act' (NZIA).

The regulation aims to boost the industrial deployment of netzero technologies that are needed to achieve the EU's climate goals, using the strength of the single market to reinforce Europe's position as a leader in industrial green technologies.

To foster innovation, the legal act proposes to create favourable regulatory frameworks for developing, testing and validating innovative technologies, known as so-called 'regulatory sandboxes'.



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Progress towards the objectives of the net-zero industry act will be measured by two indicative benchmarks. Firstly, manufacturing capacity of net-zero technologies, such as solar photovoltaic panels, wind turbines, batteries and heat pumps, reaching 40% of the EU's deployment needs. Secondly, a specific target for an increased Union share for these technologies with a view to reaching 15 % of world production by 2040.

In addition, the NZIA sets up an annual injection capacity of at least 50 million tonnes of  $CO_2$  to be achieved by 2030 in geological storage sites located in the territory of the Union.

Following the Council's approval of the European Parliament's position, the legislative act has been adopted. It will be published in the Official Journal of the European Union and will enter into force on the day of its publication.

The Council press release is at

consilium.europa.eu/en/press/pressreleases/2024/05/27/industrialpolicy-council-gives-final-approval-to-the-nzia.

On the same day, the European Commission issued a press release welcoming the final adoption of the NZIA, saying that it will increase the competitiveness and resilience of the EU's industrial base and support quality jobs creation and a skilled workforce.

The statement goes on to say that by boosting the EU domestic production of net-zero technologies, NZIA will reduce the risk that we replace fossil fuel dependencies by technology dependencies on external actors. This will in turn help to make the EU's energy system cleaner and more secure, with affordable and home-produced clean energy sources replacing volatile fossil fuel imports.

The Commission's press release can be found at <u>ec.europa.eu/commission/presscorner/detail/en/ip\_24\_2309</u>.

# JRC Life Cycle Assessment Comparison of Hydrogen Delivery Options in Europe

On 22 May 2024, the European Commission's Joint Research Centre (JRC) published an environmental life cycle assessment (LCA) comparison of hydrogen delivery options within Europe.

JRC says the environmental impact of transporting large amounts of hydrogen over long distances has not been fully understood yet, so its work aims at advancing this field by comparing the life cycle environmental impacts of three options for delivering hydrogen from a distant location (i.e., hydrogen compression, liquefaction, and chemical bonding to other molecules) to on-site production via steam methane reforming (SMR) or electrolysis. Ammonia, liquid organic compounds, methanol, and synthetic natural gas were considered as potential hydrogen chemical carriers.

The goal of the LCA comparison is to understand whether importing hydrogen could make sense from an environmental perspective, and if so, which is the option with the lowest impact among the environmental categories considered in this study.

Contrasting results are obtained for the different environmental impact categories considered: while all the delivery options would guarantee a supply of hydrogen with a lower global warming potential than on-site production via fossil fuels, producing hydrogen locally via SMR would generate lower impacts in 12 of the 16 environmental impact categories considered, including the use of natural resources such as water, land, and minerals and metals.

When the overall environmental impact is expressed as a single score using the normalisation and weighting factors of the EF impact assessment method, all the delivery options would guarantee an environmental advantage compared to on-site fossil-based productions (without carbon capture).

JRC concludes that these results should be considered as preliminary. Much of the infrastructure for large scale hydrogen delivery does not yet exist, and therefore assumptions on technologies and emissions are subject to a high degree of uncertainty.



The report can be downloaded from publications.jrc.ec.europa.eu/repository/handle/JRC137953.

### Publication of German Amendment on Sale of Alternative Fuels

On 28 May 2024, an amendment to the 10<sup>th</sup> BImSchV (Federal Emission Control Act) was published in Germany. This permits the sale of fuels of DIN EN 15940 standard, for example fuels such as HVO100, which are obtained from biogenic residual and waste materials, as well as eFuels.

An ADAC summary of the situation can be found at <u>adac.de/verkehr/tanken-kraftstoff-antrieb/alternative-antriebe/tankstelle-alternative-kraftstoffe/#gesetzgeber-regelt</u>.



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#### **NORTH AMERICA**

# US DOE Multi-Year Plan for Hydrogen and Fuel Cell Technologies

On 6 May 2024, the US Department of Energy's (DOE's) Hydrogen and Fuel Cell Technologies Office (HFTO) today announced the publication of its Multi-Year Program Plan (MYPP), a detailed strategy and planning document that will help guide clean hydrogen innovation and research in the coming years. The MYPP sets forth HFTO's mission, goals, and strategic approach relative to broader DOE and national clean energy priorities.

The MYPP provides an assessment of the challenges that still must be overcome to realise large-scale adoption of clean hydrogen and a detailed, integrated plan for all RD&D and crosscutting activities conducted by HFTO, which includes assessments of the current state of key metrics (e.g., electrolyser capital cost), technical targets related to each of those key metrics, and detailed plans for activities to meet those targets.

The MYPP also serves as an operational guide and a valuable resource to communicate HFTO's priorities and RD&D activities to stakeholders and the public. Specific targets outlined in the MYPP include: clean hydrogen production cost of \$2 (€1.84) per kilogram by 2026 and \$1 (€0.92) per kilogram by 2031; electrolyser system cost of \$250 (€230) per kilowatt (low-temperature electrolysers) and \$500 (€460) per kilowatt (high-temperature electrolysers) by 2026; dispensed hydrogen cost for heavy-duty vehicles of \$7 (€6.44) per kilogram by 2028; fuel cell system cost for heavy-duty transportation of \$80 (€73.59) per kilowatt by 2030.

The DOE press release is at <u>content.govdelivery.com/accounts/USEERE/bulletins/39a6cb8</u>.

#### US Senate Reauthorisation of Diesel Emissions Reduction Act

On 9 May 2024, the US Senate reauthorised the Diesel Emissions Reduction Act (DERA) through fiscal year 2029 at its current authorisation of \$100 ( $\in$ 92) million annually.

DERA first became law through the Energy Policy Act of 2005. The Environmental Protection Agency administers the programme, which distributes federal grants and rebates to help finance the voluntary replacement or installation of retrofits on existing heavy-duty diesel vehicles and engines. By replacing or upgrading older diesel engines with newer American-made technology, the DERA programme reduces diesel emissions, which protects public health and supports domestic manufacturing jobs.

Since its enactment, DERA has enjoyed overwhelming bipartisan support. Congress has reauthorised the programme twice, through the Diesel Emissions Reduction Act of 2010 and the Consolidated Appropriations Act of 2021.

Full details are available at epw.senate.gov/public/index.cfm/2024/5/senate-passage-of-bill-to-reauthorize-the-diesel-emissions-reduction-act.

## ASIA-PACIFIC

### **Australian Vehicle Efficiency Standards**

On 16 May 2024, the Australian Parliament passed the bill for New Vehicle Efficiency Standard (NVES), which sets the firstever  $CO_2$  emission standards for Australia's light-duty vehicles. The standards set annual g $CO_2$ /km emission targets from 2025 to 2029 for passenger cars, SUVs, utes (utility vehicles), and vans. The standards follow Australia's first National Electric Vehicle Strategy, which emphasised the adoption of  $CO_2$  standards as a key strategy to promote electric vehicle uptake.

Headli	ne limit				
Item	Column 1	Column 2	Column 3		
	Year	Type 1 vehicles	Type 2 vehicles		
1	2025	141	210		
2	2026	117	180		
3	2027	92	150		
4	2028	68	122		
5	2029	58	110		
	Note:	Headline limits for years in the introc consistently with the NEDC (New Eu procedure.	ductory period were determined aropean Driving Cycle) test		

The standard is expected to drive down average  $CO_2$  emissions from passenger cars (including most SUVs) by about 17% per year and from light-commercial vehicles (including utes, vans, and some heavy SUVs) by about 12% per year from 2024 to 2029. Overall, it is expected to lead to a cumulative emissions reduction of 20 million tons through to 2030 and 321 million tons to 2050.

#### Details of the NVES are at

parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;page=0;query= Billd%3Ar7182%20Recstruct%3Abillhome.

An ICCT commentary on the NVES can be found at <u>theicct.org/pr-australia-finalizes-first-ever-co2-emissions-</u><u>standards-for-light-vehicles</u>.

#### GENERAL

### **TNO Analysis of Green NCAP Testing**

On 4 April 2024, TNO published an analysis of the emission performance of vehicles tested within the Green NCAP programme.

In 2022 an initial investigation was performed on data made available as part of the Horizon 2020 'Green Vehicle Index' (GVI) project which highlighted the emission performance of Euro 6d and Euro 6d-Temp vehicles. This analysis is continued with additional data from the Green NCAP consortium. On behalf of the Dutch Ministry of Infrastructure and Water Management, TNO has summarised the highlights of the emission performance of the vehicles tested



within Green NCAP and compared this to the GVI dataset. In this report, 101 vehicles were analysed, including a range of Euro 6d-Temp and Euro 6d diesel, petrol, plug-in petrol, petrol hybrid, CNG and BEV vehicles.

TNO says the data collected for Green NCAP has a number of interesting outcomes. One part of the outcomes is related to the emission performance of modern vehicles. In general, the emission performance of these vehicles is very good, a major improvement over the previous generations Euro 6 vehicles. This is the result of the introduction of Real Driving Emissions (RDE) legislation, which successfully reduced a large part of the gap between type-approval emissions and emissions during real-world driving. Nevertheless, there are still circumstances where elevated pollutant emissions occur. For example, during a cold engine start, high driving dynamics, prolonged idling and DPF regenerations. The Green NCAP programme provides insights in the emission levels for a number of these circumstances. Moreover, in the measurement programme non-regulated emissions such as NH<sub>3</sub> and N<sub>2</sub>O are also considered. These insights can, for example, serve as input for determining emission factors for air quality models. Emission factors are distinct for categories with distinct emission performance, technology, or vehicle type or usage.

The report concludes that high trip-averaged emissions for regulated pollutants are primarily observed during the high speed (BAB) and cold (-7°C) ambient temperature laboratory tests, and heavy on-road tests, while cold starts are now considered best represented by a point source. According to the analysis, PN emissions vary significantly depending on engines and how they're used, several of the tested vehicles likely have an insufficiently large catalyst, and non-regulated pollutants N<sub>2</sub>O and NH<sub>3</sub> deserve continued monitoring. Finally, the report concludes that energy consumption of BEVs, caused by propulsion or auxiliaries, can be substantial.

The report can be downloaded from government.nl/documents/reports/2024/04/04/analysis-of-emission-performance-of-vehicles-tested-within-green-ncap.

## ICCT Policy Update on CO<sub>2</sub> Standards for Heavy-Duty Vehicles in EU

On 13 May 2024, the International Council on Clean Transportation (ICCT) published a policy update on the revised  $CO_2$  standards for heavy-duty vehicles (HDVs) in the European Union. ICCT describes the legislation as one of the most ambitious greenhouse gas standards for the heavy-duty vehicle sector.

The document covers key elements of the HDV  $CO_2$  standards, exemptions, targets, compliance, the credit and debt system, vehicle trading and zero-emission vehicles.



It also looks at the review process.

2024	2025		2026	2027
•	• •	•		•
Adoption of revised CO <sub>2</sub> standards estimated date)	Report of assessing the role of vehicles running exclusively on CO, neutral fuels (estimated date)	Report on how to incentivize biofuels and e-fuels		Report on Repo options and revisi impacts of the targets for stand large fleet operators

The policy update is available to read in full at theicct.org/wp-content/uploads/2024/05/ID-130-%E2%80%93-EU-CO2 policy update final.pdf.

#### **RESEARCH SUMMARY**

#### **Effects of Emissions and Pollution**

Relationship of long-term exposure to air pollutant mixture with metabolic-associated fatty liver disease and subtypes: A retrospective cohort study of the employed population of Southwest China, Chuanteng Feng, et al.; *Environment International* (June 2024), Vol. 188, 108734, doi: 10.1016/j.envint.2024.108734.

Exploring the Relationship between Climate Change, Air Pollutants and Human Health: Impacts, Adaptation, and Mitigation Strategies, Gibson Ofremu, et al.; *Green Energy and Resources* (in press), <u>doi:</u> 10.1016/j.gerr.2024.100074.

The joint effect of long-term exposure to multiple air pollutants on nonaccidental and cause-specific mortality: A longitudinal cohort study, Xianglin Wei, et al.; *Journal of Hazardous Materials* (July 2024), Vol. 472, 134507, <u>doi: 10.1016/j.jhazmat.2024.134507</u>.

Air quality and public health effects of dairy digesters in California, Jia Jiang, et al.; *Atmospheric Environment* (August 2024), Vol. 331, 120588, doi: 10.1016/j.atmosenv.2024.120588.



Combining analytical techniques to assess the translocation of diesel particles across an alveolar tissue barrier in vitro, Gowsinth Gunasingam, et al.; *Particle and Fibre Toxicology* (2024), Vol. 21, Article number: 26, doi: 10.1186/s12989-024-00585-7.

#### Air Quality, Sources and Exposure

Conceptualization of a digital product passport to enable circular and sustainable automotive value chains – the combustion engine use case, Antonia Pohlmann, et al.; *Procedia CIRP* (2024), Vol. 122, pp. 169-174, doi: 10.1016/j.procir.2024.01.025.

Long-term variation in exposure to NO<sub>2</sub> concentrations in the city of Naples, Italy: Results of a citizen science project, Elena Chianese and Angelo Riccio; *Science of The Total Environment* (June 2024), Vol. 931, 172799, doi: 10.1016/j.scitotenv.2024.172799.

Low emission zone and mobility behavior: Ex-ante evaluation of vehicle pollutant emissions, Riccardo Ceccato, et al.; *Transportation Research Part A: Policy and Practice* (July 2024), Vol. 185, 104101, doi: 10.1016/j.tra.2024.104101.

Low emission zones and traffic congestion: Evidence from Madrid Central, Filippo Tassinari, et al.; *Transportation Research Part A: Policy and Practice* (July 2024), Vol. 185, 104099, <u>doi:</u> 10.1016/j.tra.2024.104099.

#### **Emissions Measurements and Modelling**

Real-world black carbon emissions of gasoline vehicles at urban intersections, Xin Wang, et al.; *Urban Climate* (May 2024), Vol. 55, 101968, <u>doi: 10.1016/j.uclim.2024.101968</u>.

Exhaust and evaporative volatile organic compounds emissions from vehicles fueled with ethanol-blended-gasoline, Ruikang Li, et al.; *Environmental Pollution* (in press), <u>doi: 10.1016/j.envpol.2024.124163</u>.

### FORTHCOMING CONFERENCES

27<sup>th</sup> ETH Nanoparticles Conference 10-14 June 2024, Zürich, Switzerland npc24.scg.ch/?idU=4

Fuel Science: From Production to Propulsion 11-13 June 2024, Aachen, Germany tme.rwth-aachen.de/cms/TME/Der-Lehrstuhl/Aktuelle-Veranstaltungen/~pmdn/12-FSC-Konferenz-2024/?lidx=1

European Sustainable Energy Week 11-13 June 2024, Brussels, Belgium (and online) interactive.eusew.eu

24<sup>th</sup> International Congress Dritev 12-13 June 2024, Baden-Baden, Germany www.dritev.com

Cambridge Particle Meeting 17 June 2024, Cambridge, UK cambridgeparticlemeeting.org

SIA Powertrain International Conference 19-20 June 2024, Lille, France event.fourwaves.com/79651605-96c9-454f-9129-fe5986450f40/pages Emission characteristic, spatial distribution, and health risk of polycyclic aromatic compounds (PAHs, NPAHs, and OPAHs) from light-duty gasoline and diesel vehicles based on on-road measurements, Jiaqi Fu, et al.; *Science of The Total Environment* (in press), <u>doi:</u> 10.1016/j.scitotenv.2024.173390.

Real-world greenhouse gas emission characteristics from in-use lightduty diesel trucks in China, Dong Li, et al.; *Science of The Total Environment* (in press), <u>doi: 10.1016/j.scitotenv.2024.173400</u>.

## **Emissions Control, Catalysis, Filtration**

A Strategic NH<sub>3</sub>-Dosing Approach for the Minimization of N<sub>2</sub>O Production During NH<sub>3</sub>-SCR Reactions over Cu-SSZ-13 Catalysts, N.D. Nasello, et al.; *Emiss. Control Sci. Technol.* (2024), <u>doi: 10.1007/s40825-024-00242-</u><u>7</u>.

An Adaptive Estimation Approach for Integrating Real-World Operation Dynamics in Engine-Out NOx Emission Modeling of a Wheel Loader, Beichuan Hong and Wilco Burghout; *Emiss. Control Sci. Technol.* (2024), doi: 10.1007/s40825-024-00241-8.

Comparative catalytic performance of PGM-nanoparticle-doped alumina Xerogels and aerogels for potential application in automotive pollution mitigation, Bradford Bruno, et al.; *Journal of Non-Crystalline Solids* (July 2024), Vol. 636, 122994, <u>doi: 10.1016/j.jnoncrysol.2024.122994</u>.

#### **Transport, Climate Change and Emissions**

Flexible Charging to Energy Saving—Strategies Assessment with Big Data Analysis for PHEVs Private Cars, Natascia Andrenacci, et al.; *World Electr. Veh. J.* (2024), Vol. 15(5), 197, <u>doi: 10.3390/wevj15050197</u>.



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CLEPA Materials Regulations and Sustainability Event 27-28 June 2024, Frankfurt, Germany <u>clepa.eu/events/clepa-materials-regulations-and-sustainability-event-2024</u>

Stuttgart International Symposium on Automotive and Engine Technology 2-3 July 2024, Stuttgart, Germany <u>fkfs-veranstaltungen.de/index.php?id=100</u>

New Materials for future Mobility (NeMMo) 3-4 July 2024, Nantes, France sia.fr/evenements/?year=2024

International Congress on Catalysis 14-19 July 2024, Lyon, France https://www.icc-lyon2024.fr

Future of Emission Control 21-23 July 2024, Karlsruhe, Germany trackact.kit.edu/FuturEmission.php

Thermo- and Fluid Dynamics Processes for Clean Propulsion Powerplants 10-13 September 2024, Valencia, Spain <u>cmt.upv.es/#/thiesel2024</u>

Rostock Large Engine Symposium 12-13 September 2024 rgmt.de

Emissions Analytics Non-Road Powertrains and Fuels 18-19 September 2024, Munich, Germany <u>conferences.emissionsanalytics.com/nonroad-eu</u> *Deadline for abstracts 5 April 2024* 

SAE Conference on Sustainable Mobility 18-20 September 2024, Catania, Italy universitacusano.com/csm2024

Aachen Colloquium Sustainable Mobility 7-9 October 2024, Aachen, Germany aachener-kolloquium.de/en

POLIS Conference 2024 27-28 November 2024, Karlsruhe, Germany polisnetwork.eu/2024-annual-polis-conference

Heavy-Duty Sustainable Transport Symposium 7-8 May 2025, Gothenburg, Sweden sae.org/attend/heavy-duty-sustainable-transport-symposium