

5-Min Monthly Read May 2025

www.mobilitynotes.com



California Waivers Overturned

Fate of ACC II, ACT, and Omnibus Low NOx regulations uncertain



In a move with significant ramifications for California's authority to set its own tighter standards for vehicular emissions, the US Senate voted to overturn Clean Air Act preemption waivers granted to California for Advanced Clean Cars II, Advanced Clean Trucks, and the Omnibus Low NOx regulation. The Congressional Review Act (CRA) provision was used to challenge the waivers, and the interpretation of the waivers as "rules" subject to CRA was a point of contention.

This revocation of waivers results in great regulatory uncertainty for California and the 17 states that had adopted its light-duty standards, and effectively eliminates the ZEV sales mandates culminating in 100% ZEV share by 2035. The heavy-duty standards aimed to increase the sale of zero-emitting trucks (ACT) and required certification to a low NOx tailpipe standard, both of which are also effectively revoked.

California's Governor and Attorney General have called the use of CRA unlawful, and a legal challenge by the state and environmental groups is expected. Governors of 11 states, including California, have launched an "Affordable Clean Cars Coalition" to sustain the transition to electric cars through various collaborative measures aimed at reducing vehicle costs and improve charging infrastructure.

Get a Premium Membership to unlock all downloads, conference summaries, and more.



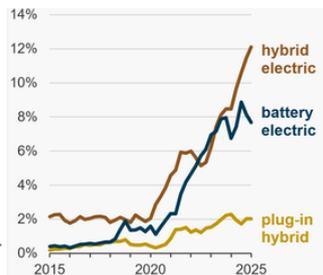
Premium Membership

Get detailed information, premium newsletter, conference summaries, webinars and more. Starting at \$300 per year.

Subscribe Now

NHTSA moving towards revised LD CAFE standards

The National Highway Traffic Safety Administration (NHTSA) has submitted the interpretive rule “Resetting the Corporate Average Fuel Economy Program (CAFE),” to the Office of Information and Regulatory Affairs for review, aimed at reversing the interpretation of CAFE standards.



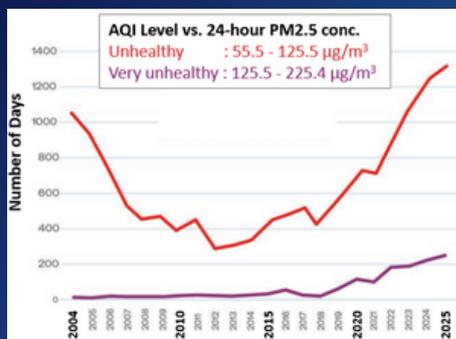
Recall that the proposed CAFE standards for MY 2026+ will require a 2% improvement in fuel economy each year and is expected to drive the increased sales of hybrids and electric vehicles. The story today is summarized by this plot published by the Energy Information Administration (EIA). In the first quarter of this year, about 22% of light-duty vehicles sold were electrified. Hybrids, in particular, are seeing a strong growth from ~ 2% share in 2020 to 12% today.

UK to allow hybrid sales post 2030

Following stakeholder consultations, the UK Department for Transportation has revised and published its position on ZEV mandates. The new mandates will require all cars to require some level of electrification (hybrids, PHEVs, BEVs) post-2030, with a non-ZEV fleet-wide CO2 improvement of 10% required vs. 2021.



Following stakeholder consultations, the UK Department for Transportation has revised and published its position on ZEV mandates. The new mandates will require all cars to require some level of electrification (hybrids, PHEVs, BEVs) post-2030, with a non-ZEV fleet-wide CO2 improvement of 10% required vs. 2021. Vans can be sold in any variant, including pure ICE, in 2030 – 35. Post-2035, all new cars and vans must be zero-emitting.



American air quality is getting worse ...

The American Lung Association has published its annual “State of the Air” report.

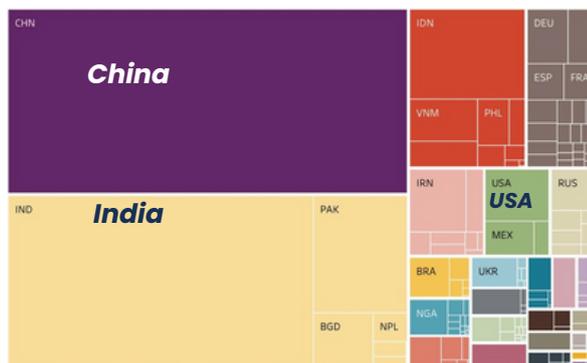
It warns that air quality is worsening in the US, with 46% of Americans or 156.1 million people living in places with unhealthy air quality, an increase of 25 million people since the 2024 report. Severe fine particulate pollution is putting the health of 56.3 million people across 140 counties in 25 states at risk.

New study estimates global health benefits of reduced vehicle pollution through 2040

A new study authored by the ICCT and co-authors has modeled estimates that road transport emissions will increase premature deaths globally from 193,000 in 2023 to 277,800 in 2040, primarily due to higher PM2.5 and O3. As is always the case, the burden is higher for poorer populations, older adults and young children.

If Euro 6/VI/7 level standards are implemented in most regions, a cumulative 1.9 million premature deaths could be avoided.

PM2.5- and O3-attributable premature deaths. Total 1.9M.



Volvo launches new electric truck: 600 km range, 40-min charging to 80%

Volvo has revealed details of its long-haul Volvo FH Aero Electric truck, which will be available in the second quarter of 2026.

The truck boasts 600 km range, Megawatt Charging System capability with charging time of 40 mins for 20% to 80% charge on the 780 kWh battery pack, a new e-axle driveline technology, and payload capacity “close” to that of a conventional diesel.



Time to add filters ... to battery gigafactories ?!

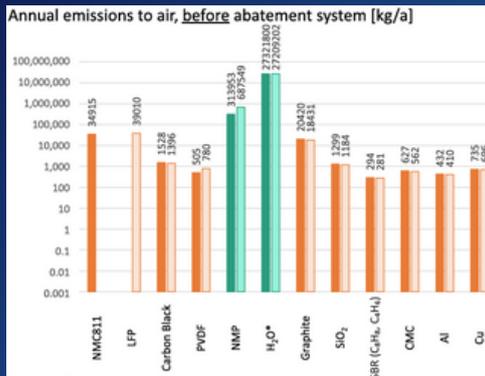


Figure is truncated to fit this page - see publication for full list

Researchers from the Fraunhofer Research Institution have published an analysis of the environmental impact of a battery gigafactory. The study concludes that:

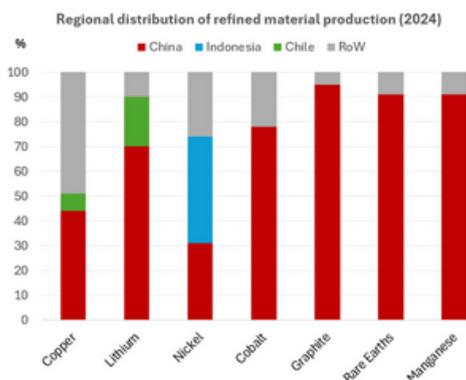
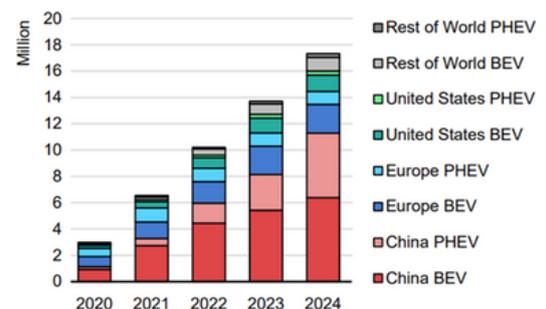
A gigafactory with 32 GWh annual capacity can emit up to 80 tons of dusts, 850 tons of gases and 2,700 tons of sludges via water. This adds up to ~ 2.7% of precious raw materials being lost as emissions.

Some of these emissions - such as Nickel dust - are carcinogenic and especially harmful to health and are currently poorly regulated. There are technologies which can abate these emissions.

Global EV and Critical Minerals Outlook 2025

The International Energy Agency (IEA) has published its annual summaries for the Global EV Outlook and the Global Critical Minerals. Some takeaways:

- Share of EV sales in China exceeded 50%. Of this, 60% were battery electric, 30% were plug-in hybrids, and 10% were range extended EVs.
- In contrast, share of EVs reduced in major markets of Europe such as Germany and France, and the growth in the US was modest at 10% (vs. 40% a year earlier).
- In 2025, EV sales are expected to exceed 20 million globally, or 25% of total car sales. Of these, >14 million (70%) are expected to be sold in China.
- In 2025, EV sales are expected to exceed 20 million globally, or 25% of total car sales. Of these, >14 million (70%) are expected to be sold in China.



- Average BEV car prices fell by 3 - 10% depending on region and vehicle type.
- Electric medium and heavy-duty truck sales grew by ~ 80% in 2024 to exceed 90,000 units globally. Again, China takes the lead, with > 80% of all electric trucks sold there.
- Production of refined critical minerals for the energy transition continue to be dominated by a handful of countries and the situation is not expected to change soon.
- The supply of copper and lithium is still expected to fall short of demand by 2035.

THANK YOU TO OUR SPONSORS

CLICK ON LOGOS TO VISIT WEBSITES AND FIND MORE

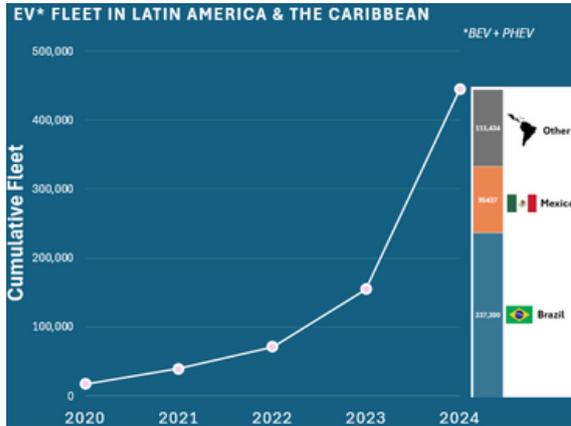


This newsletter reaches thousands of professionals across the world.
If you would like to highlight your organization and technology -

 **GET IN TOUCH**

Electrification growing in Latin America

**Guest Contribution from Raimundo Nóbrega*

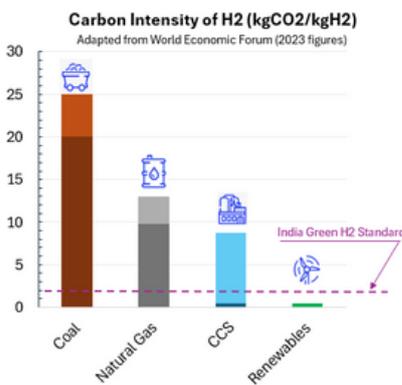


A new report highlights the growth of electric vehicles in Latin America. More EVs were sold in 2024 than in the previous four years combined.

Brazil takes the major share, with over 50% of EVs registered there, and also the highest number of charging stations. So we focus on that country here: In Q1 2025, sales of BEVs slipped 7% compared to the previous year while PHEV sales increased 128% (more than doubled). Same trend holds in Mexico.

- BYD is gaining a strong position in Brazil, with local production of its Dolphin Mini slated to start in June 2025.
- Brazil is already suing BYD for poor labor conditions, highlighting the diligence that must go into setting new manufacturing facilities (anywhere in the world).

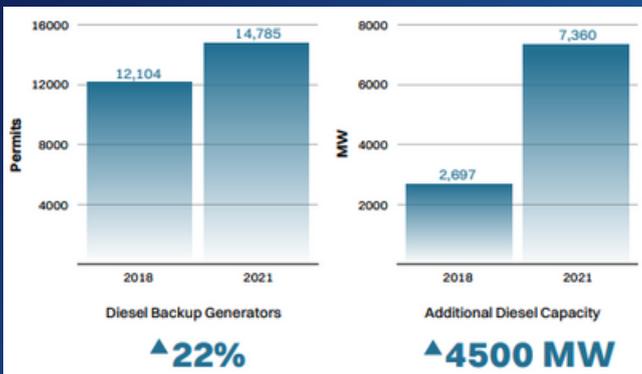
India launches a Green H2 Certification Scheme



India's Ministry of New and Renewable Energy (MNRE) has launched a Green Hydrogen Certification Scheme of India (GHCI). Producers can buy certificates from an accredited third-party body which will check and attests that the H₂ meets India's green H₂ standard, defined (back in 2023) as hydrogen produced via water electrolysis or biomass gasification— excluding carbon capture— if lifecycle emissions remain < 2 kg-CO₂/kg-H₂, averaged over 12 months. Various sectors which use H₂, such as steel, cement and refineries can use this scheme to earn tradable carbon credits.

The figure puts the definition here in context with typical carbon intensities of H₂ production routes.

Emissions from backup diesel generators - a growing concern



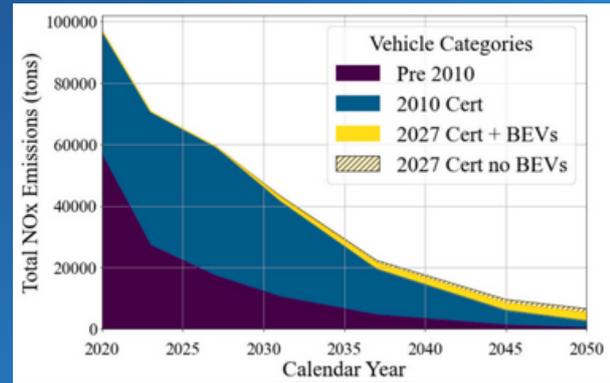
Increase in genset capacity at South Coast Air Quality Management District (SCAQMD) from 2018 - 2021

A new report shows that emissions from diesel generators could be undermining the progress made at tailpipes and grids. California has permitted ~ 15,000 MW of diesel backup generation across the state. Extreme weather and natural calamities are stressing the grid, increasing the need for diesel genset-based generation. Long-term energy storage is a solution, but DOE estimates that the U.S will require up to 460,000 MW of storage capacity by 2050, with a price tag of \$300 billion.

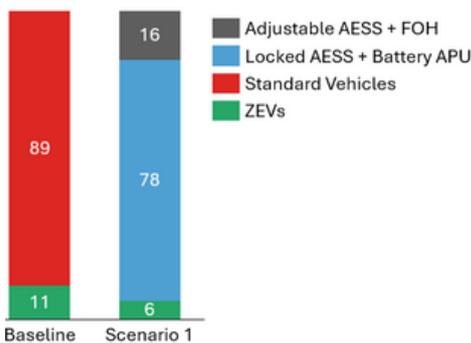
In-use NOx emissions of heavy-duty trucks

Researchers at the University of California's Center for Environmental Research and Technology (CE-CERT) have published in-use NOx emissions from 63 heavy-duty vehicles.

Emissions were measured using portable emissions measurement system (PEMS). Results analyzed using the latest EPA 2-bin methodology show that MY 2020 and newer diesel & natural gas vehicles can already meet the upcoming EPA 2027 standards (even though they are not certified to those standards).



Emissions inventory modeling was done using California's EMFAC tool. The fleet turnover to model year 2027+ trucks with the latest technologies is expected to significantly reduce NOx emissions despite an increase in truck sales in the coming decades. Further, these ultra low-NOx trucks deliver most of the NOx reductions - the increasing sales of battery electric trucks are expected to reduce NOx further by only 2%.



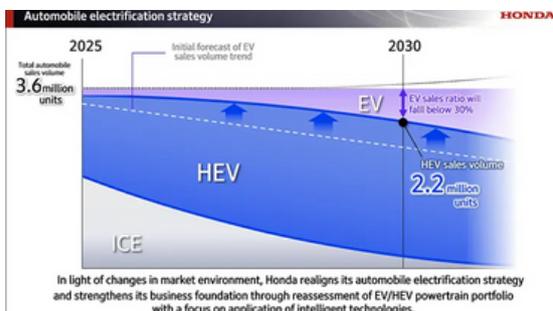
Cummins white paper on idle reduction technologies

Cummins has published a white paper, which encourages the adoption of idle reduction technologies as low-cost pathways for meaningful fuel efficiency gains - especially to address the scenario of low electrification in the heavy-duty sector.

These technologies - neutral idle, automatic engine shutdown, and stop-start - are estimated to deliver ~ 5 - 17% reduction in GHG emissions depending on vehicle class and application.

Analysis done for a model fleet of 100 sleeper cab trucks shows that these reductions alone are sufficient to offset a reduced ZEV share by 5 percentage points (while easing requirements on charging infrastructure and ZE truck costs).

Honda course-corrects its electrification strategy, emphasizing hybrids



In a business briefing, Honda has announced that it will no longer meet its 2030 goal of 30% EV sales, and will instead increase its hybrid offerings and sales. This follows the recent market pullback on EV sales.

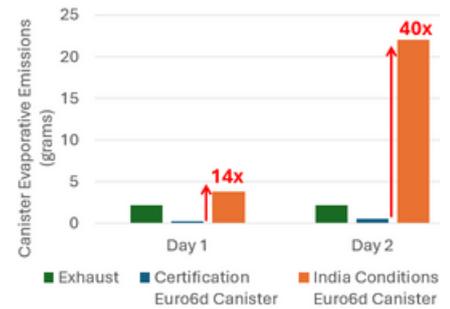
By 2030, Honda expects to sell 2.2 million hybrids. The next-gen hybrids, mostly model year 2027 and beyond, will also be equipped with the next gen ADAS capabilities, currently limited to high-end EVs.

Through weight reduction and application of newly developed electric all wheel drive, the hybrids are further expected to deliver 10% improved fuel economy. Further, driven by reduced battery (and other) costs, hybrid systems are expected to cost less than half compared to those installed in MY 2018 vehicles.

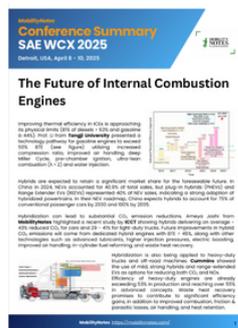
Webinar: Evaporative emissions in the Indian context

India is expected to propose the next emission standards (BS VII) for light- and heavy-duty vehicles in the coming months. One important aspect is evaporative hydrocarbon emissions, which are especially high compared to near-zero emitting tailpipes. A webinar organized by ETAuto and ECMA provided details on the latest technologies available to address evaporative emissions during parking, driving and refueling.

As shown here, evaporative emissions – which contain carcinogenic compounds – can be 40 times higher than tailpipe for a car parked for two days. This calls for India to adapt the test conditions to local temperatures, since emissions can be particularly high on hot days. A recording of the webinar is expected to be posted online soon.



SAE WCX 2025



Download SAE WCX Summary

Click [here](#) for a summary of select panels at the recent SAE WCX 2025 conference held in Detroit.

UPCOMING EVENTS

2025 Annual Merit Review (AMR), June 2-5, Arlington, Virginia
<https://www.energy.gov/eere/vehicles/vehicle-technologies-annual-merit-review>

The 29th North American Meeting of the North American Catalysis Society (NAM29), June 8 – 13, Atlanta, GA
<https://www.aiche.org/conferences/north-american-catalysis-society-meeting/2025>

KSAE/SAE 2025 Powertrain, Energy & Lubricants Conference & Exhibition, June 22 – 25, Busan, S. Korea
<https://www.pel2024.org/>

Stuttgart International Symposium on Automotive and Engine Technology, July 2 – 3, Stuttgart, Germany
<https://www.fkfs-veranstaltungen.de/en/events/stuttgart-symposium>