

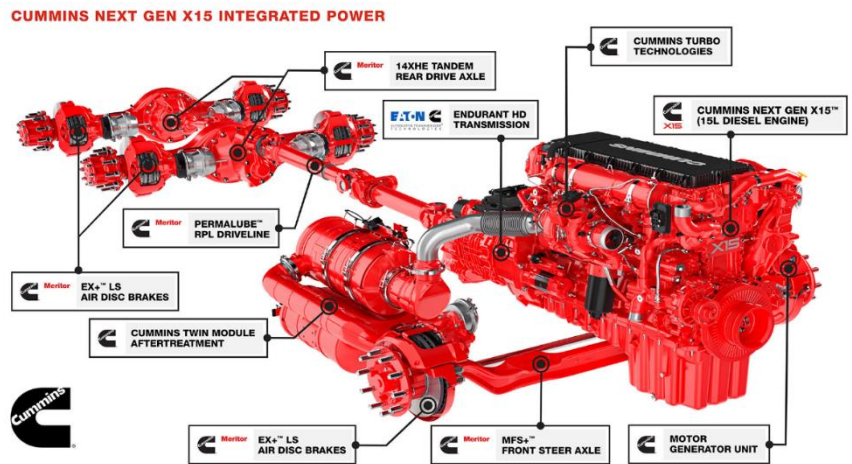
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Market Update

Cummins announces latest X15 capable of meeting MY2027 EPA regulations

Cummins has [announced](#) the next generation X15 diesel engine, as part of its HELM™ 15L fuel agnostic platform, offering up to 605 hp and meeting the MY 2027 EPA/CARB Low NOx regulations.

- The engine uses a 48V system coupled with an after-treatment heater to address the cold start & low load NOx emissions.
- The fuel efficient “EX rating” includes use of predictive gear shifting, on-ramp boost and hill roll out (see [video](#) that explains hill roll out)
- Compatible with up to 20% biodiesel and 100% renewable diesel blends.



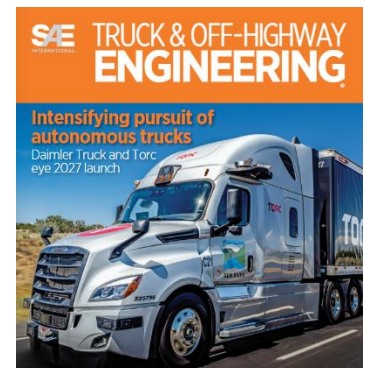
Autonomous on-highway trucking for MY 2027

While fully autonomous driving seems to be always 10 years away in the passenger car space – and companies like Apple throwing in the towel – there is more progress happening in the trucking sector, according to articles in the [SAE Truck and Off-Highway Engineering](#), February.

- Continental has announced that Level 4 autonomous “Aurora Driver” system will be ready for deployment on Aurora freight trucks by MY2027.
- Daimler Truck and its subsidiary Torc Robotics, aim to bring Level 4 autonomous trucks to the U.S. market, also by 2027. An autonomous Freightliner Cascadia has been tested on the road from Phoenix, Arizona to Oklahoma City, Oklahoma.
- Scania also [announced](#) the launch of an Autonomous Commercial Pilot Program in collaboration with US-based technology provider Plus. The program is expected to integrate its Level 4, fully autonomous SuperDrive™ technology stack into Scania and TRATON Group vehicles.

Autonomous driving technology will include long-range lidar sensors, automated drive control units, telematics, and the integration of artificial intelligence in understanding the environment and decision making.

The reason why autonomous trucking might succeed (in contrast to cars) is ultimately tied to the value proposition – it helps the trucking industry improve productivity and overcome the shortage of drivers. The pragmatic solution will likely be a combination of hub-to-hub autonomous driving on highway and last-mile delivery using humans at the wheel. There will likely be plenty of regulatory and technological hurdles to solve



before a Class 8 line haul is seen charging down the highway without a driver at the steering wheel, but the industry is gearing up.

Apple cancels plans to build an electric car

Apple has canceled a decade-long project – internally called Project Titan – for building an autonomous and electric car. [Bloomberg](#) reported that the decision can be linked to a combination of factors: immaturity of self-driving technology, a cooling-down of the EV market in recent months, and a lack of expected profit margins with the downward pressure on EV prices.

Rivian cancels \$5B plant in Georgia, shifts plan to make affordable vehicles in 2026



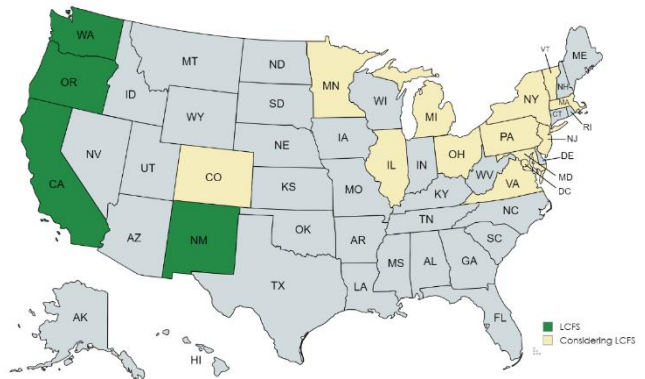
While Apple has reportedly lost over a billion dollars in the canceled project (see above), Rivian is preventing having to spend \$5B – it canceled plans for a previously announced new plant in Georgia and is now planning to manufacture more affordable SUVs in the existing plants. The smaller R2 SUV is slated to be delivered in 2026 and be priced at \$45,000. Also announced was a cross-over, the R3, to be priced even lower than the R2.

Regulations / Reports

The U.S. EPA is expected to announce the final light-duty multipollutant rule in the coming week.

New Mexico adopts the Clean Fuels Standard

Following California, Oregon, and Washington, [New Mexico](#) became the fourth state to enact a Clean Transportation Fuels Standard. The new standard will require fuel producers and importers to reduce the lifecycle carbon intensity of transportation fuels used in the state by 20% by 2030 and 30% by 2040. The standard can be met through efficiency improvements for existing fuel production, blending of low carbon fuels or purchasing credits from low carbon fuel providers, including EV charging providers. Several other states are currently considering a clean transportation fuels standard as shown in the map. Thanks to [Rich Kassel](#) (AJW) for his input on this topic.

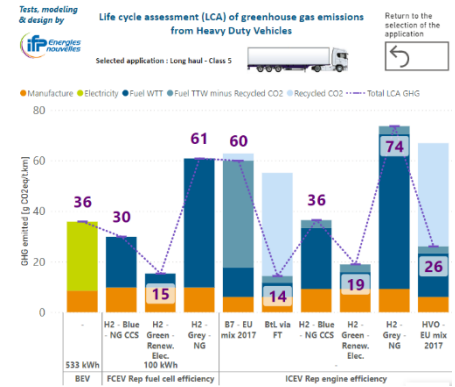


SEC Final Rule on Enhancement and Standardization of Climate-Related Disclosures

The Securities and Exchange Commission has adopted a final [rule](#) which requires registrants to disclose climate-related information in registration statements and annual reports. The disclosed information includes material climate-related risks material to the business, activities being taken to mitigate such risks, disclosure of Scope 1 and/or Scope 2 greenhouse gas emissions and effects of severe weather events on business financials. The final rule does not require disclosure of scope 3 emissions (indirect emissions from the supply chain). The rule is phased in over fiscal years beginning 2025 through 2027.

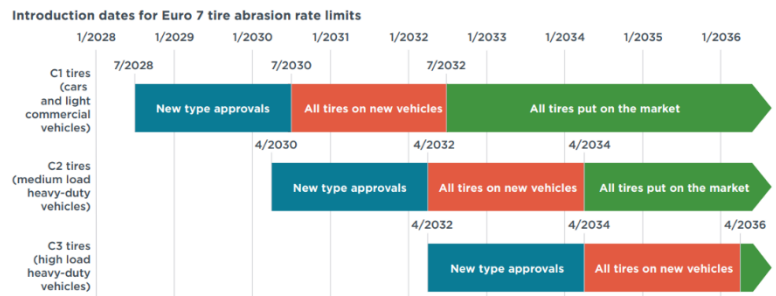
Concawe lifecycle CO₂ calculator

Concawe has released a [tool](#) for calculating the lifecycle greenhouse gas emissions for heavy-duty vehicles under real-world operating conditions. The user can select a variety of vehicle applications (long haul, city bus, refuse truck, etc.) and compare the emissions for various powertrains such as conventional internal combustion engines powered by diesel, renewable fuels, hydrogen, and battery electric and fuel cell vehicles. The tool allows the use of various shades of hydrogen (green, blue, gray) and also allows the specification of other inputs such as carbon intensity of the electricity, number of battery replacements over life, etc.



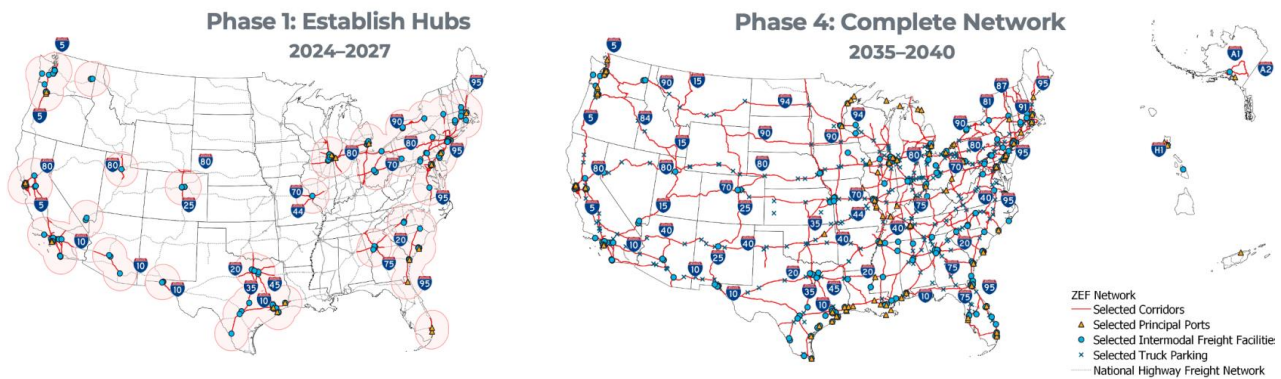
ICCT report on Euro 7 published

While we have [published](#) a summary of Euro 7 in the past, here is a recent report from the ICCT which covers the regulation with the high quality that is expected of their reports. It discusses timing, emission limits, durability, and especially interesting is the coverage of non-tailpipe emissions that are being regulated post 2030.



Biden Administration releases Zero Emission Freight Infrastructure Strategy

The Biden Administration and the Joint Office of Energy and Transportation have [released](#) a strategy document for zero emission infrastructure development, in order to achieve the targeted 30% zero tailpipe MHDV sales by 2030 and 100% by 2040. The strategy lays out hubs and corridors that are most suitable for infrastructure development based on multiple criteria and evolving from 2024 to 2040 in various stages. It is expected to be used for planning purposes and prioritizing funding of future projects in this space.



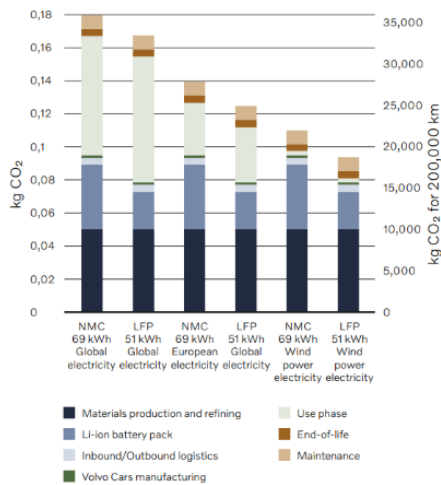
Renewable Fuels & Electrification

Mack announces propane-powered charging system for EVs

One of the barriers for electric vehicle adoption in the medium-heavy duty space is the lack of charging infrastructure. And it's a circular problem, where infrastructure is not being built given the lack of demand. To overcome this



issue, Mack Trucks (part of Volvo) has [announced](#) a mobile charging unit, essentially a generator powered by renewable propane coupled with a 120kW charger, integrated into the body of a Mack® MD Electric truck.



Volvo Lifecycle Analysis of EX30

Volvo has published an analysis of the lifecycle GHG emissions for its battery electric EX30 vehicle, which is powered by either an NMC 69 kWh or an LFP 51 kWh battery.

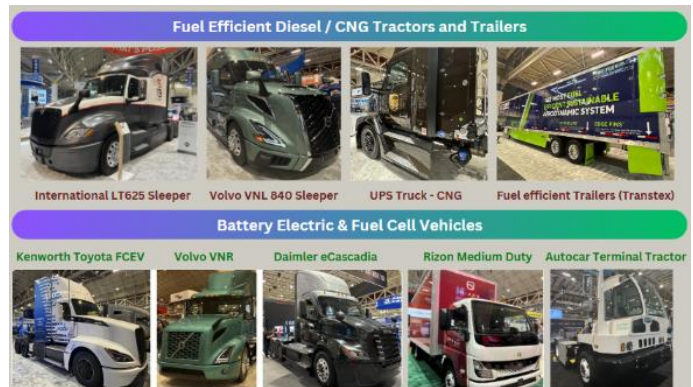
The report provides a detailed breakdown of the emissions from various components and use stages. One of the key takeaways, not surprising, is that the GHG emissions depend heavily on the carbon intensity of the electricity and that moving from an average intensity at the global level to a completely renewable source like wind, the CO₂ emissions drop by ~ 40%. The LFP battery has a slightly lower footprint, but then it was also a smaller capacity.

This is a good assessment of the actual GHG emissions, showing that ZEVs

are not zero emitting even if powered by a renewable grid, that there is room for significant improvement and ultimately highlighting the use of a good lifecycle assessment.

Conferences

The TMC Annual Conference was held in New Orleans. This is one of the larger exhibitions for heavy-duty transportation, including everything from small components to full-size trucks and trailers and innovative fleet management solutions. Click [here](#) for a visual summary of some of the technologies displayed. Also included was a panel where participants from DOE SuperTruck 2 presented their achievements. [Get in touch](#) if you need a summary.



Here are some upcoming conferences to consider attending –

SAE WCX World Congress, April 16 – 18, 2024, Detroit

[WCX 2024 - April 16-18, 2024 - Detroit \(sae.org\)](https://www.sae.org/conferences/wcx-2024/)

The International Vienna Motor Symposium, April 24 – 26, 2024, Vienna

[International Vienna Motor Symposium \(wiener-motorensymposium.at\)](https://www.wiener-motorensymposium.at/)

Emissions Analytics Off-Highway Powertrain and Fuels USA 2024, May 8-9, Irvine, California

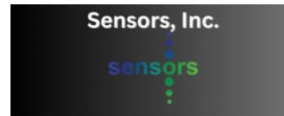
<https://conferences.emissionsanalytics.com/offhighway-us/index.html>

Advanced Clean Transportation Expo, May 20 – 23, 2024, Las Vegas

[Advanced Clean Transportation \(ACT\) Expo | May 20-23, 2024 \(actexpo.com\)](https://www.actexpo.com/)



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