



A view of the Cummins exhibit at the North American Commercial Vehicle Show in Atlanta.

ATLANTA — Cummins Inc., underscoring its belief in the power of choice, announced its latest advances in fuel efficiency for its heavy-duty diesel engines and showcased hydrogen fuel cell technology in its own Class 8 demonstration model.

The company made its announcements Oct. 29 at the North American Commercial Vehicle Show.

Cummins believes diesel engines will remain the central powertrain for many markets over the decades ahead.

“We have scale. We make 1.4 million on-highway engines a year [globally], and that is double anyone else,” Brett Merritt, vice president of on-highway engine business, told Transport Topics.

“[With on-highway engines], we would be the second or third market share in China. We make more diesel [engines] in China for China than we do in the U.S. for the U.S. We do have natural gas in China, and there is definitely electric business with their bus. And it looks like there will be some fuel cell applications for China.”

Cummins has a 60% share of the heavy-duty segment in India with 6.7 liter and 5.9 liter engines, he said. “So that’s just a different scale. But we are giving those offerings, and we think we can grow in each of those areas.”

In North America, its X15 engine series for 2020 includes the new X15 Efficiency model. Base engine hardware improvements and advancements in air handling deliver up to a 3.5% better fuel economy when compared with the 2017 model, according to the Columbus, Ind.-based company.

The 2020 X15 Efficiency also includes new EX ratings, which deliver expanded powertrain capabilities that can deliver up to an additional 1.5% of fuel efficiency. New capabilities include predictive gear shifting, predictive braking, dynamic power and industry-exclusive on-ramp boost that allows added acceleration.

Cummins is conducting research on advanced diesel technologies to further enhance turbocharger efficiencies and reduce emissions across the engine system. The concept is to package new air handling and aftertreatment architectures closer together, which allows the turbocharger to work as efficiently as possible while still enabling effective thermal management. The system is being designed to help customers address future challenges with emissions of greenhouse gas carbon dioxide and smog-forming nitrogen oxides.

The company also plans to enhance its connected vehicle application with prognostics to help detect and diagnose issues early and pair that with pre-emptive parts procurement to streamline service experiences. The company also is planning to use over-the-air programming to support fuel efficiency, driver behavior and road speed governance.

At the same time, Cummins is no stranger to fuel cells; it began working on developing its capabilities more than 20 years ago.

At the show, it displayed a Class 8, 6 × 4 day cab with fuel cell and battery electric power — suitable for regional haul, urban delivery operations, port drayage and terminal container handling. Cummins intentionally designed and integrated the truck without collaboration from its truck maker partners including the PEM [proton exchange membrane] fuel cell, system controller, powertrain controls, wire harnesses and junction boxes, among other features.

At the initial NACV in 2017, Cummins showcased its AEOS model, a battery-electric Class 7 it had designed and integrated. The company has introduced complete electrified powertrain solutions in six markets across seven applications, including medium-duty trucks.

The demonstration hydrogen truck has a range of 150 to 250 miles between filling up. However, that could be extended with additional hydrogen tanks.

In related news, the company announced in September that it acquired fuel cell and hydrogen production technologies provider Hydrogenics Corp.

In addition, Cummins recently announced an investment in Loop Energy, which provides electric-range extenders for fuel cells, and signed a memo of understanding with Hyundai Motor Co. to collaborate on hydrogen fuel cell technology across commercial markets in North America.

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