



Advanced Clean Transportation (ACT) Expo Shows The Future of Electric, Fuel Cell And Hybrid Transport

By Lynn Walford - September 5, 2021



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The Advanced Clean Transportation (ACT) Expo in Long Beach, California, brought together major players in trucking and transport decarbonisation. From large heavy-duty Class 8 tractor-trailer trucks down to the three-wheeled mini cargo carriers, the event showcased the latest battery-electric, fuel cell and clean technologies.

Fuel Cells Coming to Trucks Soon

Long Beach is home to the Port of Los Angeles, where ten Toyota fuel-cell-powered Kenworth trucks are deployed. The technology tested at the port will be available to truckmakers soon. A few days before the expo, Toyota announced that it would be offering its fuel cell technology to trucking manufacturers.

Toyota fuel-cell tech will be available in 2023. It includes dual fuel cell modules, battery, electric motors, transmission and hydrogen storage that delivers over 300 miles of range at a full-load weight of 80,000 lbs.

“We have proven the technology. We feel fuel cell technology is ready for volume production,” says Chris Rovik, Executive Program Manager, Toyota Motor North America, “It’s exciting to see the critical mass of fuel cell technology.”



Golden Opportunities for Cleaning Up Trucking

The state of California continually supports efforts for zero-emissions vehicles. At the Expo, The South Coast Air Quality Management District, California Air Resources Board and California Energy Commission, partnering with NFI Industries and Schneider, announced that they will fund 100 battery-electric trucks in California. It is named the Joint Electric Truck Scaling Initiative, or JETSI.

The project will connect the port of Los Angeles to inland distribution centres using Daimler Trucks and Volvo Trucks and also fund infrastructure charging. The project is expected to replace more than 690,000 gallons of diesel annually.

These kinds of programs have been proven to be successful such as the early funding of TransPower.

Investment in TransPower by the California Energy Commission, U.S. The Department of Energy, South Coast Air Quality Management District, as well as the Ports of Los Angeles and Long Beach, early on, are now helping to bring electric powertrains to the industry. Escondido-based TransPower debuted a Class 8 truck driving a ground-breaking distance of 88 miles back in 2014.

TransPower, which started developing electric drive systems in 2010, was purchased by Meritor in 2020. TransPower technology is now part of Meritor Blue Horizon products.

“It is a good match with Meritor and TransPower. Together we are able to build a really advanced vehicle,” says Frank Falcone, Vice President of Powertrain Technologies at TransPower USA, “Both of our skill sets are symbiotic. We refined our existing skills– ending up with a vehicle that is more efficient and with better performance and powertrain. Our hardware is fuel agnostic. It doesn’t mind where the electricity comes from, it will work with battery-electric, fuel cell and other technologies.”

Meritor recently invested in SEA Electric and its electrification platforms.

“There is a tremendous interest in our all-electric SEA-Drive Power System technology, as well as our applications, including the Class 6 Step Van platform,” says Tony Fairweather, president and founder, SEA Electric.



Many Sizes of Clean Vehicles

The ACT Expo exhibit floor was filled with all shapes and sizes of clean transport vehicles.

Toyota-owned Hino showed its first Class 8 Hino XL8 prototype powered by a hydrogen fuel cell electric drivetrain under floral water coloured display.

Bollinger Motors displayed electric-chassis electric truck platforms powered by solid rear axle E-Drives for Classes 3, 4 and 5 of trucks for OEMs and providers.

CityFreighter showed a 'beta version' of its modular CF1 fully electric box van with expected production in 2022. Navistar announced new fully-electric battery International eMV Series trucks in different sizes with AC and DC charging.

A popular sight in the Ideanomics booth was the Solectrac, e70N (Narrow) electric tractor.



Orange And Green

Oshkosh showed off its hybrid rescue vehicles. “We are excited to share the advancements we are making in electrification,” says an Oshkosh representative. “Especially for industries that have never experienced them before with the Striker Volterra performance Aircraft Rescue and Fire Fighting hybrid electric vehicle (HEV).”

Cargo trucks, such as the Orange EV yard trucks for freight and cargo yards, were shown to be not only efficient but cost-saving.

“We have proven that subsidies are not needed for Orange EV yard trucks to be cost-effective,” says Wayne Mathisen, CEO of Orange EV.

The company was formed in 2012 with the vision of being a leader in the industry. Since 2015, Orange EV terminal trucks have been deployed in nineteen states, Canada and the Caribbean in all kinds of climates.

Orange EV electric truck lifetime savings can be as much as \$500,000, over an expected life of 10 years of operation. In fact, Orange EV trucks have driven over three million miles. The company plans to introduce a port truck that can handle heavier hauling and higher speeds needed for ports, adds Mathisen.

GreenPower Motor Company Inc. debuted the BEAST (Battery Electric Automotive School Transportation) all-electric, zero-emissions school bus.

Karma Automotive showcased ‘Powered by Karma’. It offers commercial powertrain electrification systems modular systems. The platform can be used for Class 3-6 vehicles in various configurations for busses, RVs, step vans, box trucks and shuttle buses. Karma was offering rides in a shuttle bus and had a Class-5 truck on display.

“Powered by Karma is our initiative to take our experience and technology as an automotive electric OEM to branch into other spaces,” says Evan Bontrager, Business Development, Karma Automotive.

He says that the response at ACT Expo was very favourable. He reminds potential customers, "We can build vehicles at our headquarters in Irvine and the 500,000-square foot Moreno Valley facility."

Many attendees enjoyed riding in or driving the various vehicles, from full-size buses down to solo spins in the ElectraMeccanica SOLO three-wheeler. ElectraMeccanica announced the SOLO Cargo EV at the event.



New Charging Leads The Charge

Clean trucks need to be powered and many new technologies to help provide the power and hydrogen were displayed.

A solution for charging that needs no permits is BEAM's EV ARC solar-powered EV charging system. The solar power is stored in a battery. The entire units can be rolled out in a few minutes and cover one parking space. The units are self-contained and do not require permits, grid connections or other costs. Plus, EV ARC power continues to work even when the grid fails and have an optional power outlet for emergencies.

EV ARCs are very popular in New York because it is easy to deploy, says, Sandra Peterson VP of Sales and Marketing at BEAM. She beamed, "With BEAM's EV ARC you can charge and run by the power of the sun."

To support heavy-duty trucks, Electrify America and NFI Industries announced plans to complete 34 ultra-fast DC chargers by December 2023.

"As the largest public ultra-fast DC charging network in the U.S., Electrify America is laser-focused on delivering a fast, reliable EV charging experience that will instil confidence in the future of mobility among consumers and businesses alike," said Rachel Moses, Director of Commercial Services, Business Development & Green Cities at Electrify America.



FreeWire Technologies Offers Charging Services And Upgrades.

“Integrating energy services into our ultrafast EV Boost Charger system offers many advantages. It eliminates demand charges and reduces energy costs through peak-shaving and load-shifting capabilities,” says FreeWire Technologies Founder and CEO, Arcady Sosinov.

He says EV Boost Charger is a forward-thinking, low-risk investment and integration solution to modernizing the electric grid. It brings new energy storage solutions to EV charging and a significantly faster time to deployment with minimal power input requirements.

Charger company Heliox launched a new super-fast 180kW Flex Charge system. It is designed for high-powered depots and overnight charging for single or multiple vehicles, including buses and trucks. High Powered e-Buses can run up to 112 miles in urban environments with one hour of charge.

“One of the biggest challenges to EV adoption for fleet owners are the upfront infrastructure costs. Our new 180kW charger is modular. It makes it easy for fleet owners to take on new charging capacity as their fleet grows,” says David Aspinwall, President, North America, Heliox.

Heliox Flex Charge chargers will be charging vehicles in Los Angeles, Knoxville, the Netherlands, Belgium and Germany.

New advances in hydrogen production and storage are coming from GenH2. Hydrogen can be stored in liquid form and be made without CO2 emissions.

GenH2 showed its technology for on-site carbon-free hydrogen, production, and storage of liquid hydrogen and dispensing stations. The GenH2 system makes pure hydrogen on-site with zero CO2 emissions. GenH2 produces hydrogen through electrolysis or hydrolysis.

To demonstrate how liquid hydrogen can be stored more efficiently than gaseous hydrogen, GenH2 Liquid showed its hydrogen tank.

“Liquid hydrogen is the future of clean energy,” says Greg Gosnell, President of GenH2.

“The level of technology advancement at ACT has increased dramatically in the two years since the last show. It is awesome to see how fast investment in electrification technology is accelerating.”

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NEXT STORY

Producing Renewable Diesel From Waste – NESTE's Head of OEM Partnership Mats Hultman @ SHIFTx

By Staff Writer - September 3, 2021



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Finland's NESTE is the world's largest producer of renewable diesel and sustainable aviation fuel refined from waste and residue. Its goal is to help its customers reduce greenhouse gas emissions by at least 20 million tons annually by 2030.

Auto Futures has been talking to Mats Hultman, Head of OEM Partnership at NESTE.

Hultman was one of the key speakers at SHIFTx in Berlin.