

## Happy Earth Day!

Earth Day and Carrier Transicold have something of a historical connection. Both were founded in the same year: 1970.

Each year on April 22, Earth Day is recognized as a day to appreciate nature and promote environmental causes. Originally a North American event, Earth Day is celebrated in more than 190 countries every year according to the [Earth Day Network](#), which coordinates activities worldwide.

The year of the original Earth Day rallies, 1970, Carrier also acquired the Transicold Co., forming Carrier Transicold and ushering in a new era of global leadership in sustainable refrigerated transport. Environmental stewardship is a core value of Carrier and part of the corporation's [legacy and culture](#), and it shows in the products offered for refrigerated transport.

Over the years, Carrier Transicold has made progressively more efficient and cleaner refrigeration units for trucks, trailers, intermodal, rail and marine shipping applications. The U.S. EPA and California's Air Resources Board (CARB) have helped to set the global pace for diesel engine emissions reduction. And Carrier has always met the challenge with units that exceed the performance requirements of CARB as well as EPA's graduated Tiers. In 2013, Carrier's next-generation units (discussed in our main feature) will once again raise the bar of sustainable performance over the road.

So, this Sunday, however you observe Earth Day, consider the many strides made in refrigerated transport over the past 42 years.

Dealer Locator

## Next-Generation Trailer Refrigeration Units: Ultra-Efficient, Tier 4 Compliant



"Ultra-efficient" is the watchword for Carrier Transicold's next generation trailer refrigeration technology, designed to help the North American refrigerated transport industry improve both sustainability and performance.

The ultra-efficient technology, just introduced at the 2012 Mid-America Trucking Show (MATS), is designed to consume 5 to 20 percent less fuel, operate quieter and deliver improved cooling performance, all while running cleaner than any prior Carrier Transicold trailer unit.

The next-generation technology also provides solutions for refrigerated transporters facing upcoming changes to the U.S. Environmental Protection Agency emissions standards in 2013, as well as California Air Resources Board (CARB) emissions requirements.

[Learn more about the next-generation trailer technology.](#)

## The True Power of Blue Makes a Splash at 2012 Mid-America Trucking Show



Nearly 81,000 trucking industry professionals from 77 countries attended MATS. The energy level was high at Carrier Transicold's booth with many excited to see the latest technology on display.

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## Next-Generation Trailer Refrigeration Units: Ultra-Efficient, Tier 4 Compliant

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At the MATS event in Louisville, Ky., David Kiefer, director of marketing and product management, Carrier Transcold, presented the next-generation technology to a gathering of trucking industry journalists.

"A major milestone in our continuous product development, this next-generation trailer technology boosts performance and efficiency and intelligently coordinates refrigeration with a smarter engine," said Kiefer. "The efficiency gains allow us to significantly reduce engine power, enabling better fuel economy."

### Improvements on All Fronts

"Like all of our product developments from the last several years, our next-generation technology falls under the EcoDriven<sup>SM</sup> umbrella of forward-thinking solutions that improve our customers' businesses in new and sustainable ways," Kiefer said. "This time around, the focus of our development is efficiency beyond anything we've ever achieved."

Carrier Transcold's next-generation technology reduces engine power by 18 to 20 percent and enables 5 to 20 percent lower fuel consumption, compared to previous models over a full range of operating conditions. It will be applied to both of Carrier Transcold's trailer refrigeration platforms, the Vector<sup>TM</sup> hybrid diesel-electric and the X2<sup>TM</sup> series of belt-driven units.

Additional design changes and important operator benefits will be unique to the platforms. For example, compressor and generator design modifications to improve efficiency, performance and reliability are also expected to reduce the weight of Vector hybrid units by more than 8 percent. X2 series units will require 24 percent less refrigerant, reducing another potential source of greenhouse gases.



Carrier Transcold's David Kiefer addresses industry journalists at the 2012 Mid-America Trucking Show



"Reducing emissions was one of the main goals in our development process," said Kiefer. "We challenged ourselves to evaluate our systems holistically, while considering our customers long-term needs beyond immediate compliance requirements. The result is a fusion of new innovations with proven technologies from our successful platforms."

A common element of the technology is a 2.2-liter diesel engine that is based on Carrier Transcold's established engine line and is made smarter with the addition of sensors and an electronic control module. Common to both platforms will be implementation of the APX control system with new power-management algorithms and intelligent refrigeration system control; improvements to the condenser, heat exchanger and fan designs for greater

efficiency and sound reduction; and a new custom-designed Engine Emissions System (EES) for unprecedented emissions reduction.

"This technology enhances Carrier Transcold's existing innovative and reliable designs in a way that achieves both greater efficiency and higher performance," Kiefer said.

### Benefits Beyond the Fuel Gauge

Beyond fuel savings, other benefits of this next-generation technology include:

- Improved cooling capacity for most applications, resulting in up to 20 percent faster pulldown;
- Reliable unit operation in even in hotter ambient conditions;
- Up to a 20 percent reduction in greenhouse gas emissions, commensurate with the reduced fuel consumption;
- Improvements in durability and longevity due to more lightly loaded components running at lower speeds.

This technology also responds to new, more stringent EPA tests that, starting in 2013, will require emissions performance over an even broader range of operating parameters than in the past. The EES is designed to reduce particulate emissions beyond what is required for EPA Tier 4 compliance as well as CARB's applicable ultra-low diesel emission requirement.

Units featuring the next-generation technology will be available in limited quantities by the end of the year and fully available in 2013. For more information about Carrier Transcold trailer refrigeration units, turn to the experts within the Carrier Transcold dealer network or visit [www.trucktrailer.carrier.com](http://www.trucktrailer.carrier.com).