

### More Truck Stops Add Electrification

Earlier this summer, Shorepower Technologies announced the completion of the Shorepower Truck Electrification Project (STEP), a Department of Energy-funded program that provides electric plug-in receptacles allowing cab cooling without engine idling for rigs parked at truck stops.



A total of 50 locations were completed through the STEP program and the initiative continues, with a total of 62 sites in 30 states completed.

Nearly half the locations - 29 as of August - also have 480-volt receptacles designed specifically for hybrid refrigeration systems, such as Carrier Transicold Vector™ units.

Truck stop electrification lets truckers run air conditioning and other hotel loads for their truck cabs while parked. The 480-volt connections allow Vector units to run in electric standby mode. Drivers pay hourly rates for electricity provided via the power pedestals, helping them save fuel for the highway while also reducing emissions and noise.

For information about electrified truck stop locations or to take advantage of Shorepower Technologies' current try-it-free offer for new users, visit [shorepowerconnect.com](http://shorepowerconnect.com). Use promo code SPTNEW1.

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Dealer Locator

### Vector™ 8500 Sheds Pounds, Beefs Up Performance

While we didn't actually send our trailer refrigeration units to boot camp for conditioning, that's the idea behind the new Carrier Transicold Vector™ 8500 unit.

"You could say that it's a leaner and meaner Vector," said David Kiefer, director of Marketing and Product Management for Carrier Transicold.

"The new ultra high efficiency single-temperature unit weighs 10 percent less, uses 20 percent less power, consumes significantly less fuel and yet has greater cooling capacity," Kiefer said.

EcoFORWARD™ technologies boost performance while providing compliance with 2013 Tier 4 emissions requirements from the U.S. Environmental Protection Agency. The innovative technologies include some muscular new components, as well as some intelligent new controls.

[Learn more about the Vector 8500 unit.](#)



### Fleet Runs Smarter with IntelliSet™ Capability



A major refrigerated hauler's fleet runs smarter when it uses Carrier Transicold's IntelliSet™ control feature. Part of Carrier's suite of Reefer Apps™, the IntelliSet capability preprograms a wide range of refrigeration parameters for commodities into simple settings that drivers can easily select. It can also be used to fine-tune cooling and fuel economy for specific commodities. Thanks to IntelliSet, the fleet derives an annual seven-figure cost savings through improved fuel efficiency. [Learn more about this and other Carrier Transicold customer case studies.](#)

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EcoFORWARD™ technologies boost performance while providing compliance with 2013 Tier 4 emissions requirements from the U.S. Environmental Protection Agency. The innovative technologies include a new type of compressor, a smarter diesel engine and a new high-performance electric generator.

In place of the semi-hermetic reciprocating compressor used in prior models, the Vector 8500 features the first fully hermetic electric scroll compressor used in a North American trailer refrigeration unit. Proven efficient and reliable in Carrier Transicold marine container refrigeration systems, the compressor has 70 percent fewer moving parts and is 200 pounds lighter than a traditional reciprocating compressor.

"The weight savings is significant *especially*, compared to competitive units designed for 2013 EPA Tier 4 compliance," Kiefer said. "Keep in mind that Vector units are equipped with shorepower capability. A competitive unit with the add-on electric standby parts installed weighs up to 15 percent more than a Vector unit. And non-standby competitive units are still 3 percent heavier than the new Vector unit."

The new Vector 8500 features both brains and brawn.

*(continued . . .)*



**Fit for action:** The lean new Vector 8500 single-temperature unit offers greater performance using less energy and resources.



**Solid core:** New scroll compressor (left), 2.2-liter engine and generator are core system components.

“The expression ‘work smarter not harder,’ applies to our systems with ecoFORWARD™ technologies,” said Kiefer. “Innovative improvements in efficiency allow individual components, such as the engine, to use less energy while producing greater results – all in a system configuration familiar to owners of prior Vector equipment.”

While Carrier Transicold’s legacy Vector units are highly efficient, the new ultra-efficient Vector 8500 achieves 5 to 30 percent more BTUs of cooling per gallon of fuel at AHRI rating conditions. Compared to the prior unit, it provides up to 4 percent more cooling capacity – 60,000 BTU at 35 F, and 24,000 BTU at -20 F. No competitive unit designed for 2013 Tier 4 compliance delivers greater capacities.

## By the Numbers . . .

*These are some of the ways ecoFORWARD technologies improve the Vector 8500 compared to models it succeeds:\**

- **210 pounds lighter** (a 10% weight savings!)
- **Up to 4% greater cooling capacity**
- **5-30% more BTUs of cooling per gallon of fuel**
- **Up to 26% less fuel consumption** over a full range of operating conditions
- **Up to 14% reduced engine runtime, resulting in improvements in longevity** as a result of more lightly loaded components
- **Uses 20% less engine power** over a range of operating conditions

\* Dependent on a range of operational settings, environmental conditions and model type.

In automatic start/stop mode, the greater capacity and higher efficiency help the Vector 8500 achieve setpoint faster, enabling the engine to shut off sooner, ultimately reducing engine run hours – up to 14 percent – and subsequent runtime-based maintenance expense.

The Vector platform’s signature E-Drive™ all-electric refrigeration technology means refrigeration and heating operations are 100 percent electric, powered over the road by an on-board high-performance generator driven by the unit’s diesel engine. “Vector systems provide dual benefits of reduced maintenance requirements and higher system reliability because they are less complex than conventional mechanical systems or competitive partially electric systems,” Kiefer said.

With shorepower capability built in, haulers can tap into electric power supplies to run the system when parked, providing quiet, emissions-free refrigeration performance that can reduce operating costs by up to 70 percent compared to diesel operations, while conserving fuel for the highway.

A core component of Carrier’s exclusive ecoFORWARD™ technologies is a 2.2 liter engine that has been made smarter through the use of sensors and an electronic control module that communicates with Carrier’s APX™ control system to optimize performance. The sophisticated, yet easy to use APX control system is standard with Carrier’s 2013 models.

The Vector 8500 unit’s engine is certified for “evergreen” compliance with the 2013 EPA Tier 4 standard for engines less than 25 horsepower. For fleets operating in California beyond seven years, the platform’s standard electric standby capability provides an in-use compliance option for the California Air

Resource Board (CARB). Carrier Transicold is also developing an optional Engine Emissions System (EES) that further reduces engine emissions and provides a future CARB in-use compliance Verified Diesel Emissions Control (VDEC) strategy.

For more information about the Vector 8500 single-temperature trailer unit from Carrier Transicold, turn to the experts within the Carrier Transicold dealer network or visit [www.carrier.com/ecoforward](http://www.carrier.com/ecoforward).