

CASE STUDY

Reducing Idling in Refrigerated Trailers



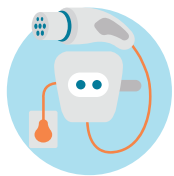
Refrigerated trailers deliver food to grocery stores, restaurants and more, keeping our food fresh and safe. But to keep their cargo cool, these trailer refrigeration units often spend hours idling every day—emitting greenhouse gases, harming air quality and making a lot of noise.

Nationwide, idling wastes more than 1 billion gallons of fuel every year. To reduce these harmful emissions, Forth partnered with CleanFuture and TREC at Portland State University to help refrigerated fleets upgrade to a cleaner, quieter and less expensive energy source than diesel.



ALTERNATIVES TO IDLING

Thanks to advances in technology, refrigerated trucks and trailers no longer have to keep their engines on to keep their refrigerators running. Instead, electrified parking spaces and plug-in electric refrigeration units can provide the power they need for electric standby refrigeration.



Plug it in: Electric-powered transport refrigeration units (called eTRUs) and electric plugs at distribution centers and other idling hotspots allow trucks to turn off diesel engines.



Quiet time: Unlike rumbling diesel engines, electric refrigeration is whisper quiet, reducing noise pollution at the distribution centers and in the neighborhood.



Emit no more: Electric standby refrigeration means no local emissions while cooling on grid electricity. And since most electricity in the Pacific Northwest comes from renewable sources, it's a win-win for the environment.



Save money: The cost of electricity is lower and more stable than diesel, quickly offsetting the investment in new equipment. Converted trucks and trailers also require less maintenance and have a higher resale value.

HOW IT WORKED

The project ran in Oregon from 2015 to 2017, providing free technical assistance and guidance to 19 refrigerated fleet operators, many with multiple distribution centers or manufacturing locations in the West. Together we:



Assesed how much fuel each fleet was using—and wasting—using monitoring equipment installed on trucks.



Identified opportunities and recommended strategies to reduce fuel usage and waste, improve fleet operations, extend the life of the trucks and reduce costs.



Organized workshops and advised fleet managers on the impact of idling and the benefits of upgrading their fleets.



Supported fleet managers in installing new electric systems, including recommending grant funding and tax incentives for financing.

RESULTS

As of July 2017, four of the 19 participants had already upgraded to electric transport refrigeration systems with electrified parking spaces, and several others are planning to make the switch in the next three years. After learning about the advantages of electrifying transport refrigeration, all but one company showed at least some interest in upgrading.

The study also revealed that fleet managers tend to underestimate how much time refrigeration units on trailers and trucks spent idling and overestimate the costs of the improvements. Typically, switching to electric refrigeration reduces operating costs by 40 to 70 percent.



Savings over the course of the project totaled \$2.3 million

WHAT'S NEXT?

We're actively working to encourage businesses and cities to invest in idle reduction technologies for cleaner air, less noise and lower costs.

States can incentivize these technologies using Volkswagen Environmental Mitigation funds, or other funding designed to reduce diesel emissions. Electric utilities can also encourage and incentivize fleets to plug in. This project was supported by a grant from the EPA's Region 10 Pollution Prevention Program, and work of TREC at Portland State University and CleanFuture.

Supported By:

