

Straight Answers on Advanced Technologies

What is Truck Idling?

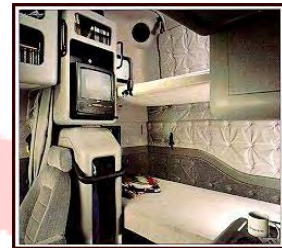
According to Department of Transportation regulations, long-haul truck drivers must rest for at least 10 hours for every 14 hours of driving. To rest, they typically park in a truck stop or rest area, leave the engine running, and climb back into their sleeping area to rest for several hours. They idle their engines mostly for heating or air conditioning, and also to operate on-board electrical appliances, such as televisions, refrigerators, or laptops. Another reason for idling is to ensure the engine block, fuel and oil remain warm in cold weather. Studies have shown that a typical long-haul tractor-trailer idles approximately 1,830 hours per year – across the industry, this practice consumes roughly 838 million gallons of diesel fuel annually. It also contributes to air pollution and noise. Many states and municipalities have enacted laws to reduce idling, but the fact remains that truckers need to stay comfortable in the cab if they are to get a decent night's sleep.



What are Idle Reduction Technologies?



Idle reduction technologies seek to reduce the idling time for long-haul trucks, reducing diesel consumption and emissions. There is a range of technologies that seek to reduce idling, both through on-board systems contained in the truck and off-board systems that provide electricity and other services to the truck cab. Onboard devices include automatic engine shut down systems that cycle the main engine to maintain a desired cabin temperature. Direct fired heaters (another onboard option) produce heat from combustion of a small amount of diesel fuel in an auxiliary burner. Auxiliary power units (APU's)/generator sets (a third onboard option) are small diesel engines installed on a truck to



supply air conditioning, heat, and electrical power. Offboard options such as truck stop electrification provide electrical power to a truck for powering accessories such as refrigerators and microwaves: if the truck is equipped with electrical heating and air conditioning systems, these can be powered as well. Systems are also in place at some truck stops that provide heating/air conditioning, electrical power, cable TV, and internet through a window-mounted unit.

What Vehicles Can Use Idle Reduction Technologies?

Idle reduction technologies are intended for use in long-haul tractor trailers to provide cab comfort during extended rest periods. These technologies are readily available for purchase, and may offer a good return on investment based on the economic and idle reduction requirements of the drivers and their companies. Some heavy truck manufacturers (such as International, PACCAR, and Volvo) are offering idle reduction technologies or technology prep kits as factory options on their trucks. Additional technologies are offered as aftermarket retrofits for existing trucks. As noted above, there are also systems available that do not require any onboard truck equipment.



Why Should We Use Them?

Implementing idle reduction technologies on long-haul tractor-trailers can have several positive impacts.

- **Emission reduction** – Nationwide, truck idling emits 11 million tons of carbon dioxide, 180,000 tons of nitrogen oxide and 5,000 tons of particulate matter annually.
- **Fleet fuel savings** – idle reduction technology can shift energy consumption during rest periods from diesel to electricity, potentially saving the trucker money.
- **Health benefits** – reduction in emissions reduce personal health risks.
- **Truck design and weight savings** – Dependent on idle reduction technology.

Idle reduction technologies are beneficial financially and their initial costs can be recuperated by fleets in fuel savings in as little as 2 years. The government has deemed idle reduction technologies essential enough to assist in financing.

Where Can I Get It in Maryland?

Truck idle reduction technology can be purchased around the country. The purchase location of trucking idling technology is dependent upon the technology which is to be applied. The Environmental Protection Agency has a comprehensive list of truck idling reduction technology manufacturers on their website, <http://www.epa.gov/smartway/idlingtechnologies.htm>. Some of these manufacturers have sales offices in the state of Maryland; check the websites for more information. Idle reduction technologies can be found at the following websites.

<http://www.cummins.com/na/pages/en/products/powergeneration/index.cfm>
www.tempastart.com
www.autothermusa.com
www.nitesystem.com/
www.saferco.com/
www.acclimatecontrol.com
www.espar.com/
www.webasto.us/oem/en/oem_trucks.html
www.thermoking.com

www.auxgenerators.com/
www.auxiliarypowerdynamics.com/
www.trucktrailer.carrier.com
www.doubleeagleind.com/gen-pac.htm
www.axpl000.com/overview.htm
www.scsfrigette.com/html/products/
www.kool-gen.com
www.ponypack.com/products.htm
www.rigmasterpower.com/

What is the State Doing for Idle Reduction Technologies?

The state of Maryland is part of the Mid-Atlantic Diesel Collaborative, a program under the Environmental Protection Agency that seeks to reduce emissions in the Mid-Atlantic region. Monies are given out to support research and financing for retrofits. Maryland is also involved in the Clean Cities Campaign. This campaign encourages the use of idle reduction technologies by way of education, keeping the consumers informed on available technologies and benefits.

What is the Federal Government Doing for Idle Reduction Technologies?



The Federal Government is actively supporting Idle Reduction technologies. The Environmental Protection Agency's Smartway Transport Partnership provides financial support for diesel retrofits and idling reduction technology research. Last year \$5 million was awarded in grants for research in the area of truck idling. The Smartway Partnership also provides a technology package savings calculator to show the individual buyer

what they stand to save financially with installing idle reduction technologies. The Department of Energy has funded research in idle reduction technologies and the Department of Transportation supplies monies through the Congestions Mitigation and Air Quality (CMAQ) improvement plan which finances idle reduction projects across the country.



Where Can I Find More?

For more general information on idle reduction technologies, you can visit the manufacturer websites mentioned above.

For more information on the Maryland Clean Cities Program and how you can help:

<http://www.energy.state.md.us/programs/transportation/cleancities/index.html>

