7 Technologies That Can Slash Idling

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We've been known to get more than a little irked when we notice people idling their vehicles unnecessarily, like at drive-thrus or school pick-ups. It wastes gas, it pollutes the air, it stinks and it's just, well, unnecessary.

But some drivers get a free idling pass, right? Don't refrigerated trucks, utility vehicles, safety and emergency vehicles and long-haul trucks often need to keep their engines running to power auxiliary functions? Yes, and no. Let me explain.

Yes, many types of vehicles need to power functions like refrigeration, heating, cooling or lift gate operation, and traditionally they do that through idling. But times are changing. Today, technology companies across the country are offering a wide range of solutions designed to reduce the need for idling, which helps conserve fuel and money and reduces harmful vehicle emissions. Here's a rundown of what's available:

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AUTOMATIC SHUT-DOWN/START-UP SYSTEMS
Electric-powered start-stop systems automatically turn off a vehicle's engine when the vehicle is stopped and immediately restart it when the driver presses the accelerator or lifts off the brake/clutch. This technology can also restart the vehicle's engine based on a set time period or temperature along with other parameters like state of battery charge. You may have experienced this technology in action in a hybrid-electric vehicle or in a new gasoline vehicle outfitted with the technology. Automatic shut-down/start-up systems are particularly effective for reducing idling in heavy traffic conditions.

IDLE LIMITERS
Idle limiting systems work by automatically shutting the engine off after the vehicle has been idling for a predetermined amount of time. These are commonly found in heavy-duty trucks. They use different types of timer-activation systems: RPM/engine speed-activated (the most accurate and effective), parking brake/park position-activated and GPS-activated. Often these systems will only allow the engine to shut down at one prescribed time, most commonly between two and five minutes of idling. Idle limiters paired with driver education and training can be very

effective. (Garbage hauler Waste Management uses this approach.) Idle limiters are available as a manufacturer-installed option on most new trucks, or can be retrofitted.

Courtesy of Proheat

FUEL-FIRED HEATERS
Usually diesel-powered, fuel-fired heaters provide an independent heat source to pre-heat engines in extreme weather and/or supply warm air to the cab or bunk of a truck, ambulance or other large vehicle for driver comfort. They use less fuel than the primary engine and have lower emissions because they supply heat directly from a small combustion flame to a heat exchanger. Cooling options can be added to these systems as well. Popular brands include Espar, Proheat and Bergstrom.

INVERTER/CHARGER
During breaks or while parked, many service drivers use electrical appliances like computers, radios, TVs or microwaves. These appliances use AC power, and when used in a truck, require an inverter. Engine batteries supply DC power and inverters convert stored DC power into AC power to provide power for these “household” loads. When external AC power is available, at an electrified truck stop for example, the inverter/charger will use this power to recharge the battery back to full capacity and then will supply the excess power directly to the cab for use. Popular systems include, Vanner, Xantrex and Kisae Technology.

AUXILIARY POWER UNITS (APUS)
These vehicle-mounted portable systems provide power for climate control and electrical devices in trucks, including service cranes or buckets, lighting and lift gates. Initial costs of APUs are

higher than some other anti-idling solutions but can be offset by fuel savings, reduced engine wear and primary engine maintenance costs. Fuel-powered systems (the most common) typically rely on diesel fuel, but natural gas and propane auto gas versions are also now available. These systems provide continuous power as long as there is fuel in the system. Battery-powered systems can only provide as much power as the capacity of the battery unit and then must be recharged before reuse. The benefit to battery-powered systems is that they are quiet and emissions-free, meet new stringent idling regulations and are lower maintenance. Popular brands include Thermo King and Dynasis.

SOLAR-POWERED AUXILIARY POWER UNITS

Like fuel- or battery-powered APUs, solar-powered APUs provide power for climate control and electrical needs, including refrigeration, safety lighting, battery charging, lift-gate systems and computing. Unlike diesel, however, solar APUs draw their power from the sun producing renewable, zero-emissions power. Solar systems are also quiet and require very little maintenance. Today's solar systems are lightweight and flexible, allowing for a wide variety of applications, and can be sized to meet the needs of the vehicle. Check out eNOW (a company we've invested in and GoPower! to learn more about this great new technology.

ELECTRIFIED PARKING SPACES/TRUCK STOP ELECTRIFICATION

Truck stop electrification systems provide external plug-in power for heating, air conditioning and electrical needs, allowing truck drivers to turn off their engines while enjoying all of the comforts they need. The trucker pays an hourly rate to utilize the system, ranging from $1 to $2.10, on average, with additional fees for window adapters and cables. This costs significantly less than it would cost to idle the vehicle, reduces emissions and protects the engine. Examples include Idle Air, Shorepower and EnviroDock. For additional companies and resources, see www.epa.gov/smartway. (Photo: Matt Stewart via Flikr.)

If you've noticed a particular type of vehicle idling in your area — your local EMS, for instance, or even an ice cream truck — it may be worth contacting management to complain about the

practice and point out these alternatives. After all, it’s in their best interest to reduce idling, too. It will save money and contribute to a healthier environment for their workers, neighbors and customers. Specific examples of groups that would be good candidates for alternative technologies include: police, fire, EMS, public utilities, ice cream trucks, food trucks, refrigerated meat and dairy trucks, and long haul trucks that must take legally required breaks.