IdleBox 2.0: What’s In It for You?

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IdleBox Has a New, Easier-to-Use Interface!

- IdleBox is now organized by Core Resources and Specialty Resources.
- Coordinator-only tools are available through a separate sign-in at the bottom of the page.

[cleancities.energy.gov/idlebox]
IdleBox Now Serves Multiple Audiences

- More intuitive organization of tools (by vehicle type rather than by communication format)
- Designed to work for both Clean Cities staff and for the general public.
  - Tools anyone can use are accessible through the main page; tools for Clean Cities folks are available through a link at bottom of main page.

Bank of Utah used IdleBox materials to encourage its drive-through-window users to shut down rather than idle while waiting in line (February 2015).
Are You a Clean Cities Coordinator?
IdleBox has additional resources for Clean Cities coalitions. 
Go to the Coalition IdleBox Resources.
What Is IdleBox?

IdleBox is an electronic, modular toolkit to help you advance and implement the acknowledged low-hanging fruit of fuel economy—idling reduction.

Modular for maximum flexibility.

Originally developed for use by Clean Cities coalitions only, it is now organized to assist anyone who wants to advance idling reduction.
What’s in IdleBox?

- PowerPoint presentations
- Outreach letters and press releases
- Information cards, tip sheets, and pledge forms
- Poster and sign
- Idling calculator
- IdleBase (a database of idling laws)
- Technical reference materials
- And more . . .
### Core Resources

#### Messaging Materials
- Fact Card
- Fact Card Template
- Tip Sheet
- Stop Idling Graphic
- Stickers
- Sign Template
- Poster Template: 11" x 17" or 22" x 34"

#### Letters & Pledge Forms
- Outreach Letter
- Press Release
- Organization Pledge Form
- Driver or Employee Pledge Form

#### Technical Resources
- Idle Reduction Savings Calculator: Excel or PDF
- Database of Idling Regulations
- National Idling Reduction Network News
Core Resources: Messaging Tool Example

**STOP Idling. START $aving.**

- **IDLING IS EXPENSIVE > > >**
  up to a gallon or more of fuel per hour, depending on vehicle size

- **IDLING POLLUTES > > >**
  a gallon of fuel creates about 20 lbs. of greenhouse gases

- **IDLING THREATENS HEALTH > > >**
  breathing vehicle emissions increases risk of respiratory illness

Idling uses more fuel than restarting your engine.

Idling wastes 6 BILLION GALLONS OF FUEL each year in the U.S.
Date
Recipient’s Name and Title
Company
Address

Dear ________________________

In today’s tough economy, every dollar counts. Did you know that there are simple ways to reduce fleet costs with minimal or even no expenses?

- In 2011, UPS reduced idling time in fleet vehicles, saving 683,000 gallons of fuel.
- In 2011, Coca-Cola saved more than 1 million gallons of fuel over 2010 with automatic engine shut-down capabilities, along with other initiatives.
- Staples has increased its fleet’s fuel efficiency by more than 20% with automatic idle reduction and other strategies.

Idling reduction is the “low-hanging fruit” of fuel economy. It can be easy to implement and often requires little or no financial investment.

**Why Care About Idling?**

- Idling is expensive. Idling may consume a gallon of fuel or more per hour, depending on the vehicle.
- Idling pollutes. Each gallon of fuel burned creates about 20 lbs. of greenhouse gases.
- Idling threatens health. Breathing vehicle emissions increases the risk of respiratory illness, especially in children.

We are Clean Cities [position name], a regional coalition of the U.S. Department of Energy’s national Clean Cities initiative. Our mission is to promote the reduction of imported petroleum and the use of alternative fuels and advanced vehicle technology.

I will call you in the coming week to request a brief meeting to discuss how your [your company/organization] can save money and support the environment with simple idling reduction measures. If you prefer, please call me directly at the number given below.

Sincerely,

Coordinator name
Coordinator title, Coalition name
Coordinator phone number
Coordinator e-mail address

Space for local coalition logo

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Dear ________________________

In business, every dollar counts. Did you know that there are simple ways to reduce fuel costs with minimal or even no expense?

Reducing the time a vehicle idles is the simplest form of fuel economy; it can be easy to implement and often requires little or no financial investment.

**Why Care About Idling?**

- Idling is expensive. Idling may consume a gallon of fuel or more per hour, depending on the vehicle.
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- Idling threatens health. Breathing vehicle emissions increases the risk of respiratory illness, especially in children.

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I will call you in the coming week to request a brief meeting to discuss how you can save money and support the environment with simple idling reduction measures. If you prefer, please call me directly at the number given below.

Sincerely,

Name
Title, Organization name
Phone number, E-mail address

Space for organization’s logo
Idle Reduction Savings Calculator

Share the Idle Reduction Savings Calculator to help fleet managers estimate their organization’s savings with idle reduction.

### How Much Fuel Is Used for Idling?

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Class</th>
<th>Fuel Type</th>
<th>Size Indicator</th>
<th>Engine Size (l)</th>
<th>GVWR (lb)</th>
<th>Idling Fuel Use (gal/h)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger Car (Ford Focus)</td>
<td>1</td>
<td>G</td>
<td>2</td>
<td>19,700-26,000</td>
<td>0.94</td>
<td>0.86</td>
<td>ANL 1 &amp; 2</td>
</tr>
<tr>
<td>Passenger Car (Volkswagen Jetta)</td>
<td>1</td>
<td>D</td>
<td>2</td>
<td>19,500</td>
<td>0.94</td>
<td>1.1</td>
<td>NREL</td>
</tr>
<tr>
<td>Passenger Car (Ford Crown Victoria)</td>
<td>1</td>
<td>G</td>
<td>4.6</td>
<td>26,000</td>
<td>0.97</td>
<td>1.14</td>
<td>DRNL</td>
</tr>
<tr>
<td>Medium Heavy Truck</td>
<td>6</td>
<td>G</td>
<td>5-7</td>
<td>23,000-33,000</td>
<td>0.99</td>
<td>1.59</td>
<td>DRNL</td>
</tr>
<tr>
<td>Tow Truck</td>
<td>6</td>
<td>D</td>
<td>6</td>
<td>30,000</td>
<td>0.97</td>
<td>1.14</td>
<td>DRNL</td>
</tr>
<tr>
<td>Medium Heavy Truck</td>
<td>7</td>
<td>D</td>
<td>6.1-10</td>
<td>32,000</td>
<td>0.99</td>
<td>1.59</td>
<td>DRNL</td>
</tr>
<tr>
<td>Combination Truck</td>
<td>7</td>
<td>D</td>
<td>6.1-10</td>
<td>32,000</td>
<td>0.99</td>
<td>1.59</td>
<td>DRNL</td>
</tr>
<tr>
<td>Buckel Truck</td>
<td>8</td>
<td>D</td>
<td>6</td>
<td>37,000</td>
<td>0.99</td>
<td>1.59</td>
<td>DRNL</td>
</tr>
<tr>
<td>Tractor-Semitrailer</td>
<td>8</td>
<td>D</td>
<td>6</td>
<td>80,000</td>
<td>0.99</td>
<td>1.59</td>
<td>TMC</td>
</tr>
</tbody>
</table>

Sources:

### Other Idling Reduction Resources
- Idillex: [http://cleancities.energ.gov/idillex](http://cleancities.energ.gov/idillex)
- Idillex: [http://cleancities.energ.gov/idillex](http://cleancities.energ.gov/idillex)
- Argonne National Laboratory: [http://www.transportation.ans.org/menus/idilig.html](http://www.transportation.ans.org/menus/idilig.html)
Specialty Resources

**Personal Vehicles**

- Idling Reduction for Personal Vehicles (Fact Sheet)
- Which Is Greener: Idle, or Stop and Restart? Comparing Fuel Use and Emissions for Short Passenger-Car Stops (Fact Sheet)
- Reducing Personal Vehicle Idling (Presentation)

**Light- and Medium-Duty Fleet Vehicles**

- Idling Reduction Basics for Fleets (Presentation)
- Technology Solutions (Presentation)

**Heavy-Duty Vehicles**

- Long-Haul Truck Idling Burns Up Profits (Fact Sheet)
- Idling Reduction for Long-Haul, Heavy-Duty Trucks (Presentation)
- Emissions From Idling Heavy-Duty Trucks and Idling-Reduction Equipment (Technical Report)

**Emergency & Other Service Vehicles**

- Idling Reduction for Emergency and Other Service Vehicles (Fact Sheet)
- Case Study – Idling Reduction Technologies for Emergency Service Vehicles (Technical Report)
Specialty Resources: Personal Vehicles

**Personal Vehicles**

Idling Reduction for Personal Vehicles (Fact Sheet)

Which Is Greener: Idle, or Stop and Restart? Comparing Fuel Use and Emissions for Short Passenger-Car Stops (Fact Sheet)

Reducing Personal Vehicle Idling (Presentation)


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**Why Do Drivers Idle? Habits and Myths**

"Doesn’t restarting my engine use more gas than idling?"

"Isn’t idling good for your engine?"
Specialty Resources: Light- and Medium-Duty Fleet Vehicles

**Idling Reduction Basics for Fleets**
- What Is Idling?
- What Vehicles Idle?
- Some Idling Is Difficult To Avoid
- Much Idling Is Wasteful
- Why Care About Idling?
- What Can YOU Do?
- IdleBox Can Help!

**Idling Reduction Technology Solutions**
- Technology Options To Support Idling Reduction in Light- and Medium-Duty Vehicles
- Calculating Costs
- Savings and Payback
- Funding Resources
Specialty Resources: Heavy-Duty Vehicles

Heavy-Duty Vehicles

Long Haul Truck Idling Burns Up Profits (Fact Sheet)

Idling Reduction for Long-Haul, Heavy-Duty Trucks (Presentation)

Emissions From Idling Heavy-Duty Trucks and Idling-Reduction Equipment (Technical Report)

What Are the Costs and Consequences of Idling?

Fuel Use, Costs, and Typical Payback

<table>
<thead>
<tr>
<th>Power Source</th>
<th>Emissions</th>
<th>Fuel Use (gallons)</th>
<th>Total Idle-Distance Cost ($)</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.12-0.15</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Auxiliary power units</td>
<td>0.2-0.05</td>
<td>0.00-0.26</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Gear reducer</td>
<td>0.000-0.03</td>
<td>0.00-0.009</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Heat recovery</td>
<td>Heat</td>
<td>0.000-0.006</td>
<td>0.00-0.005</td>
<td>NA</td>
</tr>
<tr>
<td>Storage device</td>
<td>AC</td>
<td>0.15-0.20</td>
<td>0.00-0.015</td>
<td>NA</td>
</tr>
<tr>
<td>Automatic engine start</td>
<td>Automatic</td>
<td>0.15</td>
<td>0.00-0.015</td>
<td>NA</td>
</tr>
<tr>
<td>EFS (with gasoline)</td>
<td>EFS</td>
<td>0.15</td>
<td>0.00-0.015</td>
<td>NA</td>
</tr>
</tbody>
</table>

Long-Haul Truck Idling Burns Up Profits

Long-haul truck drivers perform a vital, important service. In the course of their work, they must take rest periods or be seated and idling for extended periods of time, often required by federal law. Most drivers remain in their trucks, which they keep running to provide power for heating, cooling, and other recreational, safety, and security reasons. Such idling, however, is a waste of fuel and money, which not only costs drivers and trucking companies but also helps drive up energy prices.

Idling Wastes Fuel and Increases Engine Wear

Idling a heavy-duty truck consumes about 0.04 gallons of fuel per hour. Then, when diesel costs are $2.00 per gallon, fuel for one hour of rest period will cost $0.80. Typically, a long-haul truck is idled 10 hours per year, using about 3.60 gallons of diesel. Aggressive Driving Study (AGDS) estimates that, if all U.S., non-agricultural trucks idled 10 minutes instead of 10 hours, there would be $3.5 million saved in fuel costs. Additional engine wear and fuel costs. These manufactures' instructions and maintenance intervals apply to "normal operation," rather than "idle mode." Thus, cost of idling is greater than just fuel.

Idling Degraders Air Quality

Idling contributes to air pollution. Recent studies have shown that idling for 10 hours at an idle speed of 1,000 rpm results in 39,000 tons of nitrogen oxides, and 40 tons of particulate matter annually in the U.S. These emissions contribute to the climate change and smog formation, which affect the health of not only those living in the community, but the truck drivers themselves.

Idling May Be Illegible

Many states and local laws restrict the idling of heavy-duty trucks, and idling of idling laws can result in steep fines. Clean Cities Freeport Energy (C3) case study shows the benefits of idling laws and enforcement, which can also improve driver protection and reduce the number of idling-related incidents. The American Transportation Research Institute (ATRI) also highlights a few examples that are specific to heavy-duty trucks.

Alternatives to Idling Heavy-Duty Trucks

Some current idling alternatives use up to 95% less fuel, saving money, reducing pollution, and making truck drivers get a better night's sleep. Depending on how much truck drivers save, alternative to idling can pay for themselves in as little as one month.

Auxiliary Power Units (APUs) provide drivers with air- and electric power for climate control and electrical devices. Most APUs are powered by diesel, though battery-powered APU’s are also available. Some APUs are equipped to plug into a power grid for greater energy efficiency.

Considerations: Onboard power units offer alternate solutions, APU's have an initial high cost and are heavy, although most states have high regulations for APU's. Onboard power units can also help reduce the number of idling-related incidents. The American Transportation Research Institute (ATRI) also highlights few examples that are specific to heavy-duty trucks.

Specialty Resources: Heavy-Duty Vehicles, *cont.*

APU Weight Exemption Status

Interactive map at http://energy.gov/eere/vehicles/map-state-recognition-auxiliary-power-weight-exemption

- **Purple**: Allows a 550-lb weight exemption by state law.
- **Green**: Allows a 400-lb weight exemption by state law.
- **Silver**: Allows a 400-lb weight exemption by enforcement policy rather than by state law.
- **White**: Does not permit an APU weight exemption.
Specialty Resources: Emergency & Other Service Vehicles

Idling Reduction for Emergency and Other Service Vehicles (Fact Sheet)

Case Study – Idling Reduction Technologies for Emergency Service Vehicles (Technical Report)

Organizing an Idling Reduction Campaign

- Target audience
- Strategy
- Messaging
- Phasing and timing
Send a **Press Release** announcing the availability of IdleBox in your area.

- Local/regional media
- Aligned organizations
- Government entities
- Stakeholders
- Potential stakeholders

*All media, not just print media*
Send an **Initial Outreach Letter** to target organizations to introduce IdleBox and request a call or a meeting.

---

**Dear [Name],**

In business, every dollar counts. Did you know that there are simple ways to reduce fuel costs with minimal or even no expense?

Reducing the time a vehicle idles is the simplest form of fuel economy; it can be easy to implement and often requires little or no financial investment.

**Why Care About Idling?**

- Idling is expensive: Idling may consume a gallon of fuel or more per hour, depending on the vehicle.
- Idling pollutes. Each gallon of fuel burned creates about 20 lbs. of greenhouse gases.
- Idling threatens health: Breathing vehicle emissions increases the risk of respiratory illness, especially in children.

![Image: Clean Cities logo]

If desired, provide a description of a success with idling reduction for a local or regional company.

We are [Organization Name], a provider of [brief description]. We believe we have a shared interest in improving economic and environmental sustainability. Your organization’s previous sustainability efforts, such as [specific example], demonstrate an investment in reducing your carbon footprint.

With the help of the Clean Cities [IdleFree Society], we are helping organizations like yours reap the benefits of idling reduction. In addition to the organizational strategies, individual pledges for idling reduction can show your employees how to make a personal contribution.

I will call you in the coming week to request a brief meeting to discuss how you can save money and support the environment with simple measures to reduce idling. If you prefer, please call me directly at the number below.

Sincerely,

[Name]

Title: [Organization name]

Phone number, Email address

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IdleBox Tools to Use: Messaging Giveaways

Stickers, fact cards, and tip sheets
IdleBox Tools to Use: Posted Messaging

- Display of **signs** in loading, unloading, and parking areas
- Display of **posters** in employee areas

▲ Sign

▲ Poster
IdleBox Tools to Use: Pledge Forms

Organizational Idling Reduction Pledge

We at [name of company or organization] hereby pledge our commitment to idling reduction. In support of this pledge, we establish the following guidelines for our facility, our vehicles, and our employees:

1. Excessive idling (more than ____ seconds/minutes) is prohibited at our facility, including during pickups and deliveries.
2. Drivers of our vehicles will not idle unnecessarily (more than ____ seconds/minutes) on or off site.
3. All employees are encouraged to limit unnecessary idling in their private vehicles.

Name/Signature of Policy Official: ________________________________
Title: _______________________________________________________
Date: _______________________________________________________

Individual Idling Reduction Pledge

I, [name], hereby pledge to protect myself, others, and the environment by limiting vehicle idling. I will not idle [name of company or organization] vehicles for more than ____ seconds or minutes) unless necessary.

I also pledge to avoid idling my personal vehicle unless required for safety or health reasons. Opportunities to reduce idling include drive-through businesses (such as banks, pharmacies, and fast-food restaurants), schools and daycare centers, and while waiting to pick up passengers.

Name/Signature: ____________________________________________
Business/Organization Name: __________________________________
Date: ______________________________________________________
IdleBox Tool: IdleBase

STOP Idling.
START $aving.

IdleBase

Engine Idling Laws and Ordinances for All Classes of On-Road Vehicles

cleancities.energy.gov/idlebase
### IdleBox Tool: IdleBase, cont.

<table>
<thead>
<tr>
<th>Area</th>
<th>Type of Vehicle</th>
<th>Idling Restriction</th>
<th>Exemptions</th>
<th>Consequences of Infraction</th>
<th>Regulation</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Counties in the Chicago Area:</em></td>
<td>Diesel vehicles</td>
<td>10 minutes/hour</td>
<td>Traffic conditions or controls. Prevent a health or safety emergency. Emergency or law enforcement purposes. Service or repair. Government inspection. Idling necessary to operate auxiliary equipment. Guarding contents of armored vehicle. Bus can idle a maximum of 15 minutes/hour to maintain passenger comfort. Resting in sleeping berth. Mechanical difficulties out of control of operator. Airport ground control support. Buses owned by public transportation authorities on bus route. Implements of husbandry. Electric utility service vehicles. If temperature &lt; -32°F or &gt; 80°F, idle limit to 30 minutes/hour while in queue.</td>
<td>$90 for first conviction. $500 for second or subsequent conviction in 12-month period. Fines are divided and paid to 3 groups, dependant on the county that wrote the ticket.</td>
<td>625 Illinois Compiled Statutes (ILCS) 5/11-1429</td>
<td><a href="http://www.ilga.gov/legislation/cf/">http://www.ilga.gov/legislation/cf/</a></td>
</tr>
</tbody>
</table>
To subscribe, e-mail pweikersheimer@anl.gov
Success with IdleBox: Tips from Clean Cities Coalitions

• Start with stakeholders and build from those successes.

• Reach out to new audiences knowing that success will take multiple “touches.”

• Seek collaborative partnerships with other organizations that will benefit.

• Consider nontraditional fleets (e.g., Meals on Wheels).

• Use IdleBox to assist in ordinance development and outreach to local media.
IdleBox in Use

IdleBox has a range of uses, from policy development to fleet outreach to messaging to the general public.

West Palm Beach, Florida, used IdleBox materials for the launch of its no-idling policy for public utility vehicles (November 2014).
IdleBox in Use

"At ComEd, we used the IdleBox toolkit to create posters and information cards that were used for an internal education program. Employees provided feedback that the anti-idling booth was their favorite of the day, and many said that they were going to change their behavior to limit or reduce idling of their personal vehicles after hearing about the impacts.”

—Marla Westerhold of the Environmental Department at ComEd, Illinois' largest electric utility.
Wrapping Up

• IdleBox is not a static product. With your input, we will continue to add new tools and refine existing ones.

• Share your success stories with us! If you conduct an outreach event and perhaps have some lively photos, please share with us—we may be able to highlight your activities on the IdleBox home page!
Watch for New IdleBox Tools

• Technical paper on economics of on-board vs. wayside technologies for long-haul heavy-duty trucks
• Compendium of idling-reduction equipment manufacturers (all vehicle types)
• Looking forward: Where do idling reduction and Smart Mobility intersect?
  – Smart parking will reduce time drivers spend cruising—going nowhere—looking for a space.
  – Off-hours delivery can speed deliveries and pickups in congested areas, reducing or eliminating time in queues.
A Few Words on EPA and NHTSA’s Phase 2 GHG Rules

• The use of idle reduction (IR) technologies is one way truck manufacturers can achieve compliance with Phase 2 standards.
• Automatic engine shutdown systems (AESS) are a base requirement for any manufacturer seeking compliance through IR; additional IR equipment may be installed for more credit.
• Credits range from 1% for adjustable AESS programmed to 5 minutes to 6% for tamperproof AESS combined with a battery-powered APU. Diesel APUs with tamperproof AESS will receive a 4% credit, which is the same as that for tamperproof AESS alone.
• Beginning with MY 2024 trucks, APUs are expected to be equipped with diesel particulate filters (DPFs), as currently required in California.
We welcome your questions and comments!

Work sponsored by the Clean Cities Program, U.S. Department of Energy’s Office of Vehicle Technologies, to which we give our thanks.

For questions about IdleBox, contact:
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