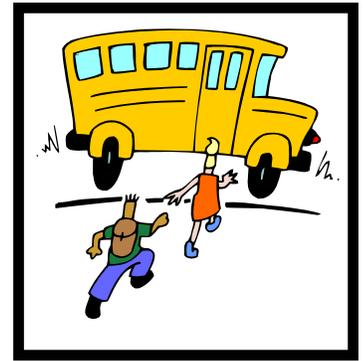




SUSTAINABLE ENVIRONMENT for QUALITY of LIFE



IDLE REDUCTION POLICY

What is it?

Anti-idling policies limit the amount of time buses, fleet vehicles and other heavy-duty diesel vehicles can idle their engines. Diesel exhaust from idling vehicles contains dangerous air pollutants, including: carbon dioxide, which contributes to global climate change; nitrogen oxides and volatile organic compounds, both of which contribute to the formation of ozone smog; poisonous carbon monoxide; and harmful particulate matter. Idling vehicles also waste fuel and increase wear and tear on the vehicle's engine. Anti-idling policies are a cost-effective, common sense way to reduce air pollution, and they are easy to implement. By reducing the amount of time that engines idle, school buses, other heavy-duty diesel fleets, locomotives, and even construction equipment will use less fuel, save money, and help clean the air.

Costs

Fleets will reduce fuel costs by implementing an anti-idling policy. Large diesel vehicles can burn 0.8 to 1.2 gallons of diesel fuel for each hour that they idle. School buses typically use about half a gallon for each hour. If a school bus fleet has 50 buses and each bus reduces its idling time by 30 minutes per day, at \$2 per gallon of diesel fuel, the fleet would save \$4,500 per school year in reduced fuel costs.

Shared Impact and Benefits

- ✓ Reducing emissions of fine particulate matter and ozone-forming pollutants helps to improve air quality. Overall, better air quality promotes better health.
- ✓ Reducing school bus idling protects children from the harmful effects of diesel exhaust. The EPA recognizes that diesel exhaust poses serious public health risks. Exposure to diesel exhaust can cause lung damage and respiratory problems and can also exacerbate asthma and existing allergies. Children are more susceptible to air pollution than adults because their respiratory systems are still developing and they have a faster breathing rate. That's one reason the North Carolina Department of Public Instruction has directed school systems to adopt anti-idling policies and tied fuel funding to implementation.
- ✓ A reduction in engine idling can reduce engine maintenance and expand the life of the engine. Unnecessary idling of engines increases the wear and tear of an engine and can even cause engine damage.
- ✓ Engine idling wastes fuel and money. A fleet can significantly reduce its fuel costs by reducing idling—especially given the fluctuation in the cost of fuel. An idle-reduction policy can help to make fuel costs a bit more controlled, by minimizing waste.
- ✓ Reducing engine idling also reduces our nation's dependence on petroleum, which comes largely from foreign sources. There are "energy independence" benefits to an idling reduction program.



This Action Item can be implemented as a

- POLICY
- ORDINANCE
- PROGRAM

How long does this take to implement?

Organizations with fleets of all types can voluntarily adopt an idle reduction policy without delay. Implementation of an anti-idling policy should include time for driver training before putting the policy into effect.

The Bottom Line

- Idling engines emit harmful pollutants at the street level, thereby affecting the health of all those breathing the air nearby. An anti-idling policy reduces unnecessary diesel exhaust benefiting overall air quality and the health of drivers and passengers.
- Anti-idling policies can reduce the cost of operating a fleet. Such policies have little to no upfront costs and are easy to implement.

Interested? Read on!



Action Steps

1. Review idling regulations and guidelines in your community
2. Discuss with vehicle manufacturers the recommended warm up and cool down times for all engine types in the fleet
3. Review model policies as a starting place, see an example in the "For More Information" section below
4. Develop an anti-idling policy that does at a minimum:
 - Limits the amount of time engines can idle while parked
 - Provides for the manufacturer's recommended warm up/cool down times for the engine
 - Considers possible exemptions for vehicle maintenance, exceptionally cold weather conditions, passenger comfort/safety
 - Ensures that when idling is unavoidable or for those periods for which it is recommended for warm up/cool down, it is done in a way that is minimally detrimental to health (for example, buses NOT parked nose-to-tail, or near building air intakes).
5. Develop training materials and programs to help drivers understand new policies
6. Distribute and post information about idling reduction where appropriate
7. If necessary, provide alternatives to maintain cabin comfort for drivers and passengers in extreme cold or hot weather
8. Implement program and spot check for compliance, and provide feedback about savings
9. Track your fleet's fuel savings
10. Rail carriers should investigate the EPA Smartway website, and then check with their local Metropolitan Planning Organization or state DOT to determine if they are eligible for Congestion Mitigation-Air Quality (CMAQ) funds to help implement any of the technologies that support idle reduction.

Basic Information

- ◆ The impacts of engine idling both globally and locally are a threat to our environment, public health and economy:
 - Over a billion gallons of diesel fuel is consumed annually by truck and locomotive engine idling. Annually, 11 million tons of carbon dioxide, 200,000 tons of oxides of nitrogen, and 5,000 tons of particulate matter are emitted from these vehicles.
 - This has a significant impact on our economy and our environment. In NC about 10% of regular (non-spare) diesel school buses are pre-1990 buses and are the heaviest polluters. School buses that leave their engines idling while standing, often close to school buildings, create indoor as well as outdoor air pollution problems.
- ◆ Before developing an anti-idling policy, fleet managers should understand the manufacturer's recommendations for engine warm up and cool down times.
- ◆ Driver training is essential to implementing a successful anti-idling policy. Fleet managers should make drivers aware of the policy before it goes into effect and provide guidelines on how to operate a fleet vehicle in compliance with the policy.
- ◆ An anti-idling policy should not sacrifice driver or passenger safety or comfort. Consider alternatives such as driver waiting rooms or auxiliary heaters to provide for cabin comfort. Anti-idling policies are intended to mutually benefit employers and employees with a healthier work environment.
- ◆ An anti-idling policy can reach beyond fleet vehicles and encourage employees or the general public to avoid unnecessary idling. For example, schools can encourage parents in carpool lines to shut off their vehicles while waiting, citing health and cost benefits. Public and private fleet managers can limit or eliminate the use of drive-thrus while using governmental or company vehicles.
- ◆ Developing a system to check for compliance is an essential component to a successful anti-idling policy.
- ◆ Tracking of time not spent idling helps to calculate fuel savings and, therefore, money savings. This information helps to continually justify an idle reduction program.



FAQ's

Q: Is it important to warm up an engine with a long idle period?

A: Today's engine manufacturers routinely suggest a warm up time of less than five minutes. In fact, running an engine at low speed (idling) causes significantly more wear on internal parts compared to driving at regular speeds.

Q: Is idling necessary to keep the cabin of buses comfortable?

A: Depending on the weather, many buses will maintain a comfortable interior temperature for a while without idling. Idling is not an efficient way to keep the cabin warm. Bus routes should be timed so children and drivers do not need to spend a lot of extra time on the bus (e.g. in the school parking lot) when it is not en route, particularly in hot or cold weather. In addition auxiliary heaters can be purchased and installed to keep the cabin comfortable and may be a good option in areas with extended periods of cold weather.

Q: Are the "start-up" emissions after a long shut-down period more than the emissions if the engine just idled?

A: Much depends on the age and maintenance of the engine, but it's safe to assume that the start-up emissions are negligible after either a short or long period of time. In other words, the start-up emissions are not as great as the idling emissions, so its always better to shut down.

Q: What are the truck maintenance and engine wear costs at idle?

A: The trucking industry has analyzed the impact of idling on engines, both in terms of maintenance and engine wear costs. Long-duration idling causes more oil and oil filter deterioration and increases the need for more oil and filter changes. Similarly the longer the idling time the sooner the engine itself will need to be rebuilt. The trucking industry estimates that long-duration idling costs the truck owner \$1.13 per day, based on the need for more oil changes and sooner overhaul costs. That does not seem like a lot—but for a fleet of 10 trucks operating 250 days per year that s almost \$3,000 per year.

Who's doing this?

- ◆ Many school districts around the country are implementing anti idling policies for school buses including the State of North Carolina and the Houston Independent School District. See NC's policy at this policy at www.ncbussafety.org/idling.html
- ◆ Several state and local governments have passed anti idling regulations EPA also recently announced its plan to develop a model state or local idling law for heavy-duty trucks and buses. For a summary of anti-idling regulations see <http://www.arb.ca.gov/regact/sbidling/appb.pdf>
- ◆ EPA s SmartWay Transport Partnership works with industry fleets to improve the environmental performance of their freight operations. EPA has partnered with a number of private fleets to reduce engine idling.
- ◆ The City of Charlotte, City of Concord, City of Conover, City of Salisbury and Centralina COG have idling policies.





For More Information

- Clean School Bus USA: www.epa.gov/cleanschoolbus/index.htm
- EPA's SmartWay Transport Partnership: www.epa.gov/smartway/idling.htm
- For a summary of state and local anti-idling regulations, see www.arb.ca.gov/regact/sbidling/appb.pdf
- Local Clean Cities Coalitions:
 - Centralina Clean Fuels Coalition: www.4cleanfuels.com
 - Palmetto State Clean Fuels Coalition: www.palmettocleanfuels.org

Sample School Bus Anti-Idling Policy

Applicability: This policy applies to the operation of every district-owned and/or contracted school bus.

Rationale: Diesel exhaust from idling school buses can accumulate in and around the bus and pose a health risk, both to children and drivers. Exposure to diesel exhaust can cause lung damage and respiratory problems. Diesel exhaust also exacerbates asthma and existing allergies and long-term exposure is thought to increase the risk of lung cancer. Idling buses also waste fuel and financial resources.

Purpose: Eliminate all unnecessary idling by [district] school buses such that idling time is minimized in all aspects of school bus operation

Guidance: 1) When school bus drivers arrive at loading or unloading areas to drop off or pick up passengers, they should turn off their buses as soon as possible to eliminate idling time and reduce harmful emissions. The school bus should not be restarted until it is ready to depart and there is a clear path to exit the pick-up area. Exceptions include conditions that would compromise passenger safety, such as: Extreme weather conditions and idling in traffic.

2) At school bus depots, limit the idling time during early morning warm-up to what is recommended by the manufacturer (generally 3-5 minutes) in all but the coldest weather.

3) Buses should not idle while waiting for students during field trips, extracurricular activities or other events where students are transported off school grounds.

4) In colder weather, schools are directed to provide a space inside the school where bus drivers who arrive early can wait.

5) In colder weather, if the warmth of the bus is an issue, idling is to be at a very minimum and occur outside the school zone. The "warmed" bus is to enter the school zone as close to pick-up time as possible to maintain warmth and then shut down.

6) All service delivery vehicles shall turn off the engines while making deliveries to school buildings.

7) All drivers shall receive a copy of this bulletin at the beginning of every school year.





Intersecting Interests



ENHANCED OZONE AWARENESS

Anti-idling policies can reduce diesel emissions during peak commuting times, which helps keep ozone concentrations from rising to dangerous levels.



CLEAN AIR POLICY

An effective clean air policy should identify sources of pollution and promote cost-effective, feasible actions for improving air quality. Anti-idling policies are an example of these positive solutions.



TRUCK STOP ELECTRIFICATION

Long-duration truck engine idling is common at most truck stops and can be curbed through anti-idling policies and the implementation of truck stop electrification projects.



DIESEL EMISSIONS REDUCTION PROGRAM

Idle reduction is one very low-cost means of cleaning up any diesel fleet—one that pays dividends over the long term in reduced costs.



CLEAN CITIES

Clean Cities coalitions promote programs, including idle reduction programs, to reduce the amount of petroleum used in the US.

Who needs to be involved in implementation?

- Governing board and/or management to endorse an anti-idling policy
- Fleet managers—public and private
- Drivers
- Interested Community Groups
- Rail operators





Resources

- ◆ **School Bus Programs:** EPA's Clean School Bus USA program provides communities with many of the tools needed to develop an anti-idling policy for school buses. See www.epa.gov/cleanschoolbus/index~htm
- ◆ **Freight Fleets:** Reducing engine idling is an important component of EPA's SmartWay Transport Partnership, a collaborative voluntary program between EPA and the freight industry that will increase the energy efficiency and energy security of our country while significantly reducing air pollution and greenhouse gases. The Partnership creates strong market based incentives that challenge companies shipping products and the truck and rail companies delivering these products to improve the environmental performance of their freight operations. See www.epa.gov/smartway/idling.htm
- ◆ **Rail Operators:** Rail carriers can check out the main Smartway site and search for "Locomotives". EPA has a number of case studies involving locomotive idle reduction—this is a fuel saver for the railroads and a major air quality enhancement for areas with rail freight or passenger rail yards
- ◆ **Clean Cities Idle Reduction Program:** Your local Clean Cities coalition is an excellent resource for information about developing an anti idling policy. See www.eere.energy.gov/cleancities/idle/
- ◆ North Carolina Department of Public Instruction provides sample idling policies training materials and other idling information on their website at www.ncbussafety.org/Idling.html
- ◆ **SC contacts need to be added here.**

Clear the Air for Kids!

In 2006 Centralina Council of Governments in partnership with the Carolinas Clean Air Coalition developed an educational program for school districts relating to the importance of idle reduction.

Clear the Air for Kids! is an initiative to educate parents and school administrators about the importance of reducing bus and car emissions around schools. Reducing air pollution has been a main focus of the SEQL because most of the region is considered in non-attainment for ozone air quality.

The program provides materials for school newsletters, PTA programs, handouts which encourage parents to stop idling vehicles on school grounds and bookmarks for third graders—"10 things kids can do for the environment".

Signs have been posted at over 495 schools in the region to encourage parents to provide a healthier environment for children and school staff. The "Turn off your engines — kids breathe here" signs were provided by a grant to Centralina from the NC Department of Environment and Natural Resources (NCDENR).

Centralina staff has worked with the 15 school districts in the SEQL region to help reduce harmful emissions around our schools. The program is reinforcement of the idle reduction policies for their school buses and helps parents to understand the need to help by turning off their engines while waiting for their children.

