

# The Wheels on the Bus Go Round and Round...

Energy Savers Blog

I have a love/hate relationship with buses. I love that they save me gasoline, are more efficient than driving a car, and reduce my greenhouse gas emissions. However, I hate them when they're running late! But there is one category of buses that I'm particularly fond of – those that run on alternative fuels. In fact, [alternative fuel and advanced technology transit buses](#) [1] offer a number of health, environmental, and social benefits.

As anyone who has walked behind a traditional diesel bus knows, the plume of black smoke from its tailpipe is both unpleasant and unhealthy. That smelly cloud contains high amounts of [particulate matter](#) [2] and [oxides of nitrogen \(NO<sub>x</sub>\)](#) [3], especially if it's an older bus. These pollutants are the main causes of smog and contribute to a number of respiratory problems, including chest pain, bronchitis, and asthma.

In contrast, laboratory tests have shown alternative fuel buses release far fewer emissions than their counterparts. A [2005 study](#) [4] by the Department of Energy's National Renewable Energy Laboratory found that Washington, D.C., transit buses that ran on [compressed natural gas](#) [5] produced [49% fewer NO<sub>x</sub> emissions and 84% lower particulate matter emissions](#) [6] than diesel transit buses equipped with the same model year engines. These reductions are particularly important in D.C., as this region's pollution levels regularly exceed the Environmental Protection Agency's air pollution standards. Similarly, [hybrid-electric](#) [7] buses belonging to the [King County Fleet](#) [8] in Seattle produced 18%–38% less NO<sub>x</sub> and 50%–92.6% lower particulate matter emissions than traditional models. Other fleets are using cleaner [biodiesel blends](#) [9] in their buses, which combines traditional diesel with fuel made from soybeans, waste grease, and other feedstocks. By adopting alternative fuel and advanced technology buses, cities are cleaning the air in their communities.

In addition to smog-forming emissions, alternative fuel and advanced technology buses produce fewer of the greenhouse gas emissions that contribute to climate change. Although just taking public transit lowers your carbon footprint, riding a bus that runs on alternative fuel can bring it down even further. Buses that run on compressed natural gas produce [23% fewer lifecycle greenhouse gases](#) [6] than equivalent diesel buses. Similarly, because hybrid electric buses have up to 30% better [fuel economy](#) [10] than traditional buses, they use less diesel and release fewer greenhouse gas emissions.

Another major benefit of alternative fuel buses is that they improve America's [national security](#) [11]. The United States imports 60% of its petroleum, two-thirds of which are used to produce gasoline and diesel. The more transportation runs on largely domestic fuels such as natural gas and biodiesel, the less petroleum the country must import and the less dependent Americans are on volatile foreign markets.

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Lastly, alternative fuel buses can provide financial benefits to the cities that run them. As natural gas is [generally cheaper](#) [12] and has a more consistent price than petroleum, compressed natural gas buses can save their city a tremendous amount in fuel costs. This money can then go into other transportation services, such as purchasing more buses or creating bicycle lanes.

So the next time you get on a bus, look to see if it runs on alternative fuels or uses advanced technology. If it does, you know that you are helping support cleaner transportation. If not, contact your [local Clean Cities coalition](#) [9] to find out how to get cleaner transit buses out on your city's streets.

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### Links:

- [1] [http://www.afdc.energy.gov/afdc/fleets/transit\\_experiences.html](http://www.afdc.energy.gov/afdc/fleets/transit_experiences.html)
- [2] <http://www.epa.gov/airscience/quick-finder/particulate-matter.htm>
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- [5] [http://www.afdc.energy.gov/afdc/fuels/natural\\_gas.html](http://www.afdc.energy.gov/afdc/fuels/natural_gas.html)
- [6] [http://www.afdc.energy.gov/afdc/vehicles/emissions\\_natural\\_gas.html](http://www.afdc.energy.gov/afdc/vehicles/emissions_natural_gas.html)
- [7] [http://www.afdc.energy.gov/afdc/vehicles/hybrid\\_electric.html](http://www.afdc.energy.gov/afdc/vehicles/hybrid_electric.html)
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- [9] <http://www.afdc.energy.gov/afdc/fuels/biodiesel.html>
- [10] [http://www.afdc.energy.gov/afdc/vehicles/hybrid\\_electric\\_benefits.html](http://www.afdc.energy.gov/afdc/vehicles/hybrid_electric_benefits.html)
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