

Clean Cities

Building Partnerships to Cut Petroleum Use in Transportation

The U.S. Department of Energy's (DOE's) Clean Cities program advances the nation's economic, environmental, and energy security by supporting local actions to cut petroleum use in transportation. At the national level, the program develops and makes available information, tools, and other unique resources. At the local level, nearly 100 coalitions leverage these resources to create networks of local stakeholders and provide customized technical assistance to fleets implementing alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and new transportation technologies.

Clean Cities was established in 1993 in response to the Energy Policy Act of 1992 and is housed within DOE's Vehicle Technologies Office. Since its inception, Clean Cities has saved more than 5 billion gallons of petroleum. In doing so, the program has advanced U.S. energy independence, supported regional economic development, and reduced harmful vehicle emissions.

Goal and Strategies

Clean Cities is on track to meet its goal of saving 2.5 billion gallons of petroleum per year by 2020. To achieve this goal, Clean Cities employs three strategies:

- Replace petroleum with alternative and renewable fuels, including natural gas, propane, electricity, E85, biodiesel, and hydrogen
- Reduce petroleum consumption through technologies and strategies that improve fuel efficiency
- Eliminate petroleum use through idle reduction and other fuel-saving technologies and practices.



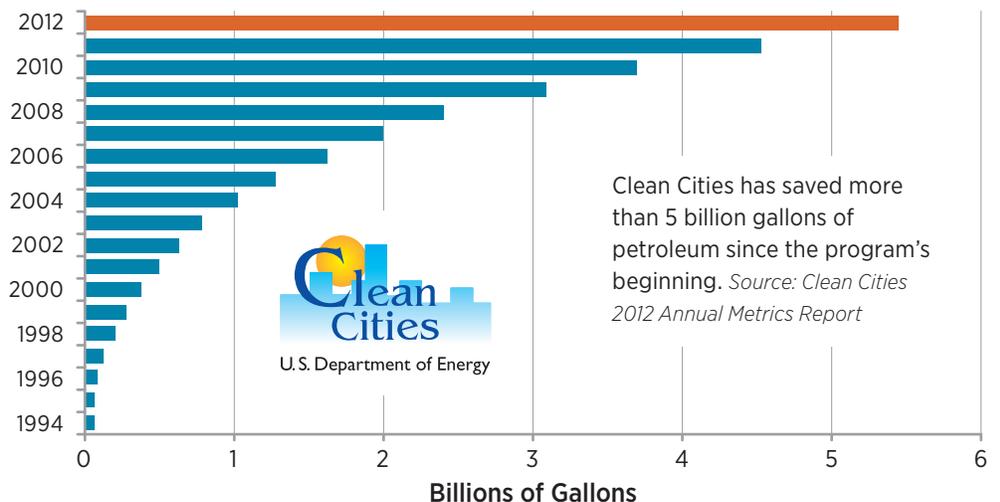
A natural gas bus transports passengers at Denver International Airport. Clean Cities works to cut petroleum use in the transportation sector by supporting the deployment of alternative fuels, advanced vehicles, and other strategies. *Photo by Dean Armstrong, NREL 19671*

Clean Cities at Work

Clean Cities works to reduce U.S. dependence on petroleum at the local, state, and national levels. Clean Cities activities include:

- Establishing local coalitions of public- and private-sector stakeholders
- Providing technical assistance to fleets deploying alternative fuels, advanced vehicles, and idle-reduction measures
- Identifying funding and financial opportunities to support deployment projects
- Documenting, analyzing, and publishing data from fleets and industry partners
- Developing information resources about alternative fuels, advanced vehicles, and other strategies to cut petroleum use
- Working with industry partners and fleets to identify and address technology barriers
- Seeding local alternative fuels markets through projects that deploy vehicles and fueling infrastructure
- Developing online tools that help stakeholders evaluate options and meet their goals.

Clean Cities Cumulative Petroleum Savings



Geographical Coverage of Clean Cities Coalitions



A National Network of Local Coalitions

Nearly 100 Clean Cities coalitions work to cut petroleum use in communities across the country. Coalitions are composed of businesses, fuel providers, vehicle fleets, state and local government agencies, and community organizations. These stakeholders come together to share information and resources, educate the public, help craft public policy, and collaborate on transportation projects. Nationwide, nearly 18,000 stakeholders participate in Clean Cities coalitions, and their projects are transforming local and regional transportation markets.

Each coalition is led by a Clean Cities coordinator, who tailors projects and activities to take advantage of the unique opportunities in individual communities. Organizations that join Clean Cities coalitions gain access to a wide array of resources, including networking opportunities with fleets and industry partners, technical training and workshops, individualized technical assistance, information resources, funding opportunities, and assistance with outreach. They also receive public recognition for their efforts to cut petroleum use. To help meet program goals, each coalition has an annual goal to increase its total petroleum savings by 16% over the previous year.



Clean Cities coalitions host events for stakeholders to share information, work with fleets to determine the best fuel/technology options, and collaborate on projects that cut petroleum use. Photos (left to right): from Clean Fuels Ohio, NREL 27655; from Propel Fuels, NREL 21775; by Julie Sutor, NREL 26742

Clean Cities Accomplishments

Clean Cities has helped deploy hundreds of thousands of alternative fuel vehicles (AFVs) and the fueling stations needed to serve them, aided in the elimination of millions of hours of vehicle idling, and helped accelerate the entry of new transportation technologies into the marketplace.

Increasing Access to Alternative Fuels

Over the years, Clean Cities has provided matching funds and leveraged resources to help communities lay the foundation for alternative fuels and vehicles. Moving forward, the results of those projects will enable communities to facilitate consistent and successful deployment of AFVs and infrastructure planning.

As a result of the American Recovery and Reinvestment Act of 2009 (ARRA) projects that funded alternative fuel vehicles and established fueling infrastructure, fleets across the country are making additional private investments in vehicles or are now choosing alternative fuel vehicles because the infrastructure is accessible for them. Clean Cities projects have also helped establish natural gas corridors along heavily traveled routes in California, Utah, and New York; networks of propane fueling stations in Texas; and continuous E85 fueling stations along several corridors such as the I-75 route from Sault Ste. Marie, Minnesota, to Miami, Florida.

Partnering With Private Sector Leaders

Clean Cities launched the National Clean Fleets Partnership to help private-sector leaders cut petroleum use. Through the partnership, Clean Cities provides resources and technical assistance to companies with large fleets as they adopt alternative fuels, advanced vehicles, and fuel economy improvements. More than 20 partners have joined the program; together, they operate more than 1 million vehicles.

Greening Our National Parks

Clean Cities is working with the National Park Service to accelerate the deployment of alternative fuels and advanced vehicles in more than 20 national parks across the country. The partnership aims to reduce petroleum use, improve air quality, cut greenhouse gas emissions, and educate park visitors about sustainable transportation practices. With help from Clean Cities coalitions, Mesa Verde National Park has deployed propane pickups and mowers, and rangers in Golden Gate National Recreation Area are cutting fuel use with electric vehicles. The U.S. National Mall has deployed a variety of electric-drive vehicles, as well as propane mowers and idle reduction technology.



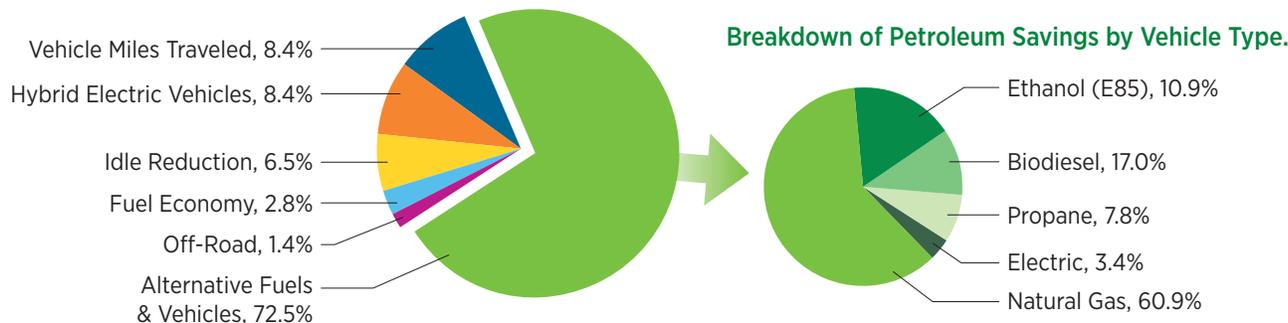
Photos (top to bottom): by Dennis Schroeder, NREL 26672; From Coca-Cola Refreshments USA, NREL 25210; by Julie Sutor, NREL 26748

Transforming Transportation Since 1993

Clean Cities strives to reduce U.S. dependence on petroleum. The program's successes include the following:

- Clean Cities projects and activities have saved more than 5 billion gallons of petroleum.
- Clean Cities efforts have helped place more than 400,000 alternative fuel vehicles on the road and helped develop the fueling infrastructure to support them.
- In 2012 alone, Clean Cities activities helped to avert more than 6.6 million tons of greenhouse gas emissions.
- Over the program's 21-year history, the number of local Clean Cities coalitions has grown from six in 1993 to nearly 100 today, representing about three-quarters of the U.S. population.
- Nationwide, nearly 18,000 stakeholders in the public and private sectors count themselves as members in a local Clean Cities coalition.
- Through the ARRA, Clean Cities supported 25 local and regional transportation projects with \$300 million in federal funding, which in turn leveraged more than \$500 million in investments by public- and private-sector partners.

Clean Cities 2012 Petroleum Savings by Technology Type



The majority of Clean Cities' petroleum savings come from the deployment of alternative fuel vehicles (AFVs) that run on natural gas, E85, biodiesel, propane, or electricity. *Source: Clean Cities 2012 Annual Metrics Report*

Online Resources

In addition to your local coalition, the Clean Cities program provides a comprehensive collection of information for fleets, businesses, and the general public. Take advantage of the following online resources to learn more about Clean Cities and the fuels and technologies it supports.

Clean Cities: Visit the Clean Cities website at cleancities.energy.gov to find out more about the program, its accomplishments, and your local coalition.

Alternative Fuels Data Center (AFDC): The AFDC, online at afd.energy.gov, provides a wealth of information and data about alternative fuels, advanced vehicles, and other petroleum-saving technologies. The site features a number of interactive tools, calculators, and mapping applications, including the following:

- **Alternative Fueling Station Locator:** Find fueling stations and electric vehicle charging locations in your area by visiting the website (afd.energy.gov/stations) or downloading the iPhone App.

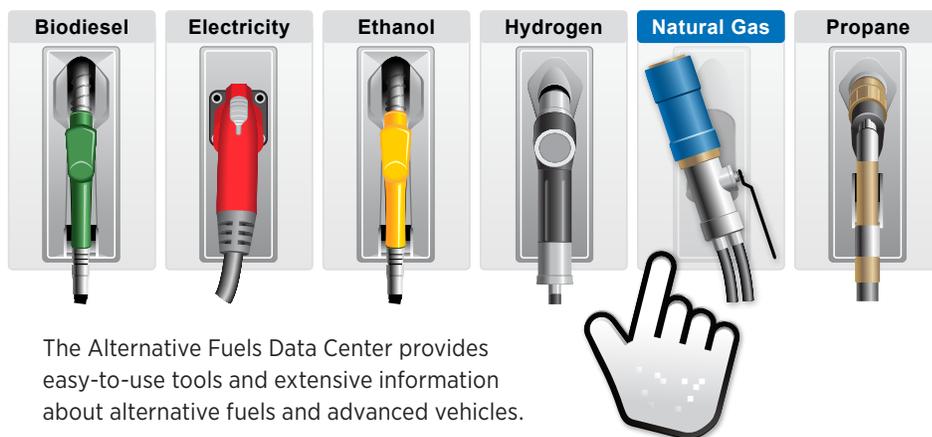
- **Incentives and Laws:** Search this database for federal and state incentives and laws pertaining to alternative fuels and vehicles, air quality, fuel efficiency, and other transportation-related topics (afd.energy.gov/laws).
- **GREET Fleet Footprint Calculator:** Calculate a fleet's well-to-wheels petroleum use and greenhouse gas emissions (greet.es.anl.gov/carbon_footprint_calculator).

FuelEconomy.gov: This site is the official U.S. government source for fuel economy information. Use it to find

and compare vehicles, calculate your own fuel economy, and get tips to cut fuel costs.

Alternative Fuel Price Report: Find regional fuel prices for biodiesel, CNG, E85, hydrogen, and propane, as well as gasoline and diesel (afd.energy.gov/fuels/prices.html).

Clean Cities Technical Response Service: Let seasoned experts help find answers to your questions about alternative fuels, advanced vehicles, fuel economy, and idle reduction (technicalresponse@icfi.com; 800-254-6735). ■



The Alternative Fuels Data Center provides easy-to-use tools and extensive information about alternative fuels and advanced vehicles.