Clean Air Transportation

PROGRAM SERVICES

Since 1990 Pacific Gas and Electric Company's Clean Air Transportation program has concentrated on natural gas and electric drive vehicle technologies (electric and hybrid vehicles), while also exploring options to bridge these technologies to the Hydrogen Highway. This is accomplished by providing the following customer services and information:

Safety Education

Educate customers about the safe and efficient use of electricity and natural gas as transportation fuels. (Natural gas for vehicles is the same natural gas delivered to homes and businesses.) This includes an 800 number (800-684-4648), web site, fact sheets and training.

Product Options

Provide information on available electric-drive and natural gas vehicles and their fueling equipment.

Economic Analysis

Assess natural gas and electric pricing and operational cost per mile information.

Funding Options

Supply available funding sources to off set incremental cost for alternative fuel vehicles (AFVs) and their fueling infrastructure costs.

Air Quality Improvement Benefits

Provide information on emissions levels for the current and future alternative fuel vehicles.

Codes, Standards and Regulations

Help customers understand existing and proposed regulations that will affect their AFV fueling station construction and operations.

Support Industry Partnerships

Facilitate the development of the electric-drive and natural gas vehicles and fueling that will meet California transportation needs in collaboration with industry stakeholders.

The Clean Air Transportation program continues to accomplish its goals through a variety of activities.

- The Pacific Gas and Electric Company's fleet strives to increase its use of natural gas and electric vehicles. There are over 800 natural gas vehicles within the fleet. Typical uses include gas service trucks, meter reader vehicles, and pool cars.
- PG&E vigorously encourages the development of new technologies and products. Even within the company, collaborative demonstrations are pursued to create new natural gas vehicle (NGV) and infrastructure technologies. One result is the heavy-duty (HD) natural gas crew truck that makes up 10% of the HD crew truck population. The innovative breakthrough design was acknowledged by the American Lung Association Bay Area chapter by awarding PG&E the Clean Air ENVY award.
- PG&E is examining truck stop electrification, auxiliary power unit, plug-in truck refrigeration units, electric lift trucks, hydrogen production methods and more uses of electricity and electric-drive vehicle technologies.

Pacific Gas and Electric Company's Clean Air Transportation program is dedicated to working with and educating its customers about the safe and efficient use of clean air transportation technologies.

For more information:

Visit **www.pge.com/cleanair** or call **800.684.4648**

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Clean Air Transportation

PROGRAM SNAPSHOT

vision

Robust transportation markets for natural gas and electric drive vehicle technologies development in California. The State's air pollution and dependence on foreign oil are both significantly reduced.

- Natural gas becomes the preferred fuel for much of the medium- and heavy- duty trucking and bus transportation segments.
- Electricity becomes the preferred fuel for neighborhood and off-road vehicles.

mission

- Work with stakeholders to expand the market for natural gas and electricity in vehicle applications.
- Provide timely, accurate information on costs, product availability, and emissions benefits related to the use of natural gas and electricity in transportation markets.
- Meet customers' needs for support concerning the safe, efficient use of natural gas and electricity as transportation fuels.
- Demonstrate that Liquefied Natural Gas (LNG) is a safe, reliable, cost-effective vehicle fuel for medium- and heavy-duty trucking.
- Demonstrate the value of electric drive vehicle technologies, such as hybrid, battery, and fuel cell electric vehicles, fast charging for lift trucks and various diesel reduction methods.
- Demonstrate and utilize natural gas and electric drive technologies within company applications.

making it happen

Infrastructure

Small Scale Liquefier: Demonstration of 10,000 gallon/day "pipeline" Liquid Natural Gas liquefier

PHILL Demo: Demonstration and testing of indoor compressed natural gas home refueling appliance

ZTEC Demo: Demonstration of small scale hydrogen production using a natural gas reforming process

Compressed natural gas fueling upgrades: Installation of Multiforce™ system to allow for universal card/credit card purchasing

Material handling "fast charge" demonstration: Project monitoring and gathering data to access benefits of fast charging in conjunction with time-of-use-electric rates

Fuel cell vehicle fueling impacts and analysis: Monitor and analyze City and County of San Francisco hydrogen fueling of their fuel cell demonstration vehicles

Vehicle Technologies

Plug-in hybrid electric trouble truck project: Development and demonstration project based on Ford F550 Super duty chassis (19,500 lb GVW) for use as utility trouble truck

Hybrid electric bucket truck project: Development and demonstration of 33,000 lb GVW utility service and bucket truck

Next generation heavy duty gas crew truck design and development: Integration of John Deere Compressed Natural Gas engine in new M2 chassis for use in heavy-duty utility gas crew trucks

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