

Meeting Clean Transportation Objectives

May 20, 2016

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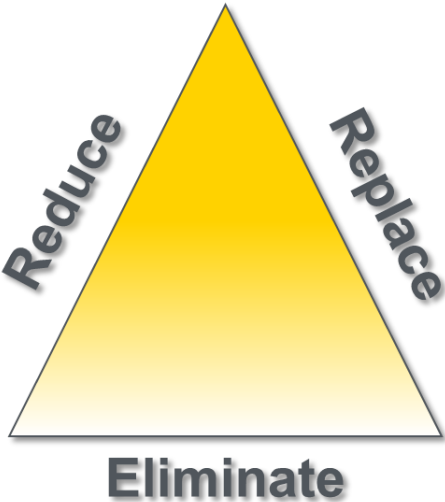
(510) 615-5487

Clean Cities' Mission

To advance the energy, economic, and environmental security of the U.S. by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption in the transportation sector.

- Sponsored by the DOE's Office of Energy Efficiency and Renewable Energy's Vehicle Technologies program
- Provides a framework for businesses and governments to work together as a coalition to enhance markets
- Coordinate activities, identify mutual interests, develop regional economic opportunities, and improve air quality

Fleet Petroleum Displacement Options



Pollutant and GHG Reduction Mandates

90% NOX reduction to attain federal ozone standards by 2031

GHG reductions- 40% of 1990 levels by 2030, 80% by 2050

50% petroleum reduction by 2030

Executive Order B-16-2012

2015- 10% of State light duty fleet purchases must be ZEV

2020- Infrastructure to support 1 million ZEV's in place, widespread use of ZEV's for public transportation/freight

2025- 1.5 million ZEV's on California roadways

ARB's Advanced Clean Transit Rule (proposed)

2018- ? % of bus purchases to be ZEV

2040- 100% of bus purchases to be ZEV

Availability of fueling infrastructure
Fuel cost uncertainty (\$13/kg?, 60 miles)
Limited vehicle type availability
Equipment acquisition costs

Open - Retail	17
Open - Non-Retail	6
Commissioning	7
Under Construction	3
Approval to Build	2
Planning Approval	5
Permit in Process	3
Pre-Permit Application	4
Site Acquisition	4

Sample fleet H₂ vehicle acquisition model, 2016:

\$40,800- State DGS contract Toyota Mirai
-\$15,000- CVRP rebate w/Public Fleet Project
-\$2,500- BAAQMD voucher
\$23,300

Additional strategically placed fueling sites
Continue/expand mandates and incentives
Diversify vehicle platforms
Export power capabilities
Renewably sourced
Stay the course

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Alternative Fuels and Vehicles

- Biodiesel (B100)
- Electricity
- Ethanol (E85)
- Hydrogen
- Natural gas
- Propane

Fuel Blends

- Biodiesel/diesel blends (B2, B5, B20)
- Ethanol/gasoline blends (E10)
- Hydrogen/natural gas blends (HCNG)

Fuel Economy

- Fuel efficiency
- Behavioral changes
- Vehicle maintenance initiatives
- Vehicle miles traveled (VMT)

Hybrids

- Light- and Heavy-duty HEVs
- PHEVs

Idle Reduction

- Heavy-duty trucks
- School buses
- Truck stop electrification

Clean Cities Web site

www.eere.energy.gov/ccities

Alternative Fuels & Advanced Vehicles Data Center Web site

www.eere.energy.gov/afdc

Clean Cities Coordinator Contact Information and Coalition Web sites

<http://www.afdc.energy.gov/cleancities/progs/coordinators.php>

DOE EERE Information Center and Technical Response Service

Web Site: <http://www.eere.energy.gov/afdc/informationcenter.html>

Phone: 1-800-EERE-INF (1-877-337-3463)

Email: technicalresponse@icfi.com

Hours: 9:00 a.m. – 6:00 p.m. EST