

Chicago Area Alternative Fuels Deployment Project (CAAFDP)

Samantha Bingham

City of Chicago

Department of Environment

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Project ID #
ARRAVT061



City of Chicago
Richard M. Daley
Mayor

Overview

Timeline

- Start: 02 / 2010
- End: 12 / 2013
- 25% Complete

Budget

- Total funding:\$39,624,658
 - DOE Funding: \$14,999,658
 - Cost Share:\$24,635,322

Barriers

- Barriers and Risks
 - Unforeseen Permitting Issues
 - Construction Delays
 - Availability of Equipment

Partners

- Gas Technology Institute (GTI)
- Chicago Area Clean Cities Coalition
- Municipalities and Private Companies



Project Objectives

\$15 million in USDOE ARRA funding received by City and partners

- Increase the number of alt fuel vehicles & hybrids
- Develop fueling & charging infrastructure to support growth of alt fuel use
- Reduce amount of petroleum used by transportation sector
- Generate jobs
- Enhance regional air quality
- Reduce greenhouse gas emissions

\$24.6 million leveraged in additional project investments



Project Objectives

- **Increase the number of alt fuel vehicles & hybrids (528 vehicles)**
 - 286 Gasoline Hybrids
 - 233 CNG Vehicles (41 Heavy Duty)
 - 9 Heavy Duty Diesel Hybrids and PHEVs
- **Develop fueling & charging infrastructure to support growth of alternative fuel use (344 Stations)**
 - 16 CNG stations
 - 1 LPG station
 - 10 E-85 stations
 - 317 Electric Charging stations (73 DC Fast Charging)
- **Combined Benefits of the Project**
 - 448 metric tons/yr in reduced criteria pollutants
 - 7,647 metric tons/yr in reduced CO₂ (eq. to removing 1390 cars/yr)
 - 3.1 million gallons of petroleum/yr displaced
 - 77 full time equivalent jobs



Project Partners

City of Chicago Department of Environment – Lead

Gas Technology Institute (GTI) – Project Management and Sub-awardee

16 Projects

- 350Green
- Chicago Department of Fleet Management
- Chicago Green Taxi Program
- ComEd
- Doreen's Pizza
- DuPage County Dept. of Transportation
- Foodliner
- Forest Preserve District of DuPage County
- Groot
- GTI
- I-GO
- Patson-Excel-Diageo
- Peoples Gas/Clean Energy
- TAS/Clean Energy
- Village of Downers Grove
- Waste Management



Project Partners

350Green

- Infrastructure
 - Public electric vehicle charging stations
 - 73 CharJit Express Plazas
 - 73 DC Quick Charge
 - 146 Level 2
 - 61 Level 2 stations
 - Dedicated to I-GO and ZipCar



Project Partners

Chicago Dept of Fleet Management

■ Vehicles

- 15 Honda Civic GX
- 35 CNG vehicle conversions



■ Infrastructure (located throughout City)

- 1 new shared CNG station
- 5 shared CNG station upgrades to existing stations
- 10 shared E-85 station conversions/relocations



Project Partners

Chicago Green Taxi Program

- Vehicles
 - Funding for alternative fuel and hybrid taxis throughout Chicago
- Infrastructure
 - Alternative fuel taxis will fill at existing infrastructure



Project Partners

ComEd

- Vehicles

- 35 light-duty hybrid vehicles
- 8 heavy-duty hybrid trucks
- 1 heavy-duty PHEV truck



- Infrastructure

- 37 private Level 2 charging stations



Project Partners

Doreen's Pizza

- Vehicles
 - Existing vehicle fleet of 6 CNG delivery vehicles
- Infrastructure
 - 1 new CNG fueling station



Project Partners

DuPage County Government- DOT

- Vehicles
 - 15 CNG conversions
- Infrastructure
 - 1 new public CNG station

DuPage County
Illinois



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Project Partners

Foodliner

- Vehicles
 - 6 heavy-duty CNG trucks
- Infrastructure
 - Fueling at GTI station



Project Partners

Forest Preserve District of DuPage County

- Vehicles

 - 15 CNG conversions

 - 1 hybrid vehicle

- Infrastructure

 - 1 new public CNG station

 - 1 new public LPG station



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Project Partners

Groot Industries

- Vehicles

 - 20 CNG waste haulers

- Infrastructure

 - 1 upgraded existing CNG station to make it public



Project Partners

GTI

■ Infrastructure

- 1 upgraded existing public CNG station
- Primary fueling for Foodliner and Excel-Diageo
- Supplemental fueling for WM, Groot, and others



Project Partners

I-GO

- Vehicles

- 11 hybrid vehicles

- Infrastructure

- Utilize electric charging stations (throughout Chicago area)
 - *Due to USDOE award, I-GO leveraged two additional state grants to support solar-powered charging stations (~\$1mm)*



Project Partners

Patson-Exel-Diageo

- Vehicles
 - 4 heavy-duty CNG trucks
- Infrastructure
 - Fueling at GTI



Project Partners

Peoples Gas / Clean Energy

- Vehicles
 - 12 CNG conversions
- Infrastructure
 - 1 new public CNG station



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Project Partners

Taxi Affiliation Services / Clean Energy

- Vehicles
 - 100 NGV taxis
- Infrastructure
 - 2 new public CNG stations
 - Yellow Cab signed 10 year service agreement with Clean Energy



Project Partners

Village of Downers Grove

- Vehicles
 - Existing vehicle fleet



- Infrastructure
 - 1 upgraded existing CNG to make it public



Project Partners

Waste Management

- Vehicles
 - 11 CNG waste haulers
- Infrastructure
 - 1 new CNG station



Accomplishments to Date

– Vehicles Deployed (77 vehicles)

- 25 Gasoline Hybrids
- 8 Heavy Duty Diesel Hybrids
- 12 Light Duty CNG vehicles
- 32 Heavy Duty CNG vehicles
- Over 210,000 gallons of petroleum displaced (31 vehicles-Q4 2010)

– Infrastructure Deployed (39 stations)

- 2 CNG stations completed
- 1 E-85 station completed
- 36 Electric Charging Stations completed

– Project Funding Spent

- ~\$3.7 million DOE Expenditures
- ~\$9 million Recipient Expenditures



Projected Work - FY 2011

- **Order all vehicles**
- **Deploy 75% of all vehicles**
- **Order all equipment for fueling stations**
- **Have all stations designed and permitted**
- **Deploy 75% of all stations**
- **Continue data collection for all deployed vehicles and stations**
- **Process invoices for over 50% of DOE funds**



Summary

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- **Project will develop fueling & charging infrastructure to support growth of alternative fuel use (344 Stations)**
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