Chicago Area Alternative Fuels Deployment Project (CAAFDP)

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City of Chicago
Department of Environment
May 12, 2011
Overview

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

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

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

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
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
Project Partners
Groot Industries

- Vehicles
  - 20 CNG waste haulers

- Infrastructure
  - 1 upgraded existing CNG station to make it public
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
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

- Project will increase the number of alt fuel vehicles & hybrids (528 vehicles)
- Project will develop fueling & charging infrastructure to support growth of alternative fuel use (344 Stations)

 Combined Benefits of the Project

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