



# Chicago Area Alternative Fuels Deployment Project

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City of Chicago Department of Transportation  
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# Overview

## Timeline

- Start date: February 2010
- Completion date: December 2013
- Status: 77% complete

## Barriers

- Barriers and risks
  - Unforeseen permitting issues
  - Construction delays
  - Availability of equipment

## Budgets

- Total project funding: \$39,624,980
  - US DOE funding: \$14,999,658
  - Recipient share: \$24,635,322

## Partners

- Gas Technology Institute (GTI)
- Chicago Area Clean Cities Coalition
- State of Illinois, municipalities, and private companies

# Chicago Climate Action Plan



**25% Reduction by 2020**

Calls for a 10% increase  
in alternative fuel use  
in Chicago by 2020

## Project Budget

**\$15  
million**

in USDOE ARRA  
funding received by  
City and partners

**+**

**\$24.6  
million**

leveraged in  
additional project  
investments

## Project Objectives

### Increase alternative fuel vehicles & hybrids

**310** CNG Vehicles (129 Medium & Heavy Duty), **83** Gasoline Hybrids, **10** Heavy Duty Diesel Hybrids and PHEVs

### Develop fueling & charging infrastructure

**316** Electric Charging stations (73 DC Fast Charging), **17** CNG stations, **1** LPG station, **11** E-85 stations

**400** metric tons/yr in reduced criteria pollutants

**7,500** metric tons/yr in reduced CO<sub>2</sub> (eq. to removing almost 1,400 cars/yr)

**3 million** gallons of petroleum/yr displaced

**77** full time equivalent jobs

# 16 Project Partners

## Approach-Partnerships

**US DOE**  
Sponsor—Project Oversight

**City of Chicago DOT**  
**Samantha Bingham**  
Prime  
•Coordination of Project Partners  
•Project Reports

**GTI**  
Ted Barnes – PM  
• Coordination with Subawardees  
• Project reporting and invoicing support  
• Technical support

**City of Chicago**  
**Dept of Fleet and Facilities Mngt**  
Matt Stewart  
• Subawardee

**350 Green**  
Hali Sittig-PM  
• Subawardee  
• Electric Charging station infrastructure developer

**Green Taxi Program**  
Hybrid and Alt Fuel Taxis

**Commonwealth Edison**  
Vehicles and Infrastructure

**Doreen's Pizza**  
Infrastructure

**DuPage County DOT**  
Vehicles and Infrastructure

**Foodliner**  
Vehicles

**Forest Preserve DuPage**  
Vehicles and Infrastructure

**Groot**  
Vehicles and Infrastructure

**I-GO**  
Infrastructure

**Patson-Exel-Diageo**  
Vehicles

**Peoples Gas**  
Vehicles and Infrastructure

**Clean Energy / Yellow Cab**  
Vehicles and Infrastructure

**Village of Downers Grove**  
Infrastructure

**Waste Management**  
Vehicles and Infrastructure

# Municipal Partners — Shared Fueling



**City of Chicago- Dept. of Fleet Management  
50 NGVs, 6 CNG Stations, 11 E-85 Stations**



**Village of Downers Grove  
Upgrading CNG station for public use**



**DuPage County DOT  
15 NGVs, 1 CNG station**



**DuPage County Forest Preserve  
15 NGVs, 3 Hybrids, 1 CNG/LPG station**

# Waste Haulers — Time-Fill and Public Fueling



**Waste Management**  
**15 Waste Haulers, 1 CNG station**



**Groot Industries**  
**20 Waste Haulers, 2 CNG stations**

# Taxis —Public Infrastructure Dependent



**Clean Energy  
2 Public Fueling Stations**



**Yellow Cab  
89 NGV Taxis**



**Green Taxi Program  
70 NGVs, 50 Hybrids, 55 Companies**

# Private Industry— Public Fueling



**Foodliner  
6 Long-haul Heavy-Duty CNG Trucks**



**Ozinga Brothers  
14 CNG Cement Mixers**

# Private Industry— Public Fueling



**Patson-Exel Diageo  
2 Heavy-Duty CNG Delivery Trucks**



**SCR Medical Transportation  
6 Wheelchair Accessible NGVs**



**GO Airport Express  
2 NGV Shuttle Vans**



**Doreen's Pizza  
1 CNG station for existing fleet**

# Electric Vehicle Supply Equipment



**Car Sharing Companies I-Go and Zipcar  
Using 350Green EVSE**



**350Green  
207 Level 2, 73 DC Fast Chargers**

## Approach-Technical Accomplishments

# Utilities/Non-Profits



**ComEd**

**35 Hybrids, 8 Hybrid Bucket Trucks, 1 PHEV Digger, 36 Level 2 EVSE**



**GTI**  
**1 CNG Station**

**PEOPLES GAS**  
NATURAL GAS DELIVERY

**Peoples Gas**  
**12 NGVs, 1 CNG Station**

# Snowball Effect —US DOE Funds Lead to Outside Investments/Improvements

## Green Taxi Program

### 55 CNG taxis

>\$750,000 in private funds

### City Policy Changes

2 major changes to incent green taxis

Released RFP for “Green” O’Hare fueling station

## WM and Groot Projects

### 3 More Waste Haulers

> 75 CNG Trucks, 3 Stations

>\$5,000,000 in private funds

### Additional WM Public station

Near Midway Airport

### Early Nissan Leaf Release

### City Flex Fuel Vehicles

“Locked out” of gasoline

### AT&T CNG Vehicles

>50 NGVs; >\$500,000 private funds

## New Alternative Fuel Infrastructure

## Accomplishments to Date

### 352 Vehicles Deployed

259 CNG Vehicles (87 Heavy Duty),  
83 Gasoline Hybrids, 10 Heavy Duty  
Diesel Hybrids and PHEVs

### 223 Stations Operational

198 Electric Charging stations (26 DC  
Fast Charging), 15 CNG stations, 1  
LPG station, 9 E-85 stations,

**\$11.6 million** in USDOE costs incurred

**\$20.6 million** in Recipient share incurred

**1,650,000** gallons of petroleum displaced

**3700** tons of GHG emissions reduced



***equivalent to removing 726 cars off the road***

## Federal Fiscal Year 2012

### Vehicles

Deploy final 51 vehicles; ordered awaiting arrival or admin. tasks

### Stations

Complete final 2 CNG and E-85  
Install final EVSE

## Ongoing Efforts

### Data / Reporting

Continue data collection and reporting on all vehicles, stations, and activities

### Marketing

Plan additional events, further develop strategy, and continue current efforts

# Summary

- **Project will increase the number of alt fuel vehicles & hybrids (403 vehicles)**
- **Project will develop fueling & charging infrastructure to support growth of alternative fuel use (345 Stations)**
- **Combined Benefits of the Project**
  - Over 400 metric tons/yr in reduced criteria pollutants
  - Over 7,500 metric tons/yr in reduced CO<sub>2</sub> (eq. to removing almost 1,400 cars/yr)
  - Over 3 million gallons of petroleum/yr displaced
  - 77 full time equivalent jobs