**Midwest Region Alternative Fuels Project Overview**

**Timeline**
- **Start:** Dec 28, 2009
- **Finish:** Dec 27, 2013
- **% Complete:** 81% thru 1FQ2012

**Budget**
- Total project: $31,744,788
  - $14,999,905 DOE
  - $16,744,883 contractor
- Budget expended thru 3/2012
  - $12.2M DOE
  - $18.5M Contractor

**Barriers & Risks**
- Annual budget constraints of partners with new or prolonged projects
- Backlog in electric and CNG supply chain
- Adding partners and new projects

**Partners**
19 public and private entities (see slide 4). Each procures alternative fuel vehicles and/or builds refueling stations. Fuel and technology types: compressed natural gas (CNG), electric, hybrid-electric, biofuels, propane.

**Targets: Alt Fuel Deployment**
- 365 alternative fuel vehicles
- 36 alternative fuel stations
FY2010 - FY2013 Project Objectives

- In the national alternative fuel and advanced technology vehicle sector, create new jobs while preserving existing ones.
  - Benefit to related barrier: encourages increased production in established and new U.S.– based electric and CNG supply chains
  - Benefit to related barrier: provided basis for new sales and service jobs for alternative fuel vehicles within local private businesses

- In the three-state project region (MO, KS, NE):
  - Spur economic activity and invest in marketplace transformation by creating a sustainable alternative fuels market
    - Benefit to related barrier: outreach engendered interest in and knowledge of project and eased transition to new partners
  - Demonstrate diversified approach to petroleum reduction through a targeted deployment of alternative fuel and advanced technology vehicles and infrastructure
Midwest Region Alternative Fuels Project

Approach

Project Partners

- Each partner has named a team lead, who manages progress of its part in the project, monitors and collects required data and reports to Metropolitan Energy Center.
- Metropolitan Energy Center provides management of total project objectives, holds partners to DOE requirements, hosts monthly best practice and project status calls, administers invoices and expenditures, and aggregates project partner data for reporting to DOE.

- Black Hills Energy
- City of Kansas City, Missouri
- City of Lawrence, Kansas
- City of Lee's Summit, Missouri
- City of Wichita, Kansas
- Government of Johnson County, Kansas
- Happy Cab Company
- Kansas City Power & Light
- Kansas City Kansas Public Schools USD500
- Kansas Gas Service
- Lee's Summit School District R-7
- Lincoln Airport Authority
- Margo Leasing / Wil Fischer
- Metropolitan Community College - Omaha
- Metropolitan Utilities District
- New Bern Transport Corporation / PepsiCo
- O' Daniel Honda
- University of Missouri at Kansas City
- Zarco 66, Inc.
Technical Barriers and NEPA Status

- Partner procurement processes and fiscal year planning times differ
  - In some cases, this delayed initiating orders and resulted in later deployment dates than originally anticipated.
  - Some partners shifted funding to other project emphases than originally intended.

- Backlog in electric and CNG supply chain
  - Partners chose different vendors and vendors chose different parts when the intended supply chain was too slow.
  - No insurmountable supply chain barriers have arisen.

- Added partners when projects came in under budget
  - Outreach during first year of project very effectively reached other agencies interested in alternative fuels. Resulted in easy transition to additional partners.
  - Chose new partners with accelerated project plans to meet overall project timelines.

- NEPA Status
  - NEPA Environmental Questionnaires are submitted according to requirements.
  - NEPA submittals by our staff and review by DOE staff are timely.
  - NEPA process is on track, with none overdue.
## Milestones

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>25% of Vehicles Ordered</td>
<td>12/30/10</td>
<td>12/30/10</td>
</tr>
<tr>
<td>50% of Vehicles Ordered</td>
<td>03/30/11</td>
<td>03/30/11</td>
</tr>
<tr>
<td>75% of Vehicles Ordered</td>
<td>06/30/11</td>
<td>05/30/11</td>
</tr>
<tr>
<td>100% of Vehicles Ordered</td>
<td>12/31/11</td>
<td>03/30/12</td>
</tr>
<tr>
<td>25% of Vehicles Deployed</td>
<td>03/30/11</td>
<td>03/30/11</td>
</tr>
<tr>
<td>50% of Vehicles Deployed</td>
<td>06/30/11</td>
<td>07/30/11</td>
</tr>
<tr>
<td>75% of Vehicles Deployed</td>
<td>09/30/11</td>
<td>01/03/12</td>
</tr>
<tr>
<td>100% of Vehicles Deployed</td>
<td>06/31/12</td>
<td></td>
</tr>
<tr>
<td>First Station Operational</td>
<td>01/30/10</td>
<td>11/30/09</td>
</tr>
<tr>
<td>50% of Stations Operational</td>
<td>06/30/11</td>
<td>08/30/11</td>
</tr>
<tr>
<td>Last Station Operational</td>
<td>06/30/12</td>
<td></td>
</tr>
<tr>
<td>Marketing/Outreach Initiated</td>
<td>02/10/10</td>
<td>02/10/10</td>
</tr>
<tr>
<td>Marketing/Outreach Completed</td>
<td>12/31/13</td>
<td></td>
</tr>
<tr>
<td>Training Initiated</td>
<td>02/10/10</td>
<td>02/10/10</td>
</tr>
<tr>
<td>Training Completed</td>
<td>12/31/13</td>
<td></td>
</tr>
</tbody>
</table>
**Target: 365 Alternative Fuel and Advanced Technology Vehicles**

- Project objective was increased to **365** vehicles deployed from 333, as incremental cost for alternative fuel decreased, due to economies of scale
- Orders placed for 328 vehicles; or **90%** of project objective
  - Compare to last year, reported at 46%
- Deployed 301 vehicles; or **85%** of project objective
  - Compare to last year, reported at 13%
  - Of equipment expected to be deployed by 2011 year-end, we achieved 95% deployment by March 2012.
  - Cumulative gallons of alternative fuel used or petroleum fuel displaced: **215,000** (3427 last year)

**Economies of scale made it possible for us to increase our vehicle deployments; we are still near 90% complete for this task.**
Midwest Region Alternative Fuels Project
Technical Accomplishments

• **Target: 36 Alternative Fuel Stations**
  - Design and Site Work is begun at 31 locations (86%)
    - Compare to last year, reported at 80%
  - Completed 19 locations; or 75% of project objective
    - Compare to last year, reported at 16%
    - Gallons of alternative fuel dispensed: **85,000** (1066 in 1FQ11)
  - One project with 7 biofuels stations was delayed substantially by a project revision

• **Target: American Jobs**
  - Jobs created and saved is consistently between 3 and 4 per quarter, performing direct work on the project.
  - This statistic does not include manufacturing jobs for station or vehicle equipment, which are positively impacted by this project, as evidenced by the lowering costs experienced during the project. These jobs were not directly paid for by the partners or vendors and are not reimbursed under this project nor recorded as cost share.

ARRA jobs reporting constraints make it impossible for our project to accurately portray its impact to the marketplace. Economies of scale achieved through volume, bringing prices down for the national marketplace, implies many more jobs behind the scenes.
# Midwest Region Alternative Fuels Project

## Technical Accomplishments

<table>
<thead>
<tr>
<th>Date</th>
<th>Outreach or Media Event</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 16, 2011</td>
<td>Media event</td>
<td>CNG buses and refueling for Kansas City Kansas School District</td>
</tr>
<tr>
<td>June 10, 2011</td>
<td>Media event</td>
<td>CNG vehicles and refueling for Metropolitan Utilities District</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Includes first public CNG refueling station in Nebraska.</td>
</tr>
<tr>
<td>June 24, 2011</td>
<td>Media event</td>
<td>Kansas City Power &amp; Light announced EVSE locations</td>
</tr>
<tr>
<td>July 28, 2011</td>
<td>Station tour</td>
<td>Fleet managers toured 3 local CNG operations</td>
</tr>
<tr>
<td>July 30, August 13,</td>
<td>Public event</td>
<td>Biodiesel Discount Days at Zarco 66, Inc.</td>
</tr>
<tr>
<td>August 27, 2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>September 14, 2011</td>
<td>Media event</td>
<td>Kansas City Police Department debuts CNG</td>
</tr>
<tr>
<td>November 4, 2011</td>
<td>Media event</td>
<td>Lincoln Airport Authority public CNG and program</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>Public television</td>
<td>Motorweek segments aired and videos posted to web:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lee’s Summit School District all-electric delivery trucks (project complete in 2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public CNG fueling in Omaha, Nebraska, serving Happy Cab taxi company</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Metropolitan Utilities District CNG program</td>
</tr>
<tr>
<td>Winter 2011-2012</td>
<td>Marketing campaign</td>
<td>Kansas Gas Service public stations</td>
</tr>
<tr>
<td>March 2, 2012</td>
<td>Media event</td>
<td>Kauffman Center for the Performing Arts EVSE grand opening</td>
</tr>
</tbody>
</table>
Midwest Region Alternative Fuels Project
Partnerships: Subrecipients

1. Black Hills Energy
   public and private refueling

2. City of Kansas City, Missouri
   vehicle deployment and public charging stations

3. City of Lawrence, Kansas
   vehicle deployment

4. City of Lee's Summit, Missouri
   vehicle deployment

5. City of Wichita, Kansas
   vehicle deployment

6. Government of Johnson County, KS
   vehicle deployment and private refueling

7. Happy Cab Company
   vehicle deployment

8. Kansas City Power & Light
   charging station installations

9. Kansas City Kansas Public Schools
   bus deployment and private refueling

10. Kansas Gas Service
    public refueling upgrade

11. Lee's Summit School District R-7
    vehicle deployment and private charging

12. Lincoln Airport Authority
    vehicle deployment and public refueling

13. Margo Leasing
    private refueling and vehicle deployment
Partnerships: Subrecipients

14. Metropolitan Community College – Omaha
   vehicle deployment and private refueling

15. Metropolitan Utilities District
    vehicle deployment and public refueling

16. New Bern Transport / PepsiCo
    vehicle deployment

17. O'Daniel Honda
    semi-public refueling

18. University of Missouri at Kansas City
    vehicle deployment and public charging

    public refueling
Midwest Region Alternative Fuels Project
Future Work

**Technical Work**

Vehicle progress

- 90% ordered and 85% deployed as of 1FQ12
- 100% deployment by June 2012

Infrastructure progress

- 97% site work started and 75% deployed as of 1FQ12
- 100% completion Sept 2012

**Project Administration**

Continue Project Management

Continue Monitoring, Data Collection and Reporting
Outreach and Training

Continue Outreach Campaign

Media and Grand Opening Events

- Public CNG station in Lincoln, NE
- Private CNG station and program for Governments of Johnson County, Kansas
- Public bio-fuels station at 7 traditional fueling sites

Develop and Deliver Training Curriculum

- Operator and Technician Training
- First Responder Training
Midwest Region Alternative Fuels Project

Summary: 365 Vehicles

<table>
<thead>
<tr>
<th>Type</th>
<th>Planned</th>
<th>Ordered</th>
<th>Deployed</th>
</tr>
</thead>
<tbody>
<tr>
<td>EV</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>CNG</td>
<td>32</td>
<td>4</td>
<td>264</td>
</tr>
<tr>
<td>LPG</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>NEV</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>HEV</td>
<td>1</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td>PHEV</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>H2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LNG</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Midwest Region Alternative Fuels Project

Summary: 36 Infrastructure Locations

Stations

* Does not reflect the 3 biodiesel installations planned for the same locations as 3 of the E85 stations
### Midwest Region Alternative Fuels Project Summary

<table>
<thead>
<tr>
<th>Project Partner</th>
<th>Vehicle</th>
<th>Infrastructure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Hills Energy</td>
<td>0</td>
<td>1</td>
<td>Planning</td>
</tr>
<tr>
<td>City of Kansas City, Missouri</td>
<td>171</td>
<td>2</td>
<td>163 vehicles deployed; 8 others ordered. 2 EVSE installed</td>
</tr>
<tr>
<td>City of Lawrence, Kansas</td>
<td>1</td>
<td>0</td>
<td>complete</td>
</tr>
<tr>
<td>City of Lee's Summit, Missouri</td>
<td>4</td>
<td>0</td>
<td>complete</td>
</tr>
<tr>
<td>City of Wichita, Kansas</td>
<td>18</td>
<td>0</td>
<td>Deployed 15 HEVs; 3 planned</td>
</tr>
<tr>
<td>Happy Cab Company</td>
<td>50</td>
<td>0</td>
<td>13 deployed; 5 being converted</td>
</tr>
<tr>
<td>Government of Johnson County, Kansas</td>
<td>3</td>
<td>1</td>
<td>planning</td>
</tr>
<tr>
<td>Kansas City KS Public Schools USD 500</td>
<td>54</td>
<td>1</td>
<td>48 deployed; 6 ordered. 1 station complete</td>
</tr>
<tr>
<td>Kansas City Power &amp; Light</td>
<td>0</td>
<td>10</td>
<td>complete</td>
</tr>
<tr>
<td>Kansas Gas Service</td>
<td>0</td>
<td>2</td>
<td>complete</td>
</tr>
<tr>
<td>Lee's Summit School District R-7</td>
<td>4</td>
<td>2</td>
<td>complete</td>
</tr>
<tr>
<td>Lincoln Airport Authority</td>
<td>7</td>
<td>1</td>
<td>complete</td>
</tr>
<tr>
<td>Margo Leasing</td>
<td>2</td>
<td>1</td>
<td>complete</td>
</tr>
<tr>
<td>Metropolitan Community College – Omaha</td>
<td>1</td>
<td>1</td>
<td>complete</td>
</tr>
<tr>
<td>Metropolitan Energy Center</td>
<td>1</td>
<td>1</td>
<td>1 ordered. 1 station site work started</td>
</tr>
<tr>
<td>Metropolitan Utilities District</td>
<td>42</td>
<td>2</td>
<td>complete</td>
</tr>
<tr>
<td>New Bern / PepsiCo</td>
<td>6</td>
<td>0</td>
<td>4 deployed; 2 ordered</td>
</tr>
<tr>
<td>O'Daniel Honda</td>
<td>0</td>
<td>1</td>
<td>complete</td>
</tr>
<tr>
<td>University of Missouri - Kansas City</td>
<td>1</td>
<td>1</td>
<td>complete</td>
</tr>
<tr>
<td>Zarco 66, Inc</td>
<td>0</td>
<td>7</td>
<td>1 complete; 6 under way</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>365</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>