Overview

**Target:** Complete LNG Fueling Corridor across Southwestern U.S. from Southern California to Utah (700 mile link on the nation’s most heavily traveled goods movement truck routes) through the construction of a publicly accessible LNG fuel station in Las Vegas, Nevada. UPS will also deploy 48 heavy-duty LNG vehicles.

**Timeline**
- September 2009
- December 2013

**Budget**
- Total project funding
  - DOE share: $5,591,610
  - Contractor share: $6,268,223

**Barriers & Standard Risks**
- Delays in receiving final permit approvals
- Delays in gaining access to electric utilities
- Delays, interruption and/or price escalation of fuel station equipment
- Construction delays due to weather or labor issues

**Partners**
- Project lead: SCAQMD
- Project partners: United Parcel Service, Eastern Sierra Regional Clean Cities Coalition, Southern California Clean Cities Coalition
Objectives

- Construct publicly accessible LNG station in Las Vegas
- Deploy 48 heavy-duty Kenworth T800 Class 8 LNG trucks: 16 in Ontario, CA and 32 in Las Vegas
- Support primary fueling for the 48 above trucks and secondary fueling for other regional LNG fleet operators at the publicly accessible stations
- Extend award winning Interstate Clean Transportation Corridor (ICTC) throughout Western U.S., creating multi-state link in nation’s first natural gas fueling corridor
- Promote the publicly accessible Las Vegas station to help support LNG-powered interstate goods movement operations originating in Long Beach and Los Angeles through to Salt Lake City
- Replace fuel intensive heavy-duty diesel trucks with clean-burning domestically-fueled alternative fuel trucks
- Serve as model for other heavy-duty truck fleets on how to successfully implement advanced technology alternative fuel programs in large-scale commercial fleet operations
Project Relevance

- UPS’ Ontario-Las Vegas Corridor project will displace over 1.25 million gallons diesel annually
- Reduce emissions by 83.23 tons of NOx, 1.07 tons of PM, and 236 tons of GHG annually
- Creation of the first multi-state, publicly accessible LNG refueling corridor supporting delivery operations from the Port of Long Beach to Salt Lake City
- Allows for market expansion of alternative fuels
- Demonstrate alternative fuel use in focused heavy-duty applications
- **JOB CREATION:** This project contributes to the retention and/or creation of 58 domestic green jobs

<table>
<thead>
<tr>
<th>JOBS CREATION SUMMARY</th>
<th># of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction (Fueling Stations/Facility Upgrades)</td>
<td>43</td>
</tr>
<tr>
<td>Manufacturing/Service Support</td>
<td>6.6</td>
</tr>
<tr>
<td>Jobs Retained via Capital Reinvestment</td>
<td>8.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>58.1</strong></td>
</tr>
</tbody>
</table>

- This project offers DOE an exceptional opportunity to immediately implement a significant petroleum reducing option that will create and preserve vital green manufacturing jobs throughout the United States
- **RISK MANAGEMENT:** Station construction and truck deployment are relatively straightforward, and project partners have strong background in similar project implementation
Implementation Approach

STATION APPROACH

• Station to have 30,000 gallons of LNG storage and 3 dispensers
• Project funding has been bifurcated: UPS is responsible for purchase of all trucks and Clean Energy is responsible for the property purchase and LNG fueling station construction
• The station is located at the corner of George Crockett and Gillespie in Las Vegas, NV
• Clean Energy has already ordered long lead-time equipment including the LNG storage tank and associated pumps. Clean Energy also maintains a supply of ancillary equipment that will prevent any delays after receiving necessary building permits
• Permitting process straightforward – LNG stations do not require air quality permits aside from load-bearing capacity requirements, have no soil, groundwater, or other considerations

TRUCK DEPLOYMENT APPROACH

• Deploy 48 Kenworth T800 LNG heavy-duty class-8 trucks
• Ontario truck specifications and final pricing provided, order is pending
PERMITTING & NEPA STATUS
• Communication with City of Las Vegas regarding permitting and approvals of the site in process. A conditional use permit application is being prepared. Town Board meeting is May 18th and permit hearing is expected on June 1st

SAFETY
• Team assembled for project has been directly involved in over half of all LNG fuel station projects in U.S.
• Intimate familiarity with applicable codes and standards and solid safety record
## Milestones

<table>
<thead>
<tr>
<th>PROJECT MILESTONE</th>
<th>ORIGINAL TIMELINE</th>
<th>STATUS</th>
<th>REVISED TARGETED COMPLETION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Kickoff Mtg. to identify permitting &amp; other construction needs</td>
<td>Q3 2009</td>
<td>Complete</td>
<td>-</td>
</tr>
<tr>
<td>Select site for station</td>
<td>Q4 2009</td>
<td>Complete – purchase agreement in process</td>
<td>Q3 2010</td>
</tr>
<tr>
<td>Issue P.O for 16 LNG vehicles in Ontario</td>
<td>Q4 2009</td>
<td>Specifications Complete</td>
<td>Q4 2011</td>
</tr>
<tr>
<td>Submit National Environmental Study (Minimal Impacts) and Preliminary Environmental Studies Form (Programmatic Categorical Exemption expected)</td>
<td>Q2 2010</td>
<td>Complete</td>
<td>Q3 2010</td>
</tr>
<tr>
<td>Finalize project station plans and specifications</td>
<td>Q4 2009</td>
<td>Complete</td>
<td>Q4 2010</td>
</tr>
<tr>
<td>Bifurcate Project Work and Contracts Between UPS and Clean Energy</td>
<td>Q1 2010</td>
<td>Complete</td>
<td>Q3 2010</td>
</tr>
<tr>
<td>Execute Contract with Clean Energy as Station Turnkey Developer, Operator and Maintenance</td>
<td>Q1 2010</td>
<td>Complete</td>
<td>Q4 2010</td>
</tr>
<tr>
<td>Obtain necessary permits: Project approved by Planning Department; traffic study complete; drainage study waiting for approval; issuance of building permits pending</td>
<td>Q2 2010</td>
<td>Pending</td>
<td>Q2 2011</td>
</tr>
<tr>
<td>Order LNG station equipment: Station equipment has been ordered; delivery pending issuance of building permits pending</td>
<td>Q2 2010</td>
<td>In Process: equipment ordered</td>
<td>Q2 2011</td>
</tr>
<tr>
<td>Delivery of first LNG vehicles</td>
<td>Q2 2010</td>
<td>In Process</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>Installation of LNG station equipment</td>
<td>Q4 2010</td>
<td>In Process</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>Issue P.O for 16 LNG vehicles in Las Vegas</td>
<td>Q3 2010</td>
<td>-</td>
<td>Q1 2011</td>
</tr>
<tr>
<td>LNG station system start up and test</td>
<td>Q1 2011</td>
<td>-</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>Delivery of first Las Vegas LNG vehicle</td>
<td>Q1 2011</td>
<td>-</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>Mechanic Training for LNG maintenance</td>
<td>Q1 2011</td>
<td>-</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>LNG station commercial operation</td>
<td>Q1 2011</td>
<td>-</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>LNG Fueling Training for UPS drivers</td>
<td>Q1 2011</td>
<td>-</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>LNG station Grand Opening event</td>
<td>Q2 2011</td>
<td>-</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>Report to AQMD on final station construction and project accomplishments</td>
<td>Q2 2011</td>
<td>-</td>
<td>Q4 2011</td>
</tr>
<tr>
<td>Final Project Report at end of contract</td>
<td>Q4 2013</td>
<td>-</td>
<td>Q4 2013</td>
</tr>
</tbody>
</table>
Status Decisions

• Station site has been purchased, design and engineering work completed; equipment has been ordered
• Station contractor selected: Clean Energy
• Decisions regarding station specifications, capacity and technology complete
Technical Accomplishments & Progress

• Contracts with prime contractors executed Q4, 2010
• Station site has been purchased, design and engineering work completed
• Project approved by Planning Department; traffic study complete; drainage study waiting for approval; issuance of building permits pending
• Station equipment has been ordered; delivery pending issuance of building permits
• Truck specifications and final pricing complete

Take Home Messages:
• Project is moving forward successfully as planned
• Workload expected to increase once permit is secured
Collaborations / Partnerships

- South Coast Air Quality Management District: Contract Lead, local government agency, coordinates reporting and contracting with the DOE
- United Parcel Service: Prime contractor, manages truck deployment and operation
- Clean Energy Fuels: Prime contractor, manages LNG fueling station implementation, construction and operation
- Southern California Clean Cities Coalition
- Eastern Sierra Regional Clean Cities Coalition
- Daimler Trucks North America: Truck manufacturer selected for heavy-duty truck deployment project
- Interstate Clean Transportation Corridor: Project support, as needed; provides technical and public outreach support to drive awareness of the corridor expansion progress and fleet opportunities
Future Work & Goals for 2011

• Permit process is underway; building permits issued and construction will start during Q2 2011
• Equipment will be delivered to site upon mobilization for construction in Q2 2011
• All trucks to be ordered on schedule between Q1 2011 and Q3 2011
Summary

• Project implementation moving forward with no significant delays
• Station site has been purchased, design and engineering work completed
• Project approved by the Planning Department; traffic study complete; drainage study waiting for approval; issuance of building permits pending
• Station equipment has been ordered; delivery pending issuance of building permits
• Truck specifications and final pricing complete and order to be placed upon infrastructure advancements
• Project team well-seasoned in similar infrastructure and truck deployment projects nationwide