

# UPS Ontario - Las Vegas LNG Corridor Extension Project: Bridging the Gap

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South Coast Air Quality Management District

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Project ID # ARRAVT047

# 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

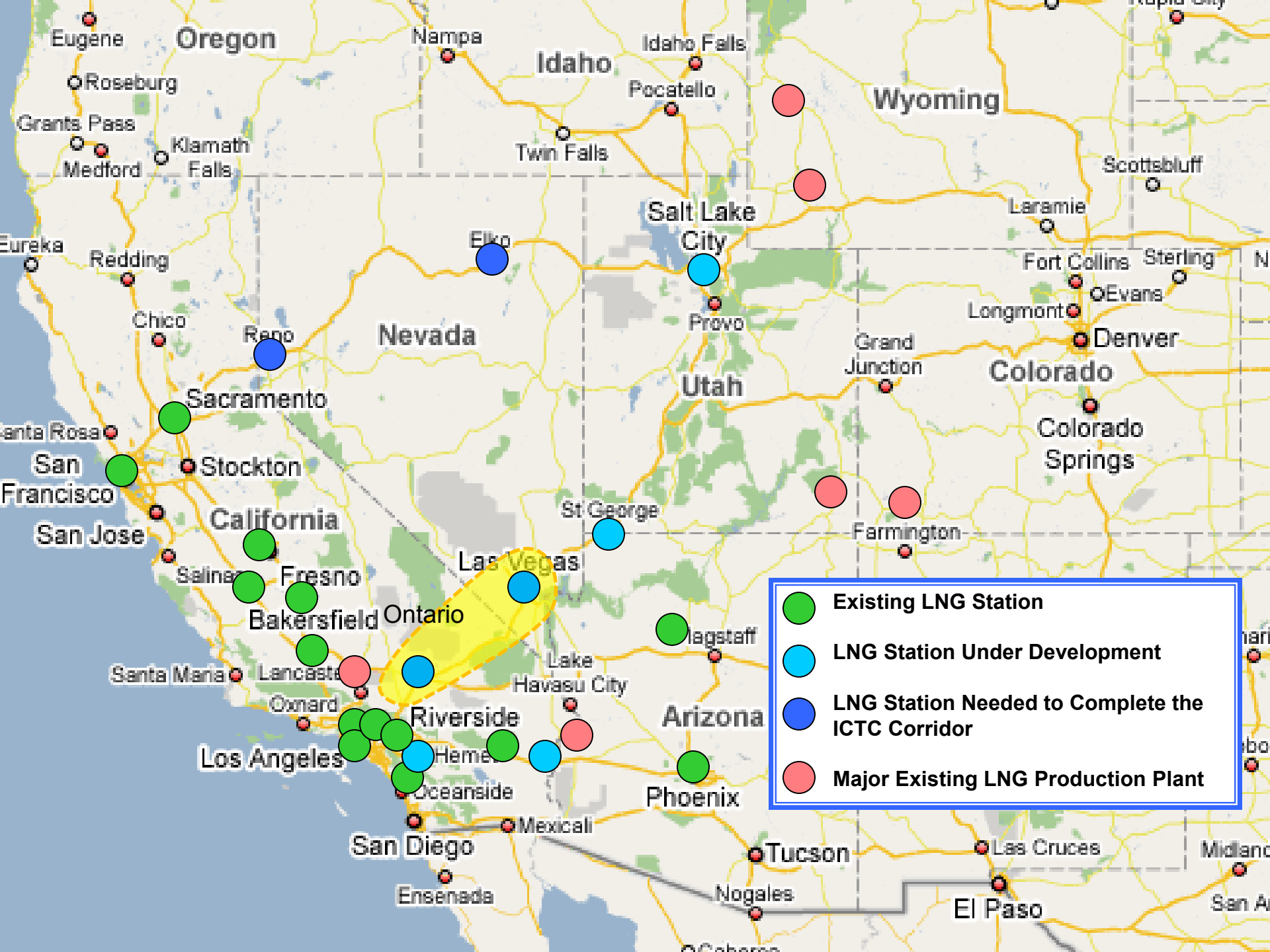


# Project Relevance

- 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

JOBS CREATION SUMMARY	
Sector	# of Jobs
Construction (Fueling Stations/Facility Upgrades)	43
Manufacturing/Service Support	6.6
Jobs Retained via Capital Reinvestment	8.5
<b>TOTAL</b>	<b>58.1</b>

- 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 straight forward, and project partners have strong background in similar project implementation



# Implementation Approach

## STATION APPROACH

- The station is located at 6980 Gilespe St., Las Vegas, NV 89119-4267
- Station is an important mid-point leg in the I-15 corridor linking Southern California with Salt Lake City and travelled by hundreds of trucks each day. Station to have 30,000 gallons of LNG storage and 3 dispensers
- Project funding was bifurcated to ensure smooth project continuity: UPS to be responsible for purchase of all trucks and Clean Energy to be responsible for the property purchase and LNG fueling station construction, start-up and on-going operation
- Clean Energy to purchase property, conduct engineering and permitting, order long lead-time equipment including the LNG storage tank and associated pumps for station. Clean Energy to also maintain a supply of ancillary equipment to prevent any delays after receiving necessary building permits.

## TRUCK DEPLOYMENT APPROACH

- Deploy 48 Kenworth T800 LNG heavy-duty class-8 trucks
- Truck specifications and price negotiations by UPS



# Environmental Approach

## PERMITTING & NEPA STATUS

- Permitting process straight forward – LNG stations do not require air quality permits aside from load-bearing capacity requirements, have no soil, groundwater, or other considerations
- Station engineering, permitting and installation was conducted by Clean Energy. Station is fully permitted and constructed.
- During construction UPS trucks were fueling at site using temporary LNG fueling system. Station is currently operating on temporary generator power pending installation of the electrical meter by the local utility.

## 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

PROJECT MILESTONE	ORIGINAL TIMELINE	STATUS	REVISED TARGETED COMPLETION DATE
Project Kickoff Mtg. to identify permitting & other construction needs	Q3 2009	Complete	-
Select site for station	Q4 2009	Complete	Q3 2010
Finalize project station plans and specifications	Q4 2009	Complete	Q4 2010
Submit National Environmental Study (Minimal Impacts) and Preliminary Environmental Studies Form (Programmatic Categorical Exemption expected)	Q2 2010	Complete	Q3 2010
Bifurcate Project Work and Contracts Between UPS and Clean Energy	Q1 2010	Complete	Q3 2010
Execute Contract with Clean Energy as Station Turnkey Developer, Operator and Maintenance	Q1 2010	Complete	Q4 2010
Finalize project station plans and specifications	Q4 2009	Complete	Q4 2010
Issue P.O for 16 LNG vehicles in Ontario	Q4 2009	Complete	Q3 2011
Obtain necessary permits:	Q2 2010	Complete	Q3 2011
Order LNG station equipment:	Q2 2010	Complete	Q3 2011
Delivery of first LNG vehicles	Q2 2010	Complete	Q4 2011
Installation of LNG station equipment	Q4 2010	Complete	Q1 2012
Issue P.O for 32 LNG vehicles in Las Veg	Q3 2010	Complete	Q3 2011
LNG station system start up and test	Q1 2011	Complete	Q1 2012
Complete delivery of all LNG vehicles	Q1 2011	Complete	Q4 2011
Mechanic Training for LNG maintenance	Q1 2011	Complete	Q4 2011
LNG station commercial operation	Q1 2011	Complete	Q1 2012
LNG Fueling Training for UPS drivers	Q1 2011	Complete	Q4 2011
LNG station Grand Opening event	Q2 2011	Pending	Q2 2012
Report to AQMD on final station construction and project accomplishments	Q2 2011	-	Q2 2012
Final Project Report at end of contract	Q4 2013	-	Q4 2013



# Status Decisions

- Purchase of station site, design and engineering work, traffic study, drainage study
- Bifurcation of LNG vehicle purchase and station contractor/operator: UPS/Clean Energy
- Decisions regarding station specifications, capacity and technology complete



# Technical Accomplishments & Progress

- Contracts with prime contractors executed Q4 2010
- Station site was purchased, design and engineering work completed Q3 2011
- Project approved by Planning Department; traffic study complete; drainage study waiting for approval; issuance of building permits Q3 2011
- Truck specifications and final pricing complete Q3 2011

## Take Home Messages:

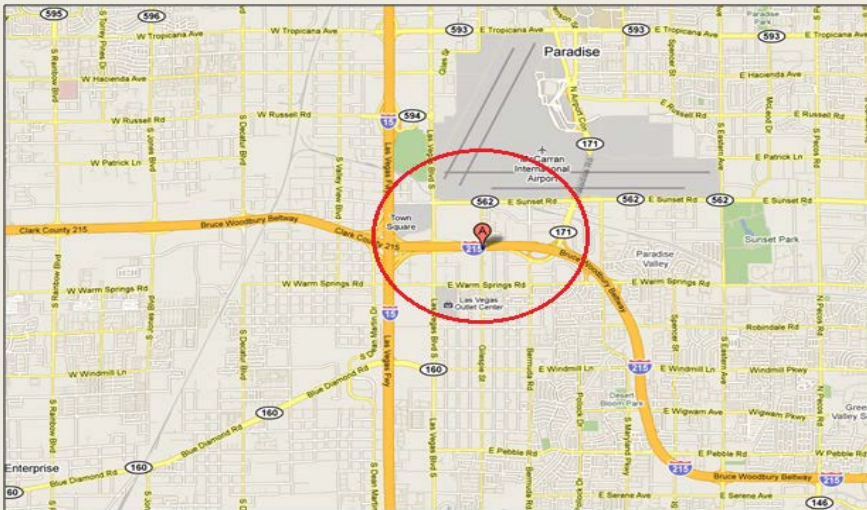
- Project progressed successfully as planned
- Station Completed: operate and provide fuel support for heavy duty LNG tractor trucks operated by UPS and CR England, 48 trucks and 5 trucks, respectively with a volume of 2,500 DEGs daily has 30,000 gallon storage capacity and can fuel 576 trucks daily

# 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 2012

- Obtain permanent electric meter from local utility, cease operation of temporary generator.
- Plan station commissioning to include collaborators: UPS, Clean Energy, Southern California Clean Cities Coalition, Eastern Sierra Regional Clean Cities Coalition, Daimler Trucks North America
- Continue fueling operation for all UPS and CR England LNG trucks



# Summary

- Station Completed: operates and provides fuel support for heavy duty LNG tractor trucks operated by UPS and CR England, 48 trucks and 5 trucks, respectively with a volume of 2,500 DEGs daily.
- Truck specifications and final pricing completed with delivery to coincide with infrastructure advancements
- Project team well-seasoned in similar infrastructure and truck deployment projects nationwide

