

Expanding the UPS Green Fleet



About UPS

- World's largest package delivery company and a global leader in supply chain services
- Headquartered in Atlanta, serves more than 220 countries and territories worldwide
- 397,100 employees worldwide
- 16.3 million packages per day
- 2013 Revenues: \$54.1 billion
- 100,069 vehicles
- World's 9th largest airline

Performance Statistics

- In 2013...
- UPS vehicles traveled 2,373,467,743 miles
- UPS vehicles used 324,088,987 gallons of fuel
- Gasoline package cars averaged 8.54 MPG
- Diesel package cars averaged 10.18 MPG
- Tractors averaged 6.39 MPG
- * Numbers represent domestic fleet only



UPS: No Bias As To Alternative Fuels/Technologies

- UPS' "rolling laboratory" tests virtually all alternative fuels/technologies with more than 5,800 vehicles in operation worldwide.
- Natural gas – CNG and LNG
- Hydraulic hybrid
- Propane
- Electric hybrid
- Fuel cells
- Plug-in Electric

Planned Global Alternative Fuel and Advanced Technology Vehicles Approved to Deploy through 2015

U.S. Small Package Fleet: 6,480

(7.5% of US Small Pkg Fleet)

- Compressed Natural Gas Vehicles: 3,091
- Liquid Natural Gas Vehicles: 1,312
- Hybrid Electric Vehicles: 380
- Electric Vehicles: 120
- Hydraulic Hybrid Vehicles: 41
- Propane Vehicles: 1,182
- Composite Body Diesel: 400
- Hydrogen vehicles: 17

Planned Fuel Stations by year end 2015

- Propane additions: 55 Total of: 66
- CNG additions: 11 Total of: 19
- LNG additions: 0 Total of: 13
- Biomethane: 0 Total of: 1



International Small Package Fleet: 1,301

(9.1% of International Small Pkg Fleet)

- Propane Vehicles: 1,019
- Compressed Natural Gas Vehicles: 85
- Electric Vehicles: 111
- Ethanol Vehicles: 62
- Biomethane Vehicles: 19
- Hybrid Electric Vehicles: 6

Planned Alternative Tech Vehicles (U.S. & International): 7,781

CA Alternative Fuel Vehicles 2015

Total Alt Fuel Vehicles (California): 1181

Hybrid Electric:

- 100 Package Cars

Electric:

- 101 Package Cars

Propane:

- 343 Package Cars

Compressed Natural Gas:

- 602 Vehicles (Pkg Car & Tractors)

Liquid Natural Gas:

- 34 Tractors

Hydraulic Hybrid:

- 1 Package Car



Expanding the UPS Green Fleet

2014 Initiatives

Continue LNG Tractor deployment (Est.1184 total)

Deploy 45 CNG Class 8 tractors

Initial roll-out of Propane package car fleet expansion (1000 planned)

Deploy 160 CNG Package cars (additional & replacement)

Expanding the UPS Green Fleet

2015 Initiatives

Continue LNG Tractor deployment (Est.1184 total)

Deploy 783 CNG class 8 tractors

Deploy 1210 CNG Package cars

Deploy/upgrade additional on site CNG stations

Continue roll-out of Propane package car fleet expansion

Deploy 18 additional Delivery EV's

Continue to evaluate other technologies

LNG/CNG Background

1. There is an abundance of Natural Gas available in the U.S.
2. Liquefied natural gas, or LNG, is natural gas that has been converted to liquid form for ease of storage or transport. .
3. Tractor Manufacturers have been developing tractors in order to utilize natural gas as a transportation fuel.
4. Various incentives (grants and tax) are available to offset some of the capital investment associated with LNG as a transportation fuel.
5. LNG fuel is substantially less expensive than Diesel
6. LNG/CNG fit the UPS sustainability mission

Background

- Benefits of LNG as a Transportation Fuel
 - 1.Reduces dependence on Foreign Oil
 - 2.Lower Emissions than Diesel Fuel
 - 3.Financial (\$1.75 per gallon price gap)

Annual Savings*	
Miles per Day	LNG SI
300	\$ 14,382
400	\$ 19,176
500	\$ 23,970
600	\$ 28,763
700	\$ 33,557
800	\$ 38,351
900	\$ 43,145
1000	\$ 47,939
1100	\$ 52,733



Fleet Perspective- The LNG experience

Lessons Learned

Internal roles & responsibilities established for:

- **Driver training**
- **Fueling**
- **Shop requirements & design**
- **Fueling station Maintenance**
- **LNG vehicle,tank inspections & maintenance**
- **Vehicle specific daily usage based on miles run**





Fleet Perspective- LNG Fueling stations Public station needs

Location is everything!

- **Close to main highways**
- **Accessible for long combinations**
- **Reliability of station- quick response & resolution**
- **24/7 operation**
- **Large enough to avoid wait time and congestion**
- **Consistent point of contact**





Fleet Perspective- The EV experience

Lessons Learned

Internal roles & responsibilities established for:

- **Driver training**
- **Charging time**
- **Telematics used for data reporting**
- **Vehicle specific daily usage based on miles run**
- **Understanding delivery route variables:**
 - ✓ **To/From miles (type of roadway)**
 - ✓ **On area miles/stops and number of “launches”**
 - ✓ **Terrain**
 - ✓ **Weight of load**



Continued Improvement

- **While operating its current alternative fuel and technology vehicles, UPS is also working with manufacturers, government agencies and nonprofit organizations to advance new fuel technologies and find cheaper, cleaner-burning domestic fuels that are better for the environment and more sustainable than conventional diesel.**

Expanding the UPS Green Fleet

Thank You!