Accelerating Deployment of Electric Vehicles

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A Culture of Commitment

The foundation for UPS sustainability is based on three enduring values:

**Unparalleled Service...**

**Be Responsible...**

**Be Efficient...**

Our actions and values reflect our commitment *not* to begin a policy of sustainability *but to maintain and improve upon* what we started over 100 years ago.

Today, UPS is the world’s largest package delivery company.
UPS Fleet of Plug-in Electric Package Cars, New York City, 1930’s
Why UPS Cares About Alternative Fuel Vehicles -- UPS Energy Consumption

• About 1 billion gallons of fuel per year for mobile vehicles, including aircraft
• About 400 million gallons of diesel fuel
• About 100,000 trucks worldwide
• Tenth largest airline in the world
• 220 countries
100 additional Electric vehicles purchased in August, 2011; will be available in 2012
The Patchwork Quilt of Alternative Fuels for Ground Transportation

- **Heavy Trucks**
  - 80,000 pounds

- **Medium Trucks**
  - 26,000 pounds
  - CNG, Hybrid Electric, Hybrid Hydraulic, Propane, E-85, Bio-fuel

- **Light Trucks**
  - 3,000 pounds
  - Plugin Electric

- **Automobiles**
  - 100 miles
  - 200 miles
  - 300 miles
  - 400 miles
  - 500 miles
  - 600 miles
  - Diesel

**Vehicle Weight**

**Trip Range**
Summary: UPS and Alternative Fuel Vehicles

There is no blanket solution to replacing petroleum.

UPS is fuel neutral, has tested just about everything.

Will use a variety of alternative fuel vehicles depending on the vehicle, load hauled, and the mission, e.g., long-haul, stop and go.

Largest per vehicle user of oil -- heavy, long-haul trucks. LNG is the only current option.

Initial vehicle cost should come down with more manufacturers and larger production volumes.

Federal and State government incentives/assistance for vehicles and fueling infrastructure is key.

Many believe electric drive is inevitable for many types of trucks.
An “All-of-the-Above” Strategy

“As the folks here at UPS understand, we’ve got to have an all-out, all-in, all-of-the-above strategy that develops every source of American energy.”

-Barack Obama, Jan 26, 2012
Natural Progression of Light/Medium Duty Trucks

- Petroleum
- Hybrid electric or hydraulic hybrid
- Plug-in EV
- Fuel Cell?
- Logical place to start is central fueling fleets for commercial delivery to minimize infrastructure problem and range.
- Other countries impose different operational constraints
The UPS Plug-in Electric Vehicle, Pre-Brown, Delivery of 100 in 2012, in California
UPS Heavy Over the Road
LNG Tractor Trailer