

Presentation to EESI
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Accelerating Deployment of Electric Vehicles

Panel Presentation of Jim Bruce, V.P. UPS Corporate Public Affairs

Washington, D.C.



A Culture of Commitme

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

Unparalleled Service...

Be Responsible...

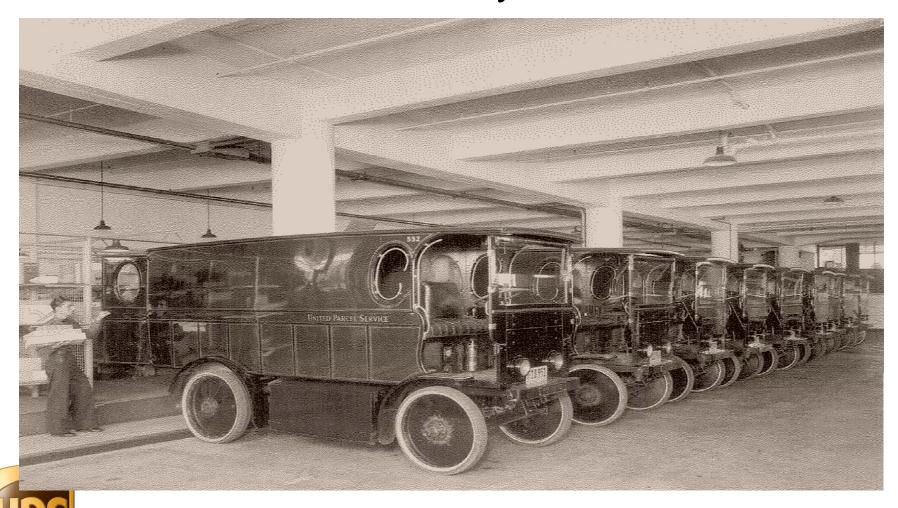
Be Efficient...

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



Alternate Fuels and Technology

Total Alternative Fuel Vehicles (U.S. & International): 2,548

Hybrid Electric:

- 380 Package Cars (US)
- 1 Package Car (International)

Electric:

- 2 Package Cars (US)
- 27 Package Cars (International)

Propane:

- 8 Shifters (US)
- 952 Vehicles (International)

Biomethane:

10 Tractors (International)

Compressed Natural Gas:

- 937 Vehicles (US)
- 94 Vehicles (International)

Liquid Natural Gas:

93 Tractors (US)

Ethanol:

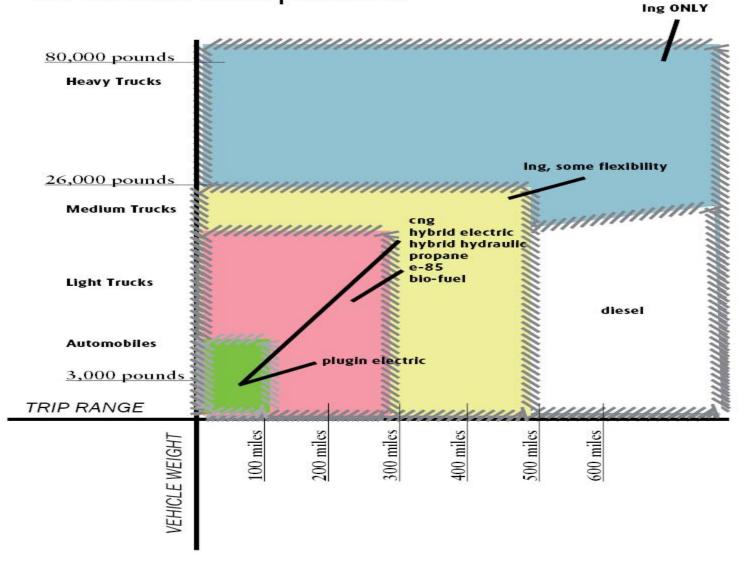
44 Package Cars (International)

100 additional Electric vehicles purchased in August, 2011; will be available in 2012

Corporate Automotive Engineering

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The Patchwork Quilt of Alternative Fuels for Ground Transportation



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 <u>only</u> 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





