



partnering with



delivering green now



Who We Are

- **Smith Electric Vehicles U.S. Corp brings a fresh American vision and perspective to 80 years of demonstrated expertise in electric vehicles.**
- **September 2009 become the first company producing all-electric zero-emission commercial trucks in the USA.**
- **Proprietary expertise in electric vehicles - integrating electric power trains, battery packs and control systems.**
- **Producing the world's largest electric delivery vehicle – the “Newton”.**
 - top speed of 55 mph
 - up to 150 miles on a single charge
 - wide range of urban applications
 - available in Class 4 – Class 6
 - range of battery offerings between 50 – 150 miles
- **On GSA Schedule and recipient of US Department of Energy Funding in 2009 and 2010, along with multiple Clean Cities Coalition grants.**

The Right Applications

The Smith Newton

- Available from 16,000 GVW to 26,000 GVW
- Offers a range of battery configurations which allow customers to build the truck that best fits needs and economics
- 40 kWh – 50 miles
- 80 kWh – 100 miles
- 120 kWh – 150 miles



The Right Applications

- Depot Base Logistics
- Fixed Route of 150 miles (or less) per-day
- Operating in congested / typically inner city and urban areas
- Lots of starts and stops – significant idle time
- Multiple drops/collections
- Allows for Centralized Charging
- Compliant for noise ordinance and time restricted service areas
- Food Distribution
- Merchandise / Store Distribution
- Parcel Delivery
- Beverage Delivery
- Service Works
- **Utilities**
- Public Sector



Configurations Availability

- Smith Electric Vehicles chassis can fit a variety of commercial transportation needs.
- Smith EV has the capability of working with our customers to support up-fitting needs directly or we can also work with your preferred body-builder vendors.
- Shuttle Bus & Step-thru Van – 2011 forecasted date.



Aerial Lift



Refrigeration



Delivery



Flatbed



Military

Smith Launch Partners



DOING SOMETHING FOR THE PLANET~ AND YOUR BOTTOM LINE

Delivery - Box Body



Electric Utility – Aerial Lift





Why Our Trucks?....Better for the Environmentwith Bottom Line Benefits

Low Operating Cost

- Greatly Reduced Fuel Costs
 - ✓ No Price Volatility
 - ✓ < \$.10/mile vs. \$.40+/mile currently for internal combustion trucks
- Reduced Maintenance Costs
 - Fewer Moving parts: 4
 - No Clutch or Transmission
 - Sealed Electric Motor
 - No Cooling System

Perfect for Urban Deliveries / Service

- Low Noise
- No Vibration
- Quick Acceleration

Zero Emissions

- Nil PM's
- CO₂ Reduction

Additional ROI Considerations:

- Corporate/Government Vision & Mandates
- Environmental Citizenship / Public Relations
(Help gain customer loyalty over competition.)
- Significant vehicle life-cycle cost reductions
- Sales / Revenue enhancement opportunities
- Eliminate fuel management & accounting concerns
- Grant / Funding opportunities
- Employee attraction & retention
- Etc....

CA Customer Purchase (2010 scenario)

SMITH ELECTRIC VEHICLES PURCHASE OPTION

ASSUMPTIONS

Annual Miles Driven	23,500
Idle Time as % of Miles Driven	25%
Life of Vehicles	10 years

	Purchase	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<u>Diesel Vehicle (Cost = \$98,000)</u>											
Vehicle Cost	\$ 98,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost of Fuel (\$2.50 per gal at 8 mpg)	-	9,180	9,180	9,180	9,180	9,180	9,180	9,180	9,180	9,180	9,180
Maintenance (40 cents per mile)	-	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750
TOTAL	\$ 98,000	\$ 20,930	\$ 20,930	\$ 20,930	\$ 20,930	\$ 20,930	\$ 20,930	\$ 20,930	\$ 20,930	\$ 20,930	\$ 20,930
10 yr NPV at 6%	\$ 253,832										

<u>Electric Vehicle (Cost = \$96,520) **</u>											
<u>Net cost after DOE incentive funds</u>											
Vehicle Cost	\$ 96,520	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost of Electricity (at 8 cents per mile)	-	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880
Maintenance (19 cents per mile)	-	4,515	4,515	4,515	4,515	4,515	4,515	4,515	4,515	4,515	4,515
TOTAL	\$ 96,520	\$ 6,395	\$ 6,395	\$ 6,395	\$ 6,395	\$ 6,395	\$ 6,395	\$ 6,395	\$ 6,395	\$ 6,395	\$ 6,395
10 yr NPV at 6%	\$ 143,803										

* EV Maintenance Costs Include: Telemetry, Brakes and standard PM annual costs (\$2400)

Smith Advantage: Go **Green** Now

- Financial/Sustainability considerations for the markets where your fleet operates, will also help you lead the development of the EV industry. (Current Administration recognition)
- Provide sustainable technology now, NOT an *in between* solution.
- Lower the price of key components and get the truck of the future - the way you want it!

Smith Newton: Engineered To Perform

Specifications

Motor	120kw induction
Controller	Vector Control AC system with regenerative braking
Batteries	Lithium-Ion Iron Phosphate
Charger	Fully automatic – cable included
Cab	All steel, two door with hydraulic tilt, zinc coated panels with wax filled cavities and thermal insulation
Interior	Drivers seat, dual passenger seat, Sony stereo CD
Steering	Hydraulic PAS mono-block
Suspension	Front & Rear, parabolic springs with transverse torsion bar stabilizer, hydraulic, double acting shock absorbers
Brakes	Dual Circuit, air brake system with WABCO ABS, air dryer parking brake, fail spring park brake to rear axle

Smith Newton: Engineered To Perform

Specifications

Brakes	Dual Circuit, air brake system with WABCO ABS, air dryer parking brake, fail spring operated park brake to rear axle
Chassis	Ladder type, cold riveted and bolted with U section side members and open profile cross members-steel
Wheels	17.5 x 6.00 steel rims (16, 535-23,148 lbs), 245/70R17.5 tires on 17.5 x 6.75 steel rims. 8 screws fixing (26,455 lbs) 215/75R 17.5
Tires	215/75R 17.5
Warranty	36 months bumper to bumper and drive train
Service & Training	Fully supported training and platinum service model

The Battery

- Li-Ion Phosphate Battery, 13.4v module
- Zero Charging or Operating Emissions
- Zero Maintenance (other than recommended discharging to less than 20% once per month)
- Battery Management System oversees Voltage, Temperature, Current & Charging of individual modules.
- Operating voltage 320vdc



Charging

- **208V 3-Phase 50A**
- Depot-based charging infrastructure (overnight /off-peak)
- 6–8 hour average charge time (varies based on beginning SOC)
- Proprietary computerized Battery Management System (BMS) controls and monitors charging.

The Drive System

- 3-Phase 120kw AC Liquid Cooled Drive Motor.
- Computer controlled drive, acceleration, deceleration and braking characteristics.
- Computer controlled battery usage.
- 2 stage regenerative braking puts charge back into the battery (coasting & braking).
- DC-DC converter reduces battery voltage from 320vDC to 24vDC.



Driver Controls

- Accelerator Pedal
- Brake Pedal
- Direction Selector Switch & LED Indicators
- Emergency Disconnect Switch
- Re-Gen Braking Enable/Disable Selector
- Cab Heating & Air-conditioning Controls



Smith EV – Our Orange is the new Green



Smith EV – Your Urban Logistics Solution



Brett Gipe

Regional Sales Director – Eastern U.S.

Smith Electric Vehicles

brett.gipe@smithelectric.com

443-370-8782 (Cell)

Jesse Shroyer

Government Relations & Incentives Manager

jesse.shroyer@smithelectric.com

816-243-1659



Azure Dynamics

Beth Silverman