Fleet Electrification

Introducing XL

Driving Fleet Sustainability

September 2019




XLhybrid™ XLplug-in™ XLink™

XL - The Fleet Electrification Leader

- Founded in 2009
- Headquarters in Boston, MA
- Leading provider of fleet electrification solutions for Class 2-6 vehicles
- Hybrid and plug-in hybrid upfits and retrofits for commercial & municipal fleets
- Installed by national upfit partners
- Approved by Ford, GM and Isuzu for installation; no impact to OEM factory warranties
- First Ford eQVM

100 Million Fleet Miles…and Counting

XL's Goal: Help clients drive cleaner, greener fleet vehicles by reducing fuel consumption, saving money and helping meet sustainability goals

Sustainability:

20-33% emissions reduction
1.8 million gallons of fuel saved
16,000 tons of CO_2 emissions eliminated

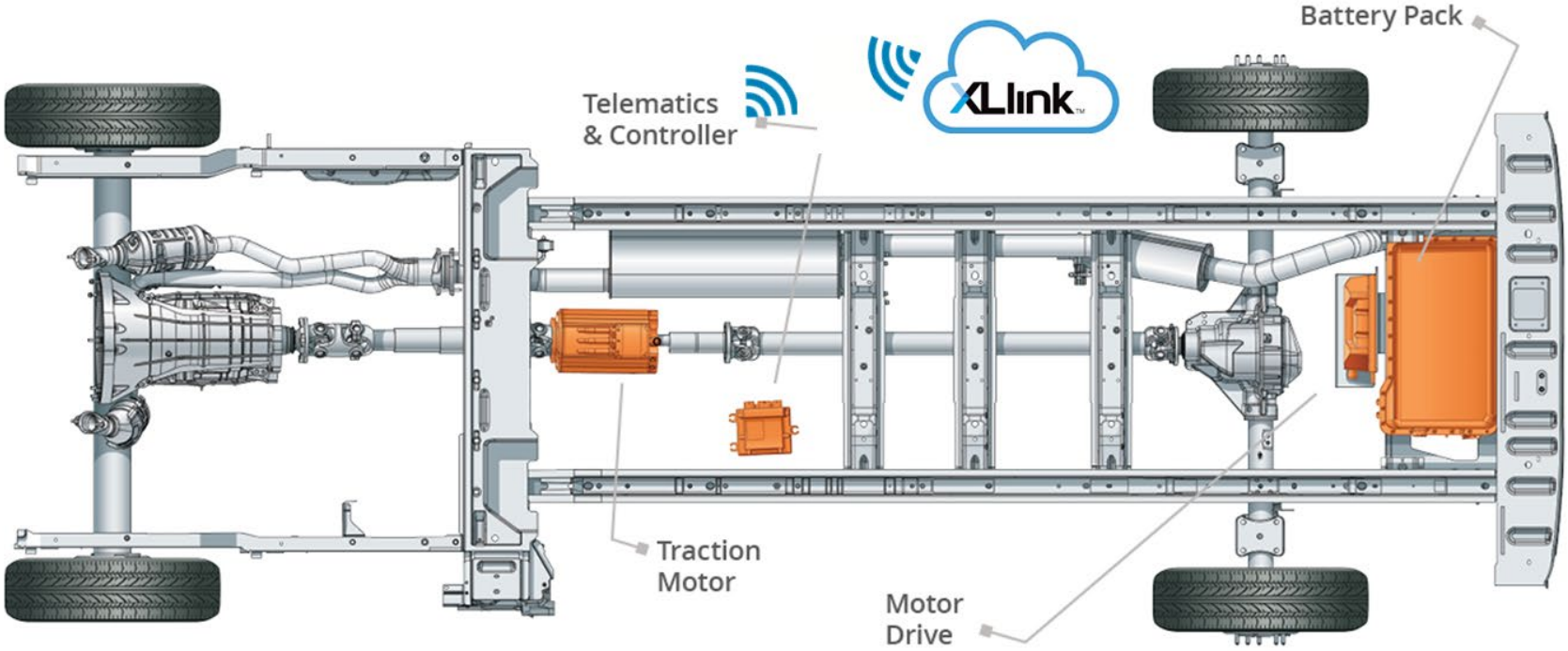
Operations:

25-50% MPG improvement
15,000 hours of increased driver productivity

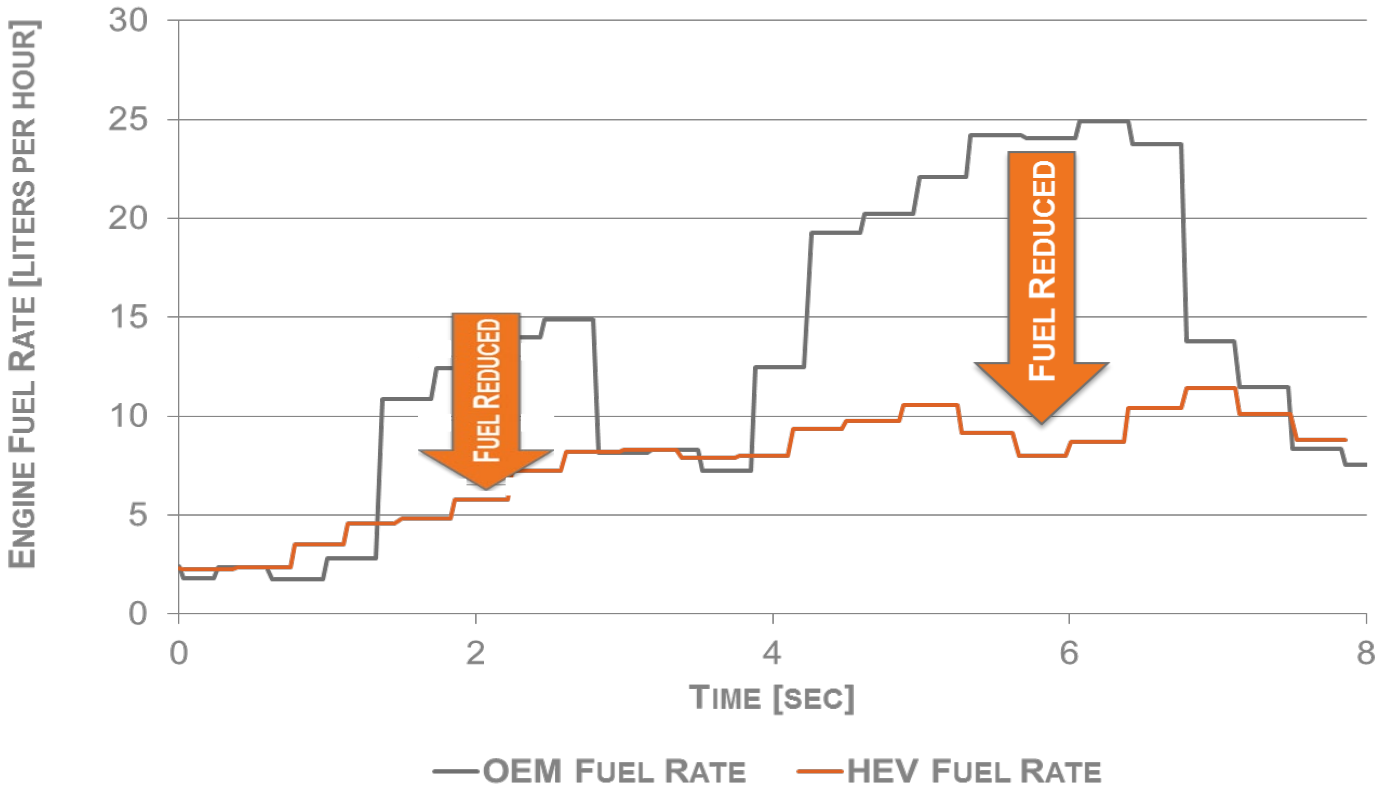
*Results may vary

How the XL System Works

XL Hybrid Transit Van



XL System Saves Fuel



- Adds 80% more low-end torque
- Fuel rate is reduced with system operation for the same vehicle speed and acceleration (0-40 mph)
- Result: 25%-50% MPG increase in miles driven per-gallon

XL Hybrid System Value

XL Hybrid Electric Drive Systems

Reduces Fuel Costs

- 20-33% reduction in fuel consumption

Reduces Emissions

- 20-33% reduction in CO_2 emissions

Reduces Operating Costs

- Brake maintenance savings
- Productivity savings – less fuel stops
  20% less fuel used = 20% fewer fill-ups by driver

Engine Downsizing

- For example Ford Transit customers can buy 3.7L (instead of Ecoboost) and save approx. $1800 upfront

*Results may vary

Sustainability Awareness Benefits

Brand Awareness

Standard Decal Package

PLUG-IN HYBRID

9" HYBRID 3"

20"

White or green decal placed on rear quarter panels

1"

XLplug-in™

XLhybrids™

5.5"

Placed on back right door or tailgate

Media Opportunities


automotive FLEET

ThyssenKrupp Elevator Adds Hybrid Vans


BEVERAGEWORLD

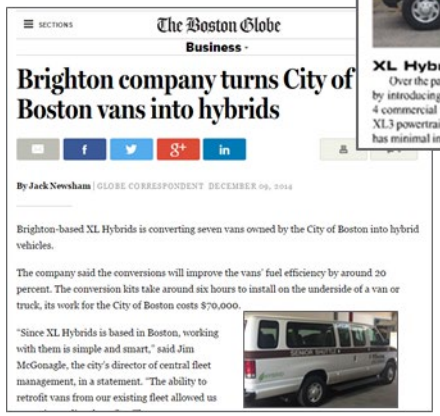
PepsiCo Sprints Forward


UFP

HYBRIDS

XL Hybrids Update

Over the past year, XL Hybrids has been steadily expanding its business by introducing its XL3 Hybrid Electric Drive System for Class 2, 3 and 4 commercial vehicles, such as vans, cube trucks and shuttle buses. The XL3 powertrain installs in about six hours, and according to the company


The Boston Globe

Business

Brighton company turns City of Boston vans into hybrids

By Jack Newsham | GLOBE CORRESPONDENT DECEMBER 09, 2014

Brighton-based XL Hybrids is converting seven vans owned by the City of Boston into hybrid vehicles.

The company said the conversions will improve the vans' fuel efficiency by around 20 percent. The conversion kits take around six hours to install on the underside of a van or truck, its work for the City of Boston costs $70,000.

"Since XL Hybrids is based in Boston, working with them is simple and smart," said Jim McGonagle, the city's director of central fleet management, in a statement. "The ability to retrofit vans from our existing fleet allowed us


GREEN FLEET

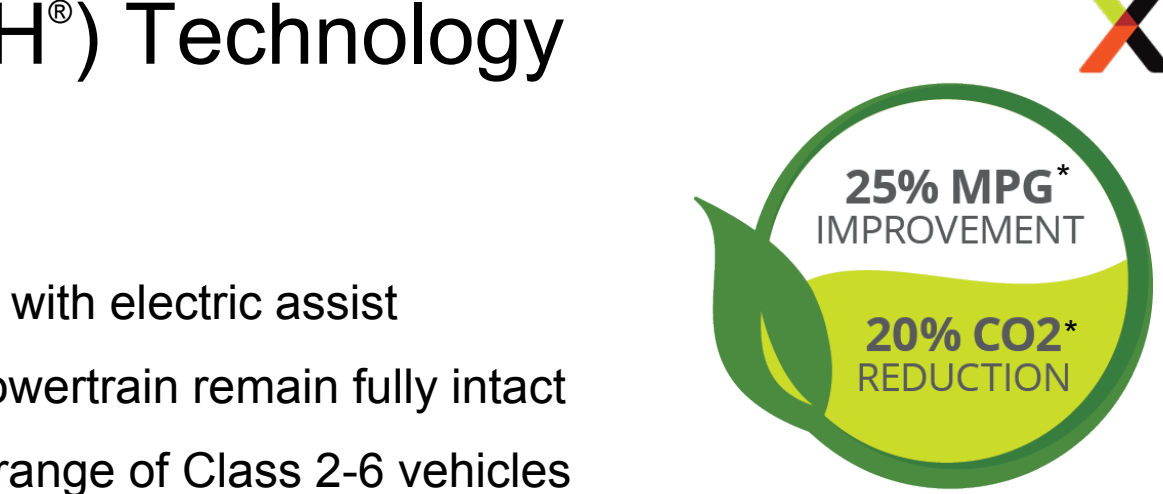
Hybrids – Vehicles, Battery & Hydraulic Technology

Coca-Cola Beefs Up Hybrid Van Fleet

XL Hybrid (XLH®) Technology

XLhybrid™

- Regenerative braking with electric assist
- OEM warranty and powertrain remain fully intact
- Available on a broad range of Class 2-6 vehicles



*Results may vary



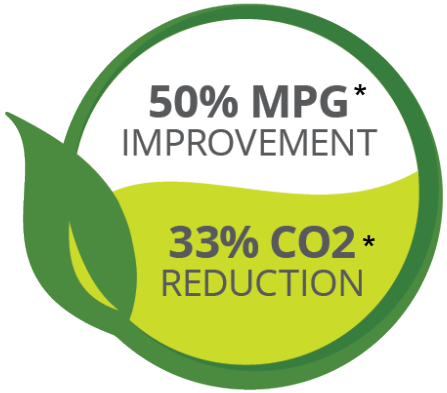



XLhybrid XLplug-in XLink

XL Plug-in (XLP™) Hybrid Technology

XLplug-in™

- Plug-in hybrid new upfit or retrofits for Ford F-150 & F-250 pickup trucks
- Electric assist with 15 kWh battery pack and regenerative braking
- OEM warranty and powertrain remain fully intact



*Results may vary

Ford F-150 | 2.7L and 3.3L

Ford F-250 | 6.2L

Identifying Opportunities for Electrification

Measuring Impact

- Immediate emissions improvements
  - XLH® 25% increase in MPG* = 20% reduction in emissions
  - XLP™ 50% increase in MPG* = 33% reduction in emissions
- Electrified trucks have almost 2x the impact of sedans

*Results may vary

Hybrid Truck
100,000 miles
Cuts CO2 by 15 metric tons

EV Sedan
100,000 miles
Cuts CO2 by 9 metric tons

Which Fleets Benefit?

DTE Energy

City of Seattle

Optimal Fleets

- Have sustainability requirements
  - Utilities
  - Governments
  - Large organizations

San Diego Gas & Electric

Yale University

Suffolk Bus

Looking for ROI

- Drive 25,000+ miles a year
- Keep their vehicles for 8+ years
- Have drive cycle where the vehicle changes speed (vehicles that idle a lot or drive on highway do not benefit as well)

CPS Energy

New York City Parks & Recreation

Optimal External Factors

- Elevated gas prices
- Local incentives
- Mandate

AmeriPride

Verizon

Coca-Cola

PepsiCo

FedEx

Case Studies: City of Boston & Yale University

XLhybrid™ Case Study

City of Boston

" The ability to retrofit 13 vehicles in our existing fleet has allowed us to see immediate sustainability benefits and operating cost savings. The technology has performed well in our heavy urban driving environment, and been reliable for our Senior Shuttle and Traffic Enforcement divisions. We are now re-ordering 8 more vehicles with XL systems."

William Coughlin
Director of Central Fleet Management City of Boston

Hybrid Fleet Electrification Numbers

28%
Improvement in Miles Driven per Gallon

120,000
Cumulative Road Miles

99.9+%
Hybrid Vehicle Uptime

22%
Reduction in CO2 Emissions

Vehicle Type: Ford and GM Vans and Shuttles

XLhybrid™ Case Study

Yale University

"The hybrid shuttles are exceeding our expectations for CO2 emissions reduction and fuel savings. Plus, the "green" branding on our buses shows students and faculty that the university is committed to sustainable practices."

Ron Gitelman
Yale Fleet Administrator

Hybrid Fleet Electrification Numbers

23%
Improvement in Miles Driven per Gallon

$22,000
Projected Savings per Vehicle*

*Based on brake maintenance savings, fuel savings, and driver productivity.

99.9+%
Hybrid Vehicle Uptime

47 Tons
Projected Lifetime Vehicle Reduction in CO2

Vehicle Type: Goshen Coach 24-passenger shuttles built on Ford E-450 platform

Thank you!

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