



Fleet Electrification

# Introducing XL

## Driving Fleet Sustainability

September 2019



**XLhybrid**<sup>TM</sup>

**XLplug-in**<sup>TM</sup>

**XLlink**<sup>TM</sup>

# 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 CO2 emissions eliminated

## Operations:

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

**ELECTRIFYING FLEETS**

**XL**™

**10 YEARS**  
**100 Million Miles**

\*Results may vary



**XL**hybrid®

**XL**plug-in™

**XL**link™

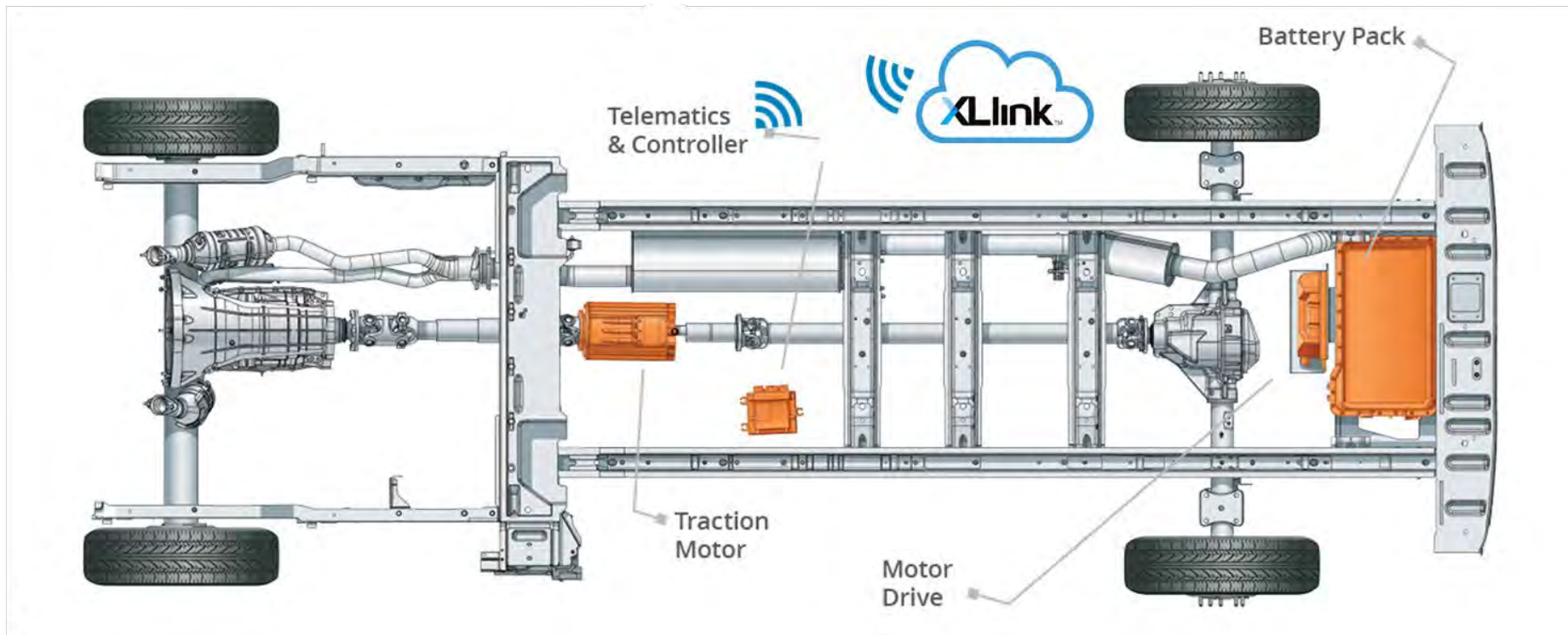


# How the XL System Works

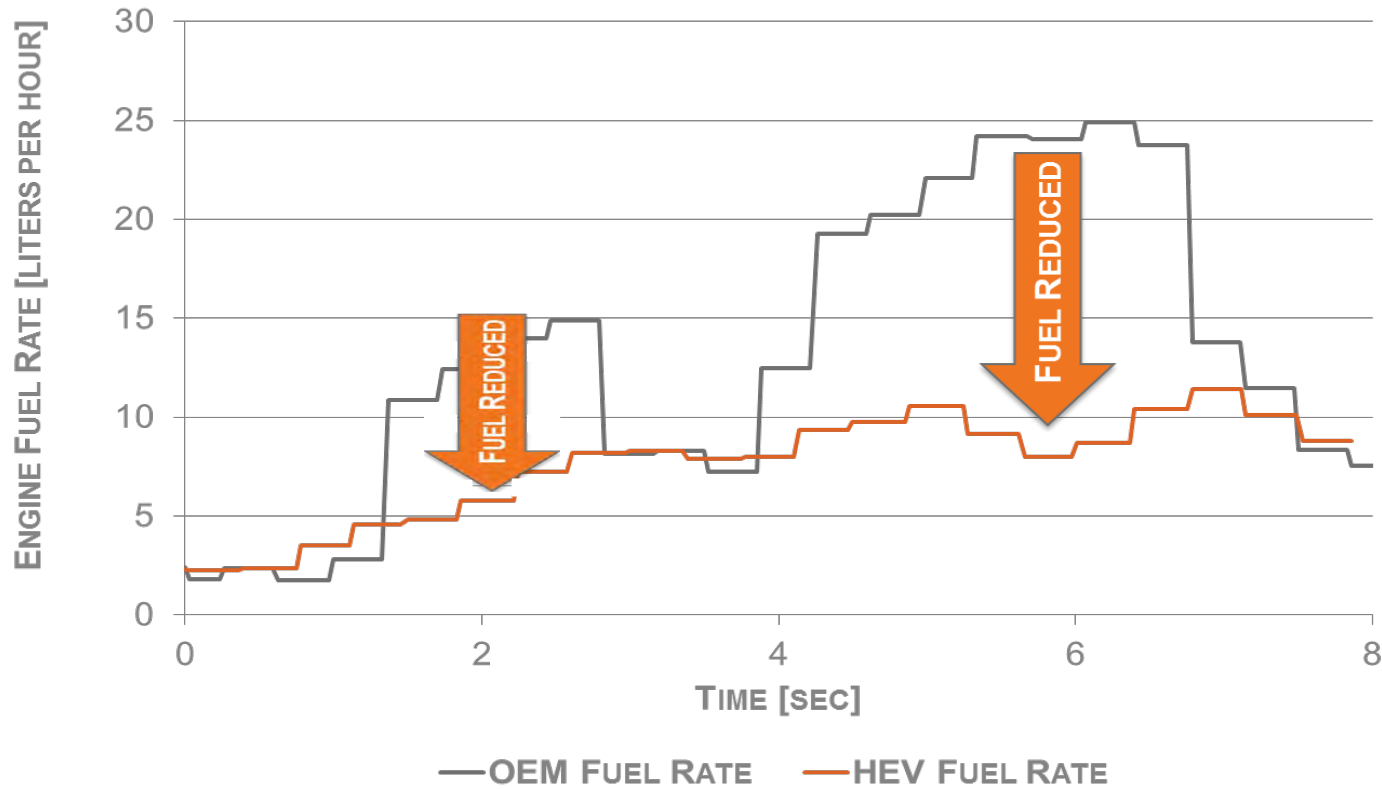




# XL Hybrid Transit Van



# 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<sub>2</sub> 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

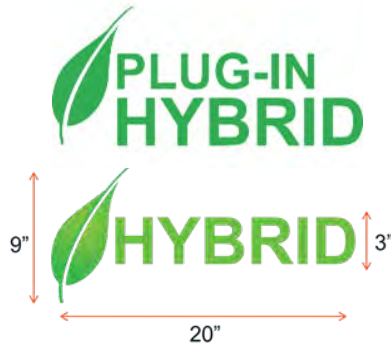
\*Results may vary

# Sustainability Awareness Benefits

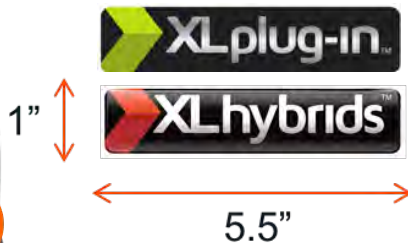


## Brand Awareness

### Standard Decal Package



White or green decal placed on rear quarter panels



Placed on back right door or tailgate

## Media Opportunities





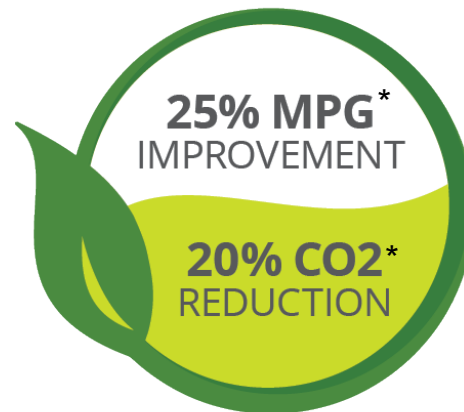


# XL Hybrid (XLH<sup>®</sup>) Technology



## XLhybrid<sup>™</sup>

- 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

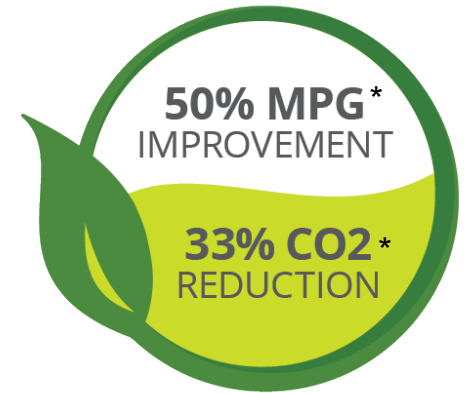


# XL Plug-in (XLP™) Hybrid Technology



## 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?

## Optimal Fleets

- Have sustainability requirements
  - Utilities
  - Governments
  - Large organizations

## 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)

## Optimal External Factors

- Elevated gas prices
- Local incentives
- Mandate



DTE Energy



City of Seattle



San Diego Gas & Electric



Yale University



Suffolk Bus



CPS Energy



New York City Parks & Recreation



AmeriPride



Verizon



Coca-Cola



PepsiCo



FedEx



# Case Studies: City of Boston & Yale University





### 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

## 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



### 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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