



LIGHTNING
eMOTORS

The Lightning Experience

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LOVELAND, CO



229,000-sq-ft, state-of-the-art facility on a 1-million-sq-ft campus with 500,000 sq ft available for future expansions.



MISSION

ROAD PROVEN TECHNOLOGY
BEST IN CLASS PAYLOAD & RANGE
END TO END EV SERVICES
WORLD CLASS SUPPORT



5,000,000

CUSTOMER DRIVEN ALL ELECTRIC MILES



$x_{1,2} = \frac{-b \pm \sqrt{D}}{2a}$ $\int x^a \cdot dx = \frac{x^{\alpha+1}}{\alpha+1} + c$

THE FLEET ELECTRIFICATION EQUATION

$\sin \alpha = 2 \sin \frac{\alpha}{2} \cdot \cos \frac{\alpha}{2}$

$(x^n)^y = nx^{n-1}$

6 variables to consider

$M = \frac{1}{2} \sum_{i=1}^{i=2q} i_j \sum_{j=1}^{j=2q} i_j \frac{dL_{i,j}}{d\varphi}$ $\int x^a \cdot dx = \frac{x^{\alpha+1}}{\alpha+1} + c$ $\sum_{i=1}^n (x_i - y_i)^2$

Variable 1: Vehicles

$\text{ctg } \alpha + \text{ctg } \beta = \frac{\sin(\alpha + \beta)}{\sin \alpha \sin \beta}$

$(x^n)^y = nx^{n-1}$

$M = \frac{1}{2} \sum_{i=1}^{i=2q} i_j \sum_{j=1}^{j=2q} i_j \frac{dL_{i,j}}{d\varphi}$ $\int x^a \cdot dx = \frac{x^{\alpha+1}}{\alpha+1} + c$ $\sum_{i=1}^n (x_i - y_i)^2$

Variable 4: Service and Support

$\text{ctg } \alpha + \text{ctg } \beta = \frac{\sin(\alpha + \beta)}{\sin \alpha \sin \beta}$

$(x^n)^y = nx^{n-1}$

$\frac{\pi}{2} - \text{ArcSin}(x)$ $\sin \alpha = 2 \sin \frac{\alpha}{2} \cdot \cos \frac{\alpha}{2}$

$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

$x_{1,2} = \frac{-b \pm \sqrt{D}}{2a}$ $(a-b)(a^2 + ab + b^2) = a^3 - b^3$

Variable 2: Charging Infrastructure

$\text{ctg } \alpha + \text{ctg } \beta = \frac{\sin(\alpha + \beta)}{\sin \alpha \sin \beta}$

$y = x^z$

$\frac{\pi}{2} - \text{ArcSin}(x)$ $\sin \alpha = 2 \sin \frac{\alpha}{2} \cdot \cos \frac{\alpha}{2}$

$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

$x_{1,2} = \frac{-b \pm \sqrt{D}}{2a}$ $(a-b)(a^2 + ab + b^2) = a^3 - b^3$

Variable 5: Financing

$\text{ctg } \alpha + \text{ctg } \beta = \frac{\sin(\alpha + \beta)}{\sin \alpha \sin \beta}$

$y = x^z$

$x_{1,2} = \frac{-b \pm \sqrt{D}}{2a}$ $\int x^a \cdot dx = \frac{x^{\alpha+1}}{\alpha+1} + c$

$\sin \alpha = 2 \sin \frac{\alpha}{2} \cdot \cos \frac{\alpha}{2}$

$\text{ctg } \alpha + \text{ctg } \beta = \frac{\sin(\alpha + \beta)}{\sin \alpha \sin \beta}$ $(x^n)^y = nx^{n-1}$

Variable 3: Software

$x_{1,2} = \frac{-b \pm \sqrt{D}}{2a}$ $\int x^a \cdot dx = \frac{x^{\alpha+1}}{\alpha+1} + c$

$\sin \alpha = 2 \sin \frac{\alpha}{2} \cdot \cos \frac{\alpha}{2}$

$\text{ctg } \alpha + \text{ctg } \beta = \frac{\sin(\alpha + \beta)}{\sin \alpha \sin \beta}$ $(x^n)^y = nx^{n-1}$

Variable 6: Funding and incentives

<https://lightningemotors.com/fleet-electrification-equation/>

GRANTS AND INCENTIVES



There's free money available?

Most likely, but it depends on your use case, vehicle type, and location.

The up-front cost of commercial electric vehicles can be offset – sometimes dramatically – by taking advantage of available grants and incentives. This page lists the main ones for the USA and Canada, at the federal and state/province level.

We're always here to help you navigate the grants and incentives landscape.



US federal programs

There are several nationwide funding programs administered by Federal government agencies. The IRA applies to any EV that's class 4 or above, the EPA program is specific to school buses, and the FTA program is targeted at public transportation.

-  Inflation Reduction Act (IRA) 
-  EPA Clean School Bus Program 
-  FTA Low or No Emission Vehicle Program 

US state programs

These programs are specific to the listed states. We expect more states to jump in over time!

California, Colorado, Massachusetts, New York, New Jersey

Lightning eMotor's Partnership with Dealers & Customers



- Vehicle needs and existing structure of fleet
- Infrastructure and energy needs
- Analytics-Telematics



- Upfit or floor plan review
- Purchase process-Validation-vehicle & infrastructure, quote, grant and finance review
- Grant and finance assistance



- Commissioning of vehicle
- Driver training and customer satisfaction support
- Analytics of vehicle performance and data for reporting

➤➤ Powertrain System



- A powertrain sled carries the electric motor, the integrated transmission, the inverter and accessories
- Powered by the best batteries from global manufacturers such as Proterra and CATL
- Entire system is thermally managed for maximum safety, efficiency and operational life

➤➤ Important Efficiency and Safety Features for All Lightning Platforms



Creep

- Emulates ICE vehicles, especially for reversing so driver doesn't have to judge pressing accelerator pedal when backing up

Hill hold assist

- EV vehicles don't operate with two pedal driving, eliminating potential rollback on startup

Regenerative braking

- Operates at any speed – benefits increase when used at higher speeds
- Brake lights illuminate
- Lessened automatically at high state of charge
- Does not require driver activation – it happens by lifting foot off accelerator
- Optimized for passenger comfort

Glass cockpit

- Our proprietary glass dashboard allows the driver to easily monitor their overall efficiency, state of charge, average kWh per mi, & discharge/charge rate (from regenerative braking)

»» Battery Systems

Battery Management



- Our electric drivetrains incorporate sophisticated software and hardware controls at all levels
- Battery controls manage state-of-charge including cell balancing
- Supports AC charging and DC fast charge

Thermal Management



Our battery thermal management system is one of the most sophisticated in the industry and automatically:

- Cools to ambient temperatures (radiator)
- Cools below ambient temperatures (chiller)
- Heats above ambient temperatures (heater)

We have long-term, high-volume, firm supply agreements with both CATL and Proterra

»» We are Altoona tested

FTA Federal funding requires vehicles undergo durability testing

Lightning ZEV4 Shuttle Bus

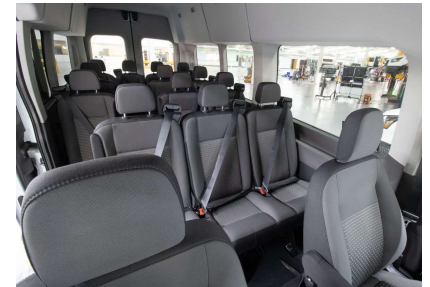


Lightning ZEV3 Passenger Van



Electric Passenger and Cargo Vans

- Available in Passenger, ADA, Cargo and Ambulance configurations
- Battery-electric vehicle
- Zero emissions
- Smooth, quick, quiet
- Best efficiency of any class 3 van
- Up to 11,000 GVWR
- Smart cabin integration with batteries fully under floor
- 140- and 200-mile range options
- CARB certified and HVIP approved
- Altoona Certified
- Maintenance and service by certified partners
- DC fast charge up to 80 kW standard
- Lightning Insights monitors usage and efficiency

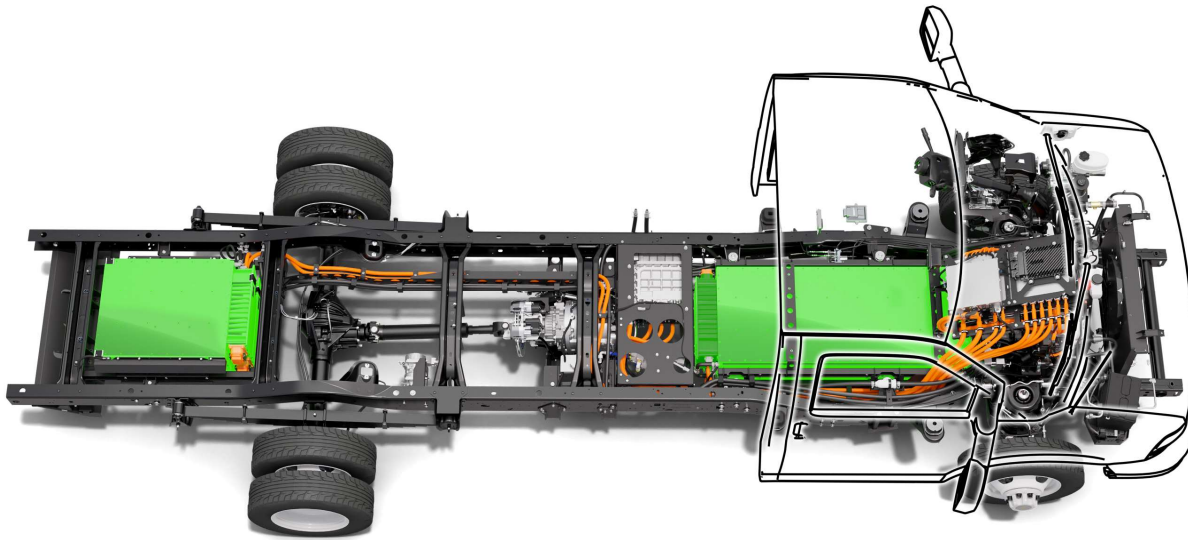


Class 4 Trucks and Buses

- Available in cut-away configurations
- Battery-electric vehicle
- Zero emissions
- Smooth, quick, quiet
- Smart cabin integration with batteries fully under floor
- 130-mile range
- CARB certified and HVIP approved
- GM vehicle warranty and our matching warranty for complete coverage
- Installation, maintenance and service by certified partners
- DC fast charge up to 80 kW standard
- Lightning Insights to monitor usage and efficiency
- Altoona testing in progress
- Available on GM4500 chassis



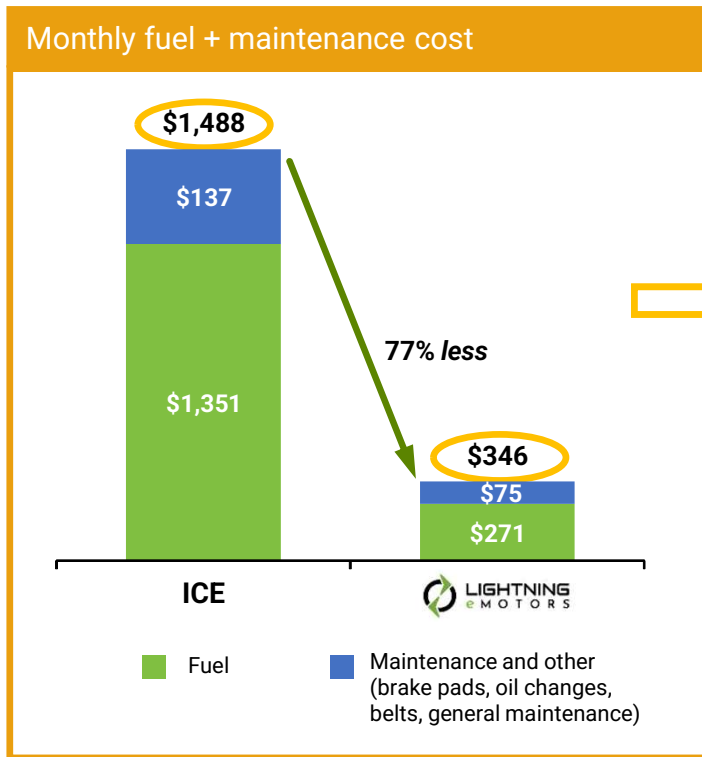
➤➤ The Lightning eMotors eChassis



- For new purpose-built vehicles and the electrification of legacy OEM platforms
- Supports, on average, 1,500 lbs greater Gross Vehicle Weight Rating for class 4/5 commercial vehicles
- Supports multiple vocational applications and upfitters' custom bodies and accessories
- Pilot units begin testing in Q3 2023

➤➤ Providing Immediate Operational Savings

Class 3 Lightning Electric Transit vs. gasoline equivalent (3,500 miles / month)



Cost comparison

Illustrative lease example

	Gasoline	Electric	
		With grants	No grants
Fuel and maintenance cost per month	\$1,488	\$346	\$346
Vehicle lease	\$702	\$978	\$1,584
Charger lease (assuming level 2 11.5kW charger)	--	\$29	\$29
LCFS (Low Carbon Fuel Standard) Credit	--	(\$615)	(\$615)
Total monthly cost	\$2,190	\$738	\$1,344
Monthly cost difference to gasoline	--	\$1,452	\$846

Lightning Insights

Accurate and actionable reports compatible with open API telematics programs



**INCREASE
RANGE**



**PREVENTATIVE
MAINTENANCE**



**IMPROVE DRIVER
BEHAVIOR**

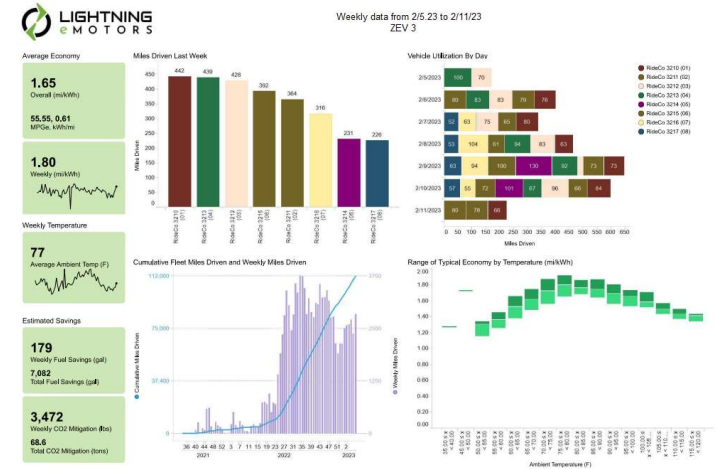
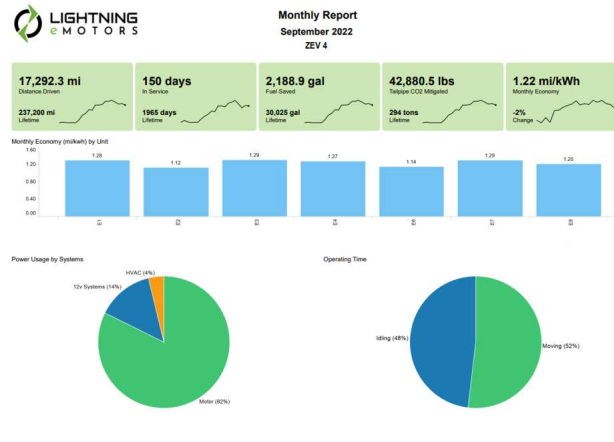
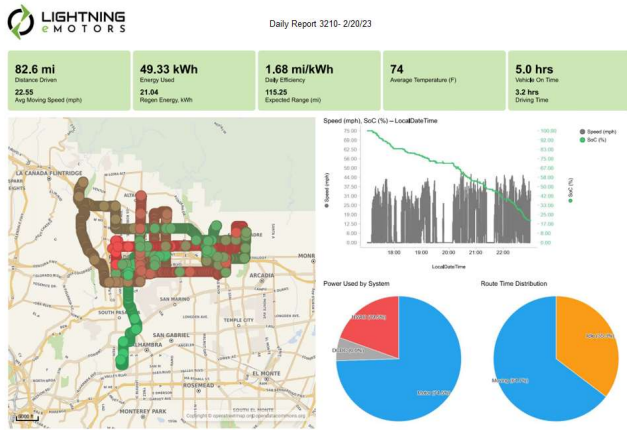


**DEDICATED FLEET
EXPERTS**



**NO SECURITY
RISKS**

Real World Data – Telematics Reporting



➤➤ Simplifying the Electrification of Fleets with Integrated Charging Solutions



- **One-stop shop** for electric vehicles, charging solutions and related software
- **Peace of mind** through integrated solutions with a single point of contact.
- **Level 1-3 AC & DC Fast Chargers**
- **Charger Management Software**

Lightning Mobile

A Broad Array of Use Cases

- Charging commercial or passenger vehicles at depots **without the needed infrastructure**
- Mitigating charging downtime due to potential power grid outages
- Roadside rescue of electric vehicles
- Providing charging capabilities in disaster relief zones
- Reduced power cost through power storage at off-peak rates for use during peak times
- EV charging at remote sites such as festivals, sporting events, corporate events, etc.
- Charging at work sites





Lightning Mobile Current Offering (Gen 2)

- 315 kWh storage capacity
- Unit receives power via either level 2 (up to 19.2kw) or DCFC (up to 80kW)
- 4 concurrent charging outputs at up to 80kW DCFC
- No need for permitting saving months of delays
- Under 10,000lbs GVWR so no CDL required to tow
- Fully zero-emission, no fossil fuel generator
- Full telematics to monitor both unit performance and interoperability with vehicles

Paperless product literature



If you're like us, you're passionate about the environment. We've decided to stop printing our sales literature on paper. Instead, you can get all of it directly to your phone or computer by scanning this QR code:



lightningemotors.com/product-sheets/



NYSE:ZEV

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