

# City of Phoenix Electric Vehicle Ad Hoc Committee City Fleet & Charging Infrastructure Subcommittee Meeting



January 18, 2022



**Chrysler concept crossover vehicle "Airflow" will have two 201 HP electric motors and a range of 350-400 miles and Level 3 autonomous driving - Stellantis - all electric by 2028**

# In the News



## Federal Fleet Purchases to be ZEVs by 2035

- December 2021 – EO directing the federal gov't
- Acquire 100% light-duty zero-emission vehicles by 2027
- Acquire 100% zero-emission all classes of vehicles by 2035
- Early 2022 – DHS field testing Ford Mustang Mach-E for use in law enforcement
- In 2021 – DOI started transition to EV motorcycles for US Park Police





# In the News



## Shell Converts London Gas Station to EV Charging Hub

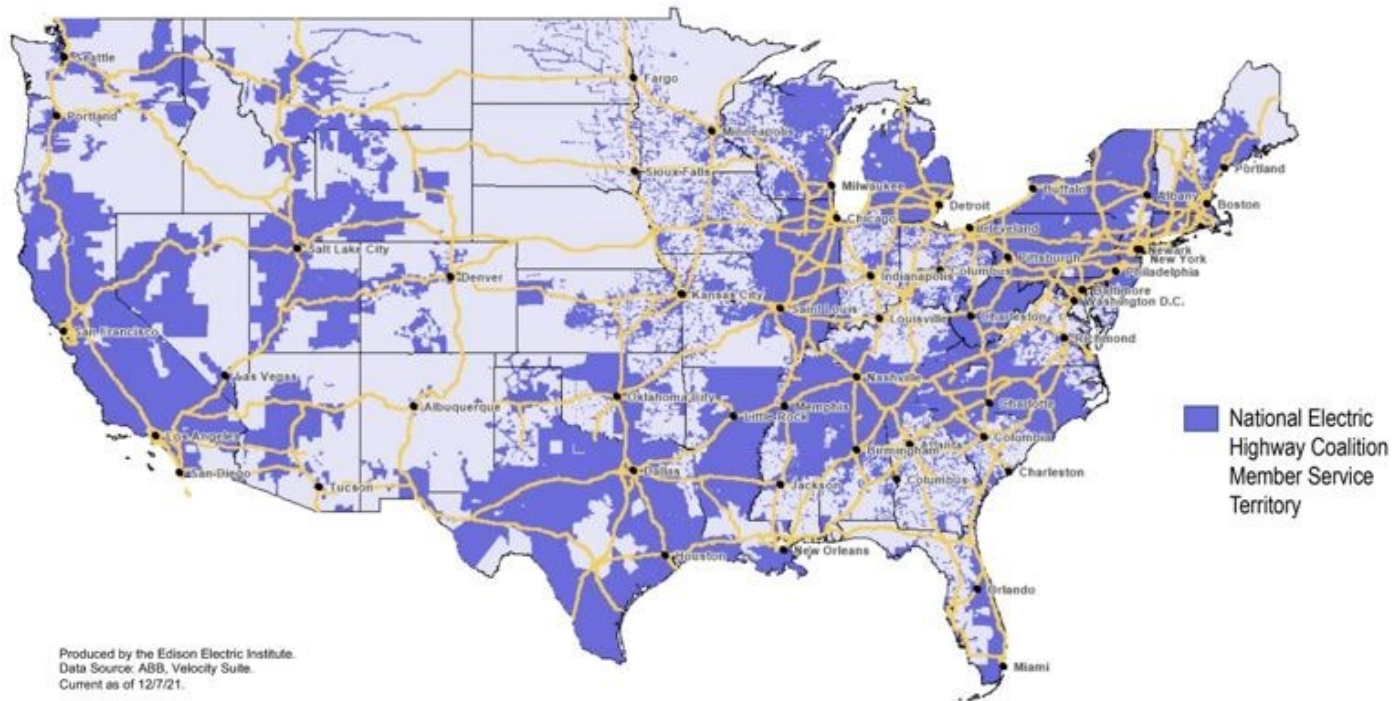
- Opens in 2022
- Features 10 175kW DCFC stations
- Offers seating area for waiting EV drivers, along with coffee shop
- Equipped with solar panels on the roof, chargers powered 100% certified renewable electricity



# In the News



## The National Electric Highway Coalition Will Support EV Charging Along Major U.S. Travel Corridors



## 50 Utilities Form Group to Coordinate EV Infrastructure Efforts

- Dec 2021 - Edison Electric Institute announced the formation of the National Electric Highway Coalition
- Collaboration among electric companies committed to providing DCFC stations along major US travel corridors by the end of 2023



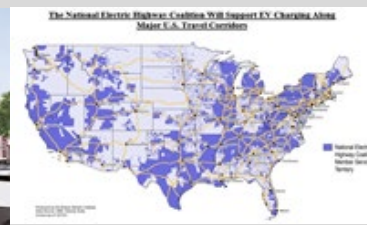


# In the News



## Sony Presents 2 Concept BEVs at CES

- Vision-S 01 – Electric Sedan
- Vision-S 02 – Electric SUV



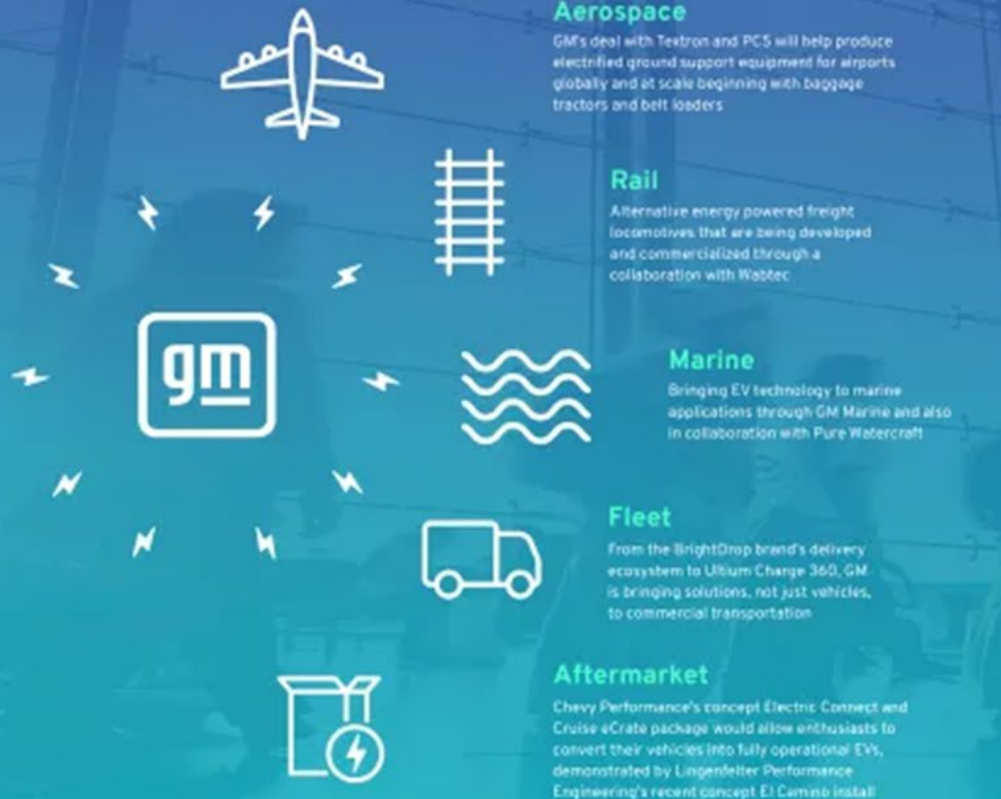


# In the News



## Expanding Electrification

GM has a clear vision for how its position as a platform innovator will include EV hardware components and software solutions that reach far beyond automotive applications. From the aerospace industry to aftermarket, GM is invested in a wide range of opportunities which extend its zero tailpipe emissions mission beyond its own products and services.



© GENERAL MOTORS

## GM Expands Technology Platforms

- Offer EV technology beyond core portfolio and automotive applications
- Reach to a larger, more diverse group of commercial customers
- Help organizations meet growing demand for zero emissions





# SRP Electrification Electric Vehicle “EV” and Fleet Assessment Program



Delivering water and power™





## SRP 2035 Goals

**Provide thought leadership on emerging climate change policies, with a focus on:**

- Supporting the enablement of 500,000 EVs in the SRP service territory.
- Electric Technologies – Expand portfolio of electric technology (non-EV) programs to deliver 300,000 megawatt-hours of annual aggregate energy impact.





# SRP Business Solutions - Electric Vehicle Programs

## SRP FY22 Program

(May 1, 2021 - April 30, 2022)

- Support 800 EV charging ports for FY22
- Implement program for fleet assessments to help customers develop an EV road map
- Support new residential construction with wiring rebates and work with local codes to encourage EV charging infrastructure
- Discounted EV chargers on SRP Marketplace for residential customers



Ford Lightning, Hybrid now, 2022 Electric Model Debut

*Ford Motor to discontinue manufacturing internal combustion powered vehicles by 2030.*

*- NY Times – February 2021*

# SRP Business Solutions - Electric Vehicle Programs

## How does the business program work?

- \$1,500 to \$4,000/port rebate – \$4000/port is for Gov't, NP, Schools and Multifamily
- No preapproval required
- Apply for rebate once station is energized
- Turn in your invoices and sign SRP's terms and conditions
- Online portal and landing page available at [savewithsrpbiz.com/ev](https://savewithsrpbiz.com/ev)
- Turn in application by July 30, 2022, for projects completed May 1, 2021 - April 30, 2022.



2 ports at 1 station = \$3,000 rebate

*President Biden signed an Executive Order calling for the entire Federal fleet to be zero-emission vehicles.  
– Whitehouse.gov*





# SRP Fleet Advisory Service via Electrification Qualified Service Providers “eQSP”

# Electrification Qualified Service Provider (eQSP)

Closed network of service providers that meet SRP criteria to provide eligible services under program rules. SRP will pay you or your contractor 50% of approved cost for the study and the other 50% if the project moves forward

- Process Overview
  - Submit Initial Vendor Application
  - Attend a Training
  - Submit Project Application and Receive Pre-Approval
  - Complete Minimum Assessment Requirements



Rivian RT1 – Available July 2021



# eQSP Assessment Incentives – Fleet Electric Vehicles

Fleet Assessment Incentive	Light Duty		Medium/Heavy-duty		Mixed Fleet	
		20 or more	50 or more	5 or more	20 or more	10 or more
	Up to \$14,000	Up to \$20,000	Up to \$14,000	Up to \$20,000	Up to \$14,000	Up to \$20,000

# 1. Electric Vehicle Rebate Summary

Electric Vehicle Charging Rebates	Customer Rebate
<b>Fleet Assessment for Light, Medium and Heavy-Duty Fleets**</b>	Up to \$20,000/assessment
<b>Commercial and Industrial Projects Level 2 Network Charger</b>	\$1,500/port
<b>Government, Nonprofit, and School Projects Level 2 Network Charger</b>	\$4,000/port



## 2. Electrification Rebate Summary (Another program)

Electrification Rebates	Customer Rebate
<b>Commercial and Industrial Assessments</b>	Up to \$10,000/assessment
<b>Non-Road Assessment Service - Material Handling</b>	Up to \$5,000/assessment
<b>Forklifts Class 1- 2 (Replacing IC)*</b>	\$2,000/unit
<b>Forklifts Class 1- 2 (Fleet Expansion or First-Time Purchase)*</b>	\$500/unit
<b>Forklifts Class 3 (Replacing IC only)</b>	\$350/unit
<b>High-Frequency Forklift Battery Charger*</b>	\$150/unit
<b>Medium/Heavy-Duty On-Road - Refuse, Last Mile (Pilot Program)</b>	\$0.10/kWh
<b>E/S TRUs and Truck Stop Electrification</b>	\$1,000/unit
<b>Custom Program (See eligible equipment in this document)</b>	\$0.10/kWh (for first year's usage)

\*\$500 bonus forklift incentive available for qualified small businesses for first two lifts; kWh <145k

# Commercial/Industrial and Non-Road Assessment Funds

## Material Handling Equipment - \$5,000

- Forklifts (Rapid Charge) Prescriptive
- Forklifts (Conventional Charge) Prescriptive
- Electric-standby Truck Prescriptive
- Refrigeration Units Prescriptive (REEFERS)
- Refrigerated Rail Cars

## Marine/Port Equipment - \$10,000

- Ship-to-Shore Electrification-Cold Ironing (per visit)
- Shore-side Port Cranes (Wharf Cranes)
- Rubber-tired Gantry Cranes (RTGs)
- Rail-mounted Gantry Cranes (RMGs)
- Wide-Span Cranes
- Yard Hostlers/ Drayage Trucks
- Dredgers
- Harbor Craft

## Airport Ground Support Equip \$10,000

- Pushbacks Rapid
- Belt Loaders
- Tugs and Tow Tractors
- Ground Power Units
- Pre-conditioned Air Units (PCAs)

## Locomotives - \$10,000

- High-Speed Passenger Trains
- Shore Power plug-in unit for Locomotives
- Battery-electric Switch Locomotives

## Mining Equipment - \$10,000

- Underground Mining
- Shuttle Cars / Haul Trucks
- Continuous Miners
- Hydraulic Shovels
- Blasthole Drills

## Agricultural - \$10,000

- Agricultural Pumps (Vertical, Mixed-flow Propeller)
- Battery Powered Sprayers

## Other Equipment - \$5,000

- Truck Stop Electrification
- Auxiliary Power Units
- Turf Trucks
- Golf Carts
- Ride-on Sweepers
- Walk-Behind Scrubbers
- Walk-Behind Burnishers
- Personnel/Burden Carriers
- Ride-On Scrubbers
- Walk-Behind Sweepers

## Process, Comfort and Water Heating - \$10,000

- Induction Heating
- Infrared Heating
- Electric Arc furnaces
- Vacuum Furnace
- Ultraviolet Curing
- Heat Pumps
- Electric Boilers



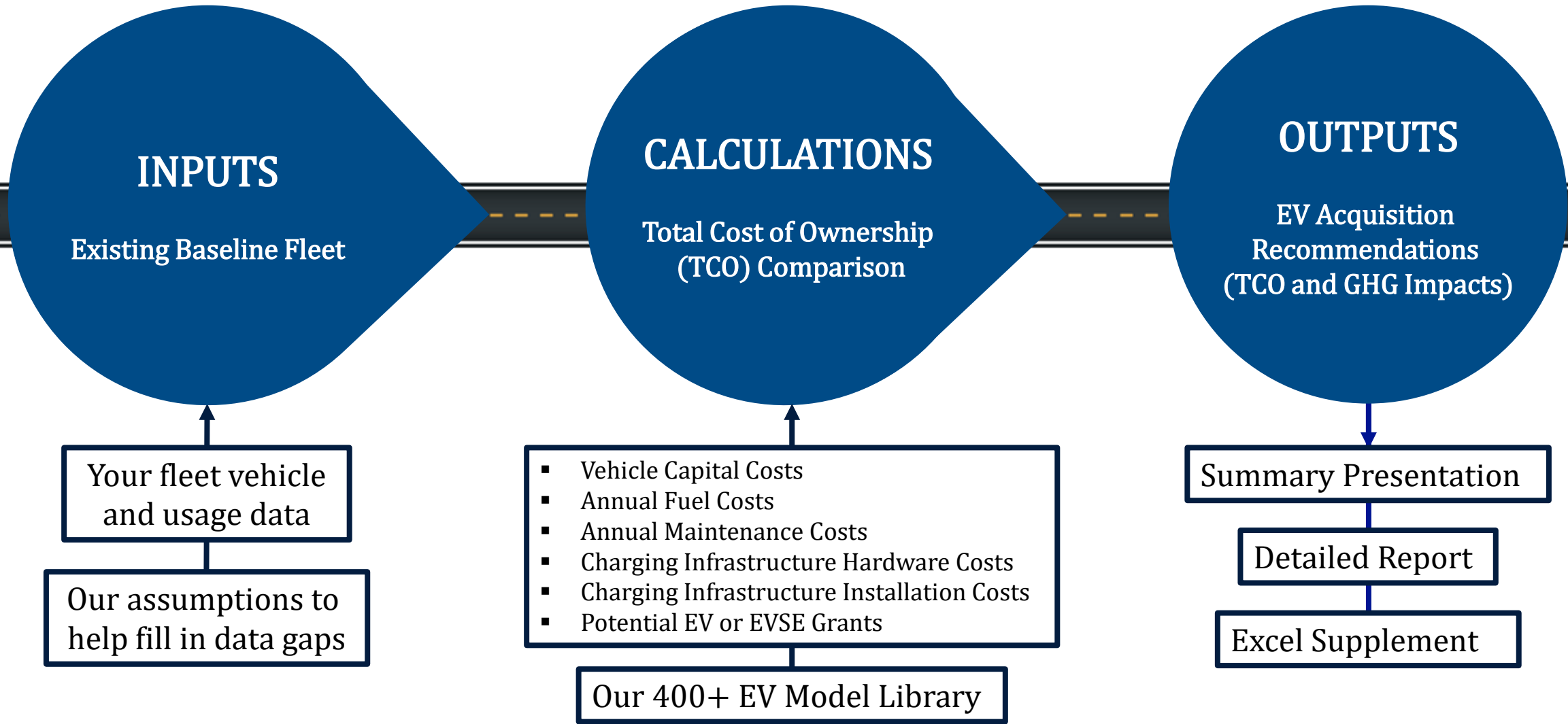


# SRP Fleet Advisory Service

## City of Mesa Electrification Recommendations



Delivering water and power™



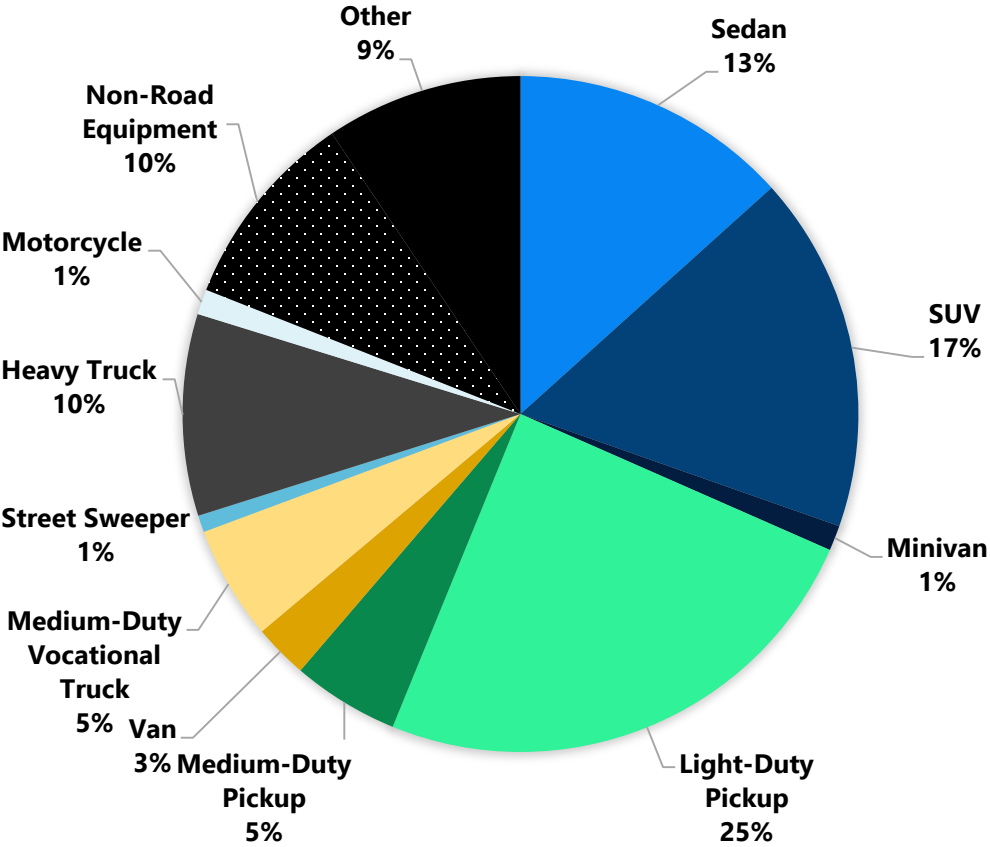
➔ **Fleet Assessment Process**

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# Existing Fleet Summary

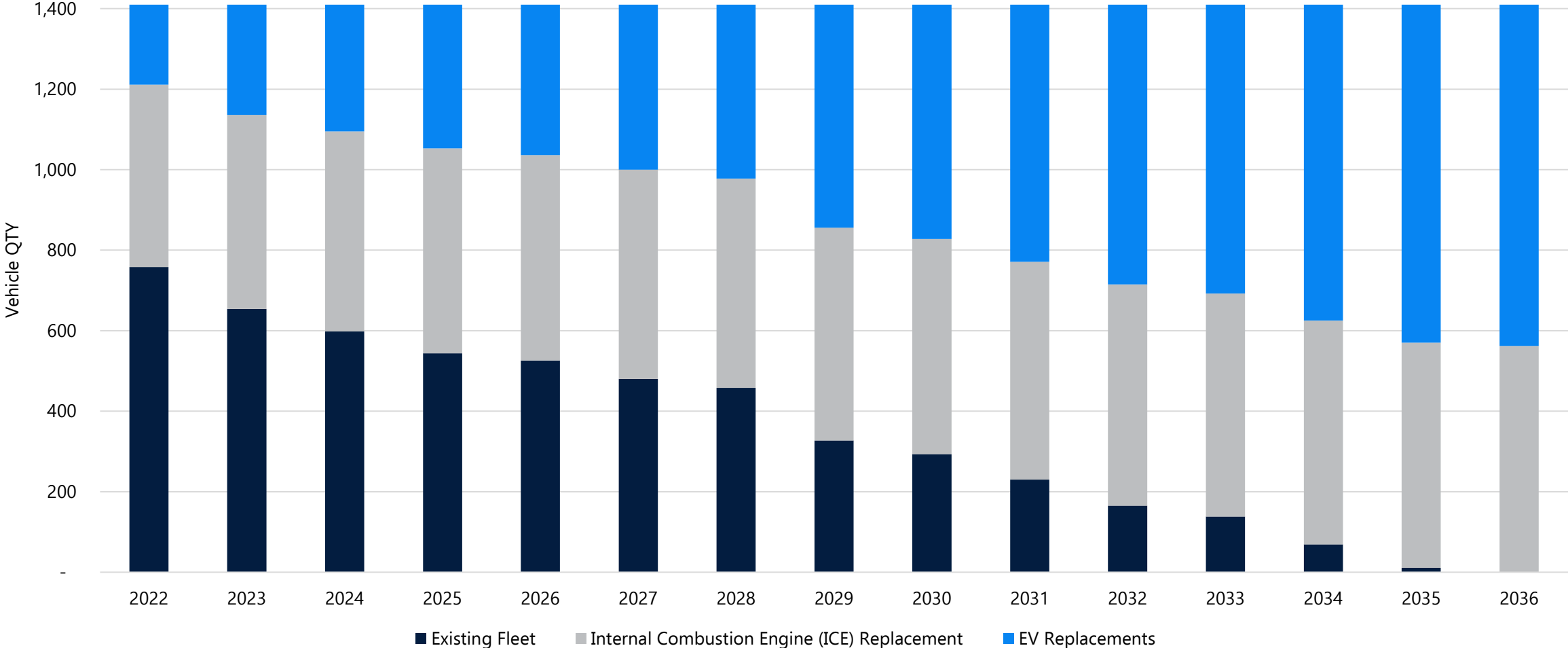
Existing Fleet Fuel Type Distribution			
Vehicle Type	Gasoline	Diesel	BEV
Sedan	21	0	0
Sedan (Police)	210	0	0
Sports Utility Vehicle (SUV)	14	0	0
SUV (Police)	283	0	0
Minivan	21	0	0
Light-Duty Pickup	419	7	0
Medium-Duty Pickup	89	0	0
Van	45	0	0
Medium-Duty Vocational Truck	62	32	0
Street Sweeper	0	14	0
Heavy Truck	0	166	0
Motorcycle	21	0	0
Non-Road Equipment	23	63	13
Other	2	0	0
<b>TOTAL</b>	<b>1210</b>	<b>282</b>	<b>13</b>



# Available Incentives

Program	Light-Duty EVs	Medium-Duty EVs	Heavy-Duty EVs	Administrator	Vehicle Costs	EVSE Installation	EVSE Hardware	Program Offerings	Upcoming Deadlines
<a href="#">Business EV Charging Rebate</a>				SRP		✓	✓	\$1,500 per networked L2 EV charging port. \$4,000 per port for government, non-profit, and school customers. Limit 50 ports per customer per year.	PY 21/22 deadline: 7/31
<a href="#">Diesel Emission Reduction Act (National)</a>		✓	✓	EPA	✓		✓	Up to 45% of EV and EVSE costs, must replace a diesel vehicle with 7,000+ annual miles.	TBD

# Recommended Replacement Timeline





# Recommendation Impacts

Based on our analysis, converting 848 vehicles to EVs is estimated to produce the following impacts:



**\$40,464,466**

TCO savings over 30 years\*



**\$22,141,101**

fuel cost savings over 30 years\*



**\$26,508,721**

maintenance savings over 30 years

**114,929**

metric tons (MT) of CO2 eliminated over 30 years

Over 30 years, those estimated CO2 reductions equate to:



eliminating **13,217** homes' energy use for one year, or:



switching **4,367,303** incandescent lamps to LEDs, or:



recycling **39,076** tons of waste instead of landfilling it, or:



planting **1,896,329** trees.

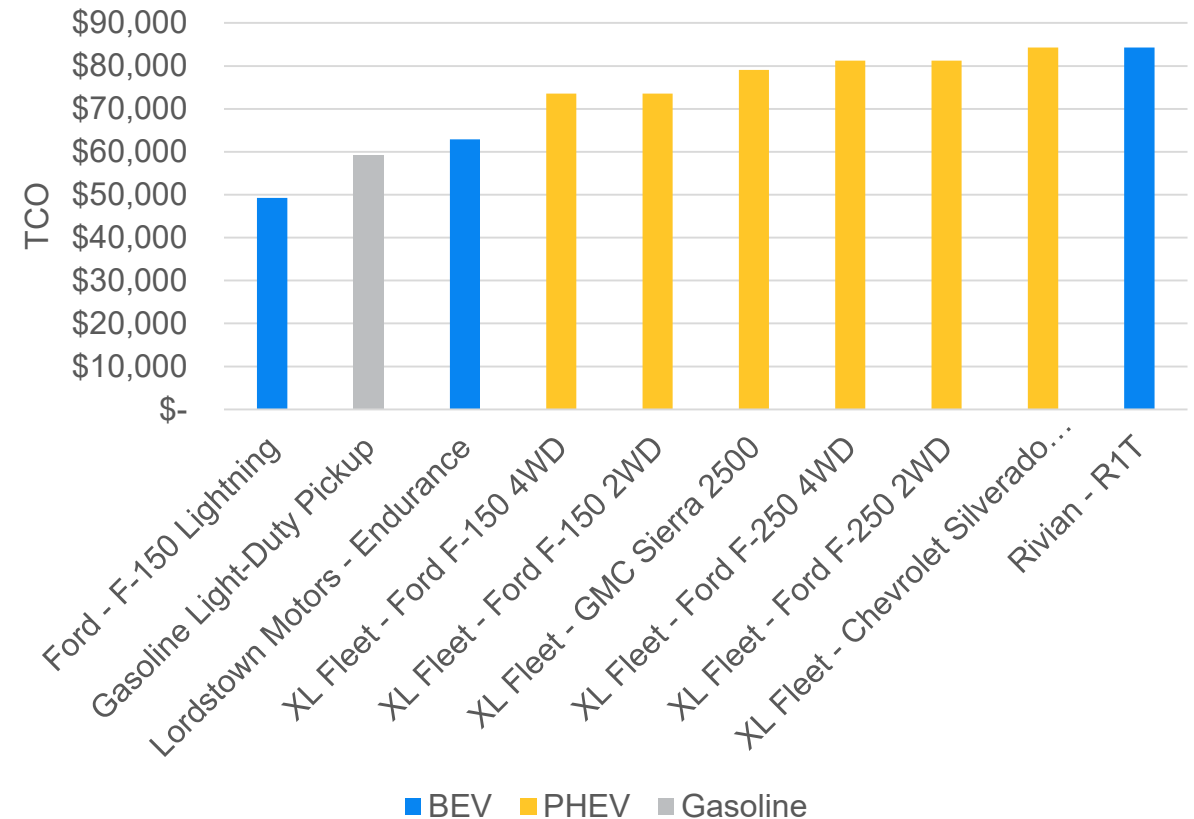
# Vehicle Recommendations

15-Year Electrification Recommendations							
Vehicle Type	Quantity Up for Retirement (in 15 Years)	Quantity Recommended to Convert to Electric	Recommended Make/ Model/ EV Type	Financial Savings (across 30 years)	GHG Emission Reductions (across 30 years, MT)	EVSE	
						L2	DCFC
Sedans	22	7	Nissan/ Leaf S/ BEV	\$73,086	183	7	0
Sedans (Police)	210	9	Chevrolet/ Bolt EV LT/ BEV	\$49,529	581	9	0
SUVs	14	9	Mazda/ MX-30 EV/ BEV	\$177,063	929	9	0
SUVs (Police)	283	35	Tesla/ Model Y Performance AWD/ BEV	\$206,002	3,246	35	0
Light-duty Pickups	428	390	Ford/ F-150 Lightning/ BEV	\$9,296,445	38,720	378	12
Medium-duty Pickups	89	89	Atlis/ XT (300 mi)/ BEV	\$3,004,714	14,018	83	6
Minivan	21	18	Canoo/ Lifestyle Vehicle/ BEV	\$1,817,448	1,203	18	0
Van	45	45	Electric Last Mile Solution/ Urban Delivery Van/ BEV	\$1,479,991	2,240	45	0

# Vehicle Recommendations

- Over 400 EV models in our EV library used for comparison
- Our EV acquisition recommendations are based on the model with the lowest TCO available that fits your fleet's needs
- The report provides additional EV models options for each vehicle type within the same price range

Light-Duty Pickup EV Model Total Cost of Ownership Comparison\*



\*Does not include EVSE costs or potential grants/incentives



# Non-Road Recommendations

Non-Road Vehicles					
Vehicle Type	Fleet Total Quantity	Quantity Already Electric	Quantity Recommended to Convert to Electric	Financial Savings (across equipment lifespan)	GHG Emissions Reductions (MT, across equipment lifespan)
Golf Cart	18	1	17	\$208,439	697
ATV/UTV	13	0	2	\$18,911	33
Floor Sweeper/Scrubber	2	0	2	\$11,118	45
Forklift	20	0	20	\$163,318	999
Mower	5	0	5	\$34,858	122
Backhoe	37	0	0	N/A	N/A
Other (air compressors, shop tools, generators, tractors, construction equipment)	80	12	0	N/A	N/A
<b>TOTAL</b>	<b>175</b>	<b>13</b>	<b>46</b>	<b>\$436,643</b>	<b>1,896</b>

# Recommendation Impacts

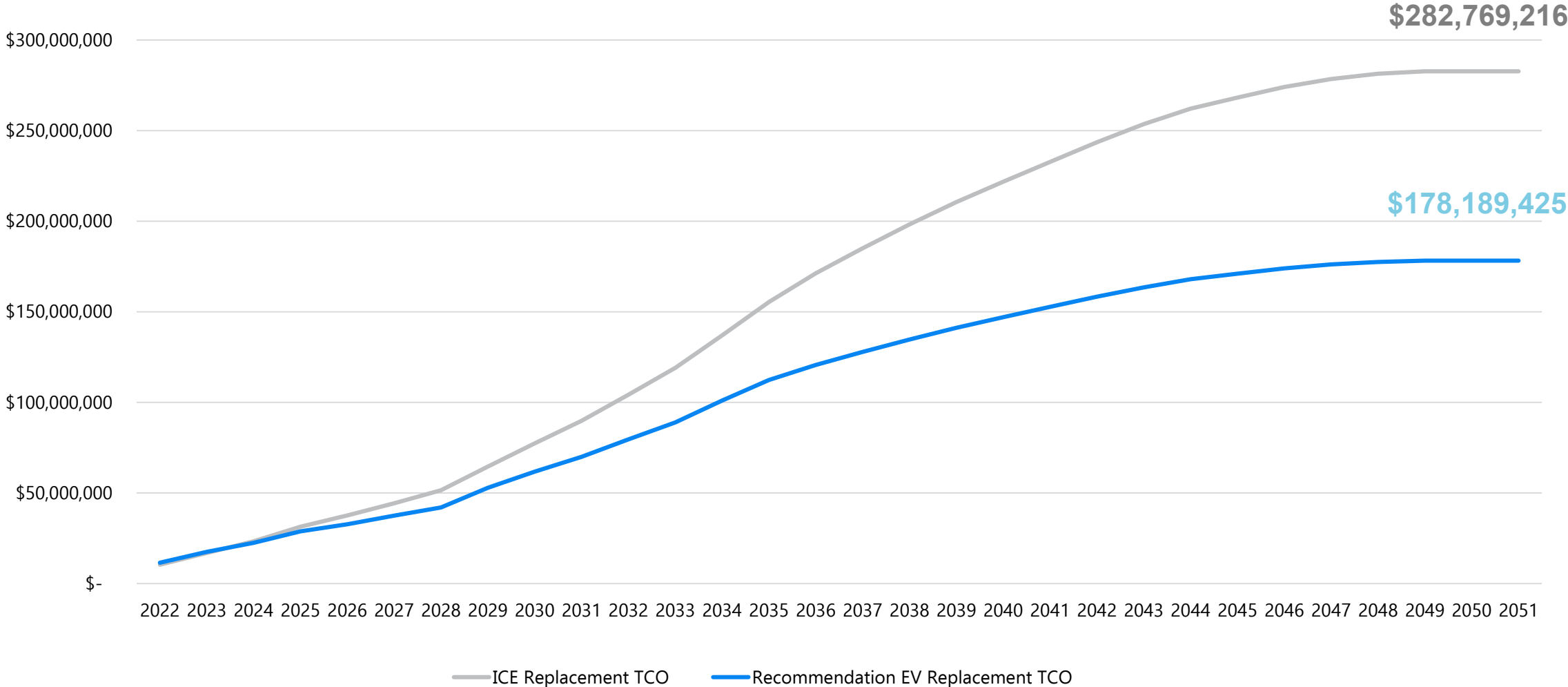
Charger Recommendations					
Type	Number Recommended	Total Equipment Cost	Total Installation Cost	Description	Typical Light-Duty Range and Charge Times
<b>Level 2</b>	<b>697</b>	<b>\$2,547,250</b>	<b>\$5,863,250</b>	Use a 208 V (commercial) or 240 V (residential) AC split phase service	10-20 miles of range per hour (4-6 hours for full charge)
<b>DC Fast</b>	<b>151</b>	<b>\$4,289,000</b>	<b>\$5,482,500</b>	Use 208 V or 480 V AC, three-phase service connection requiring a dedicated circuit	60-80 miles in 20 minutes of charging (~0.5 hours for full charge)

# Recommendation Impacts

Site Name	L2 (Qty)	DCFC (Qty)	Total Chargers (Qty)	Demand (kW)
Solid Waste Management Site	16	23	39	561
Transportation Site	103	12	115	533
Police Administration Site	148	3	151	483
Water Utility Site	113	8	121	412
Fire & Medical Site	31	14	45	343
Gas & Utility Site	54	14	68	338
Parks, Recreation, & Community Facilities Site	75	1	76	221
Engineering Site	35	0	35	93
Electric Utility Site	18	3	21	88
Development Services Site	30	0	30	81
All Other Sites*	117	2	119	309
<b>TOTAL</b>	<b>740</b>	<b>80</b>	<b>820</b>	<b>3,464</b>



# Recommendation Impacts



# Recommendation Environmental Impacts

By converting the 848 recommended vehicles to EVs:

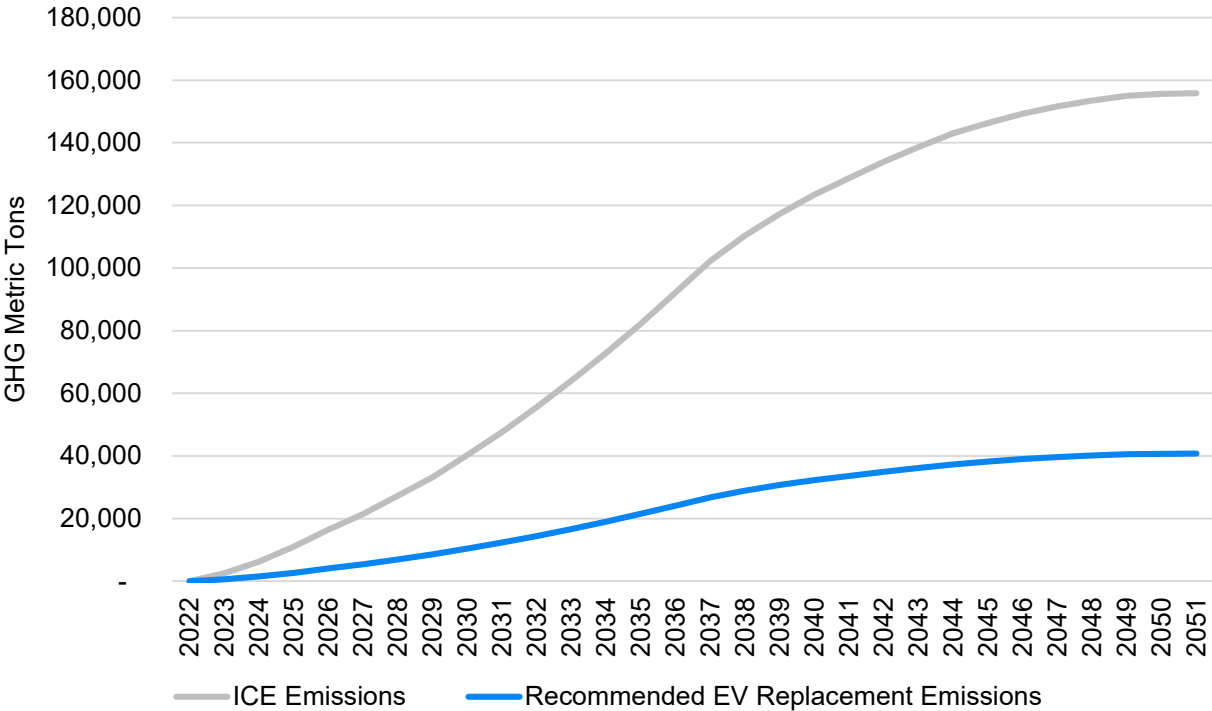
**14,929** GHG Emission Reductions (MT over 30 years)

**216,950** NOx Emission Reductions (Lbs. over 30 years)

**24,825** Equivalent to removing passenger vehicles from the road for one year

**1,896,329** Equivalent to tree seedlings grown for 10 years

Cumulative Fleet Green House Gas Emissions



**Questions?**



# Contact Us

**Phone:** 602-236-9650 or x3065

**Email:** [etechrebates@srpnet.com](mailto:etechrebates@srpnet.com)

[savewithsrpbiz.com/etech](https://savewithsrpbiz.com/etech) (non-road)

[savewithsrpbiz.com/ev](https://savewithsrpbiz.com/ev) (on-road)

## Program Contacts:

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- [Bill.Vaughan@icf.com](mailto:Bill.Vaughan@icf.com) (SRP Rebates)
- [Andrew.Varney@icf.com](mailto:Andrew.Varney@icf.com) (Fleet Assessment)



Source: [electrek.co](https://electrek.co)

*Amazon has officially started using the first Rivian electric vans to make customer deliveries with plans for 100,000.*





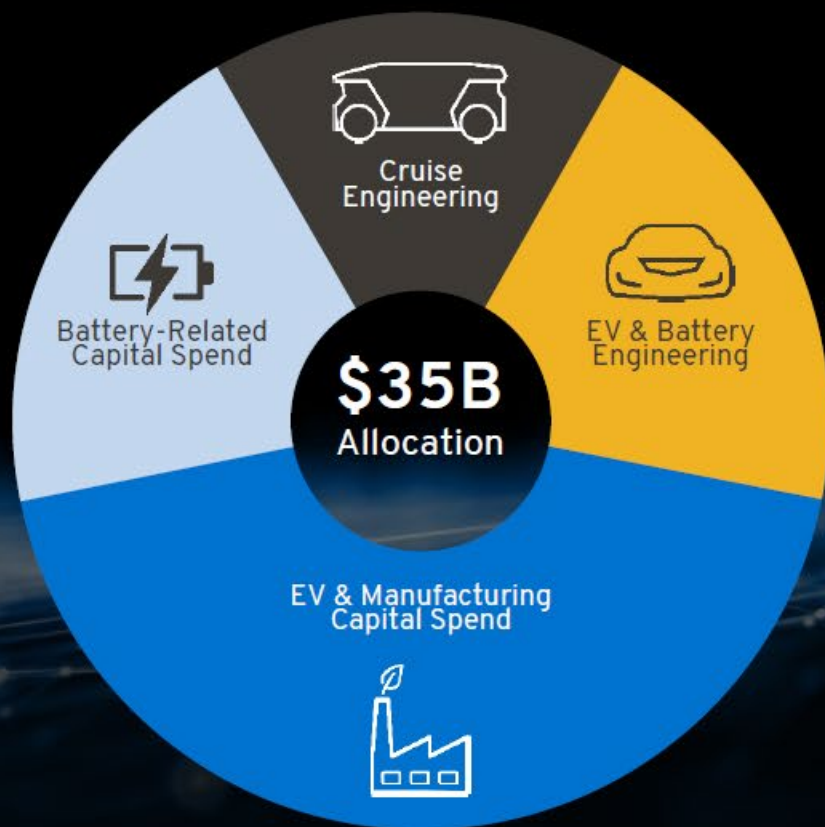
GM\_PlexusCrops copy.jpg

**Alex Keros**

Director | Charging Infrastructure Development

# GM IS TRANSFORMING

## INVESTMENT



## CHARGING ECOSYSTEM







## MISSION

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# Inspire mass adoption of electric vehicles & position GM as the EV leader

lead cross-company EV strategies

Vehicles

Buying

Charging

Ownership

# Vehicles & Battery Technology

# INNOVATIVE GM ULTIUM BATTERY TECHNOLOGY

Ice cube tray concept – you can put as much water in the tray to make as many cubes as you need

- The tray still takes up the same amount of space in the freezer

You can use as many battery packs as the vehicle specs call for: 6, 8, 10, 12, or even 24, with two 12s stacked on top of each other



**ULTIUM**





## VEHICLES

- **GM's EV plan of record positioned for leadership**
  - 30 EVs by 2025; 2/3 in U.S.
  - 40% GM's U.S. entries will be EV by 2025
- **Ultium platform enables accessibility for all**
  - Broad portfolio of EV cars, trucks, and SUVs
  - Across price points, an EV for everyone

# GM's BATTERY ELECTRIC TRUCKS

- **GMC Hummer EV Supertruck**

- Three electric motors within the Ultium Drive system offer up to 1,000 horsepower and 11,500 lb-ft (GM estimates)
- Assembled in U.S. (Factory Zero) using Ultium Cells



Preproduction test vehicle shown. Actual production model may vary. Pickup initial availability Fall 2021. SUV initial availability early 2023.

- **Chevrolet [and GMC] Announcements**

- All-new, all-electric full-size pickups
- Ground-up, purpose-built
- All-new exterior and interior



## Chevrolet Silverado Work Truck (WT) and RST)

- Expected GM-estimated 400-mile range on a full charge offered
- Up to 664 horsepower with more than 780 lb-ft of torque in max power; Wide Open Watts: 0-60 <4.5 seconds
- Up to 10.2 kw of offboard power on WT and RST with option equipment
- Up to 10,000 pounds of maximum trailering with up to 1,300 pounds of payload on RST<sup>4</sup>



# BRIGHTDROP IS A NEW BUSINESS THAT WILL ELECTRIFY AND IMPROVE THE DELIVERY OF GOODS AND SERVICES



BrightDrop will offer an integrated ecosystem of electric products, software and services for the first to last mile of delivery.



**EV600** – An all-new 600 cu.ft. delivery van with a range of up to 250 miles



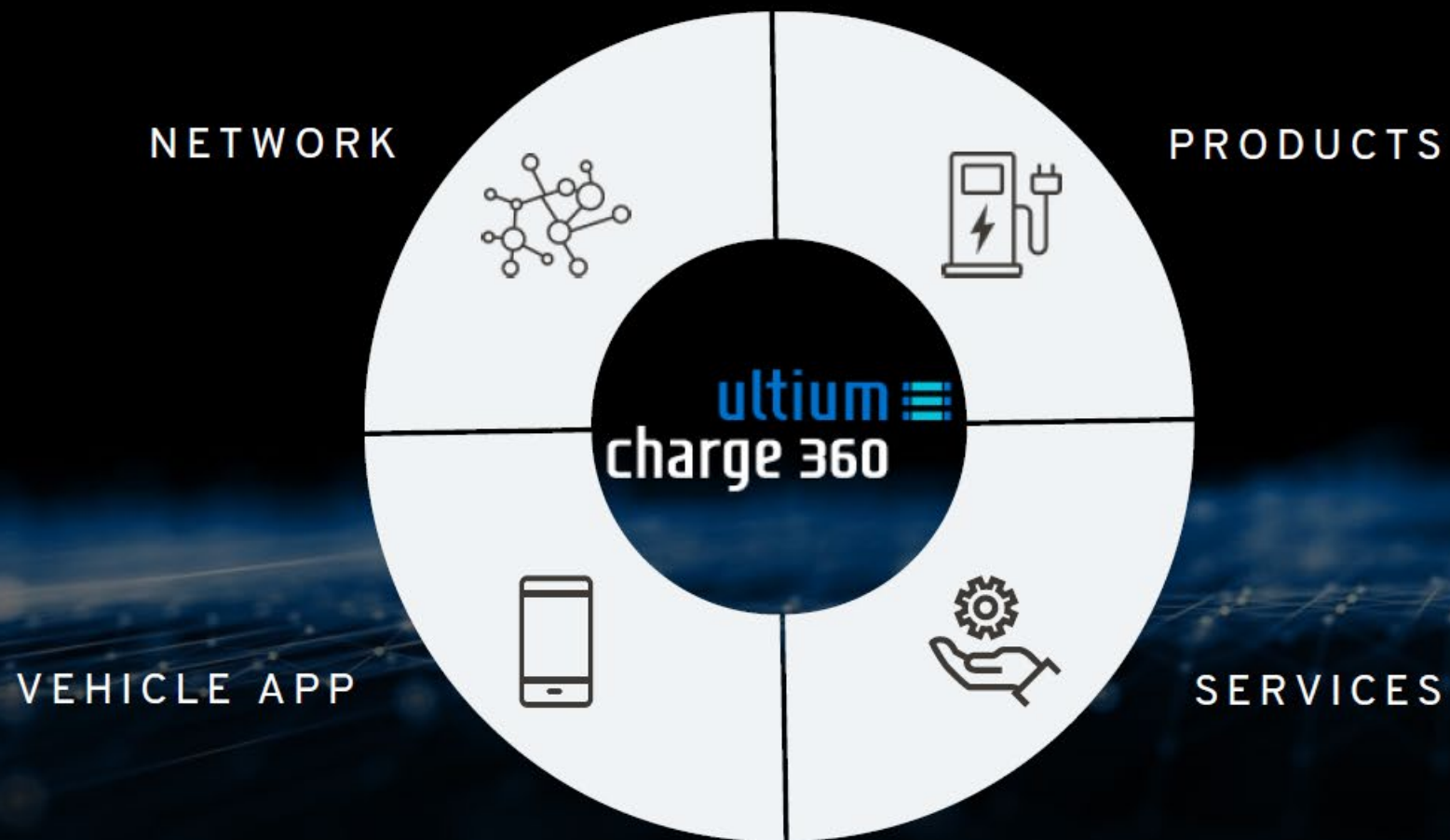
**EP1** – An electric pallet developed to easily move goods over short distances

# Supporting Services & Charging



# ULTIUM CHARGE 360

An integration of networks, products, & services that promises the best charging experience for GM EV owners



# ULTIUM CHARGE 360: INFRASTRUCTURE INVESTMENT

**\$0.75B**

THROUGH 2025

HOME CHARGING

WORKPLACE CHARGING

PUBLIC CHARGING



ultium   
charge 360

# ULTIUM CHARGE 360: DCFC NETWORK



- ACCELERATE INFRASTRUCTURE
- ~~2750~~ 3,250 DCFC IN 52 MARKETS
- 8 STATES LIVE TODAY
- 350 KW CAPABILITY

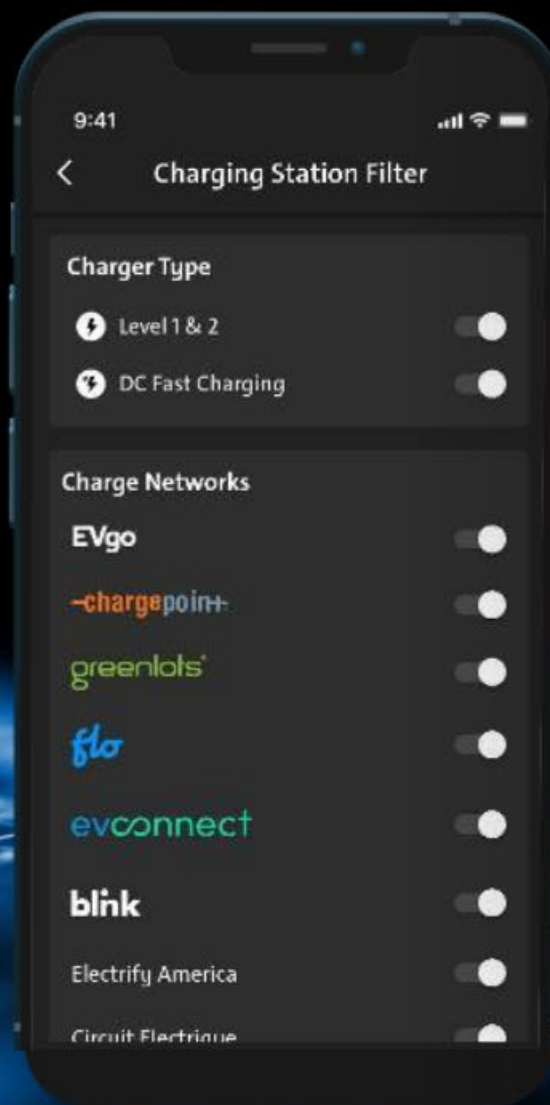


# ULTIUM CHARGE 360: NETWORK



OVER  
**85,000**

PUBLIC CHARGING STATIONS  
IN US & CANADA



**9**

CHARGE POINT OPERATORS  
+ PLUGSHARE

- REALTIME STATUS
- DYNAMIC DATA
- INTEGRATED PAYMENTS



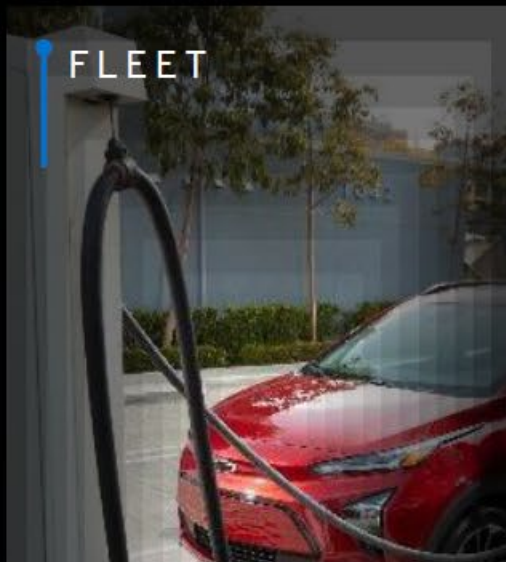
# ULTIUM CHARGE 360: SERVICES



Industry-leading, turnkey charging solutions



- Turnkey
- Wide adoption



- 5+ vendors
- Fleet management suite
- OnStar vehicle insights
- Comprehensive solution



- Industry leading
- Turnkey
- Complimentary
- Opportunity to monetize beyond the vehicle

# ULTIUM CHARGE 360: PRODUCTS



11.5 KW/48-AMP  
SMART  
CHARGER

11.5 KW/48-AMP  
PREMIUM  
SMART CHARGER

19.2KW/80-AMP  
PREMIUM  
SMART CHARGER



PROFESSIONAL GRADE  
CUSTOMIZABLE SCREENS  
EMBEDDED CAMERAS  
LOAD BALANCING



# ULTIUM CHARGE 360: APP

ENERGY  
ASSIST



- LOCATE CHARGING
- PLAN ROUTE
- REAL-TIME ALERTS



**Let's talk about fleet services...**



# Fleet Use Cases

## Example solutions for various fleet use cases



- **Dedicated vehicles, taken home each night**
  - Home Installation Services, Easy for Employee/Employer
  - Reimbursement – Measure charging via vehicle telematics



- **Pool vehicles or vehicles returning to centralized location**
  - Depot Installation Services, Financing, Turnkey O&M
  - Facility management support through GM consulting support



- **Public / On the go or EV Fleet without the charging investment**
  - Ensure access when away from home/office, sometimes for long durations
  - Access to every station, make it easy for driver/employer to pay

# EV Charging Solutions for Fleets | Solutions



## GM Announces New Fleet Charging Service Designed to Accelerate the Adoption of Fleet Electrification

Ultium Charge 360, one of the industry's most comprehensive approaches to charging, will now also connect fleet customers to services, resources and access to preferred charging providers

2021-07-15

Print Email Word Add This

**DETROIT** – General Motors and BrightDrop, a new business created and wholly owned by GM that is reimagining commercial delivery and logistics for an all-electric future, today announced the Ultium Charge 360 fleet charging service, a comprehensive approach designed to help make the switch to electric seamless for fleet customers by connecting them with services, features and resources.

The Ultium Charge 360 fleet service will be one of the industry's most holistic solutions offering, where available:

- Fleet and facility management tools
- Integration with both GM's fleet management solution, OnStar Vehicle Insights, and the BrightDrop fleet and asset management platform
- Support for a wide range of fleet segments, including delivery, sales, utilities and motor pool

Services	Needed Capabilities (Example)
Consulting	Fleet Mgmt. Decisions, Facility needs
Hardware	Procurement, L2/DCFC, Interoperability
EPC / Installation	Depot, Home; Design, Construction
Financing	Traditional, Off-take, Charging as a Service
Facility Needs	Energy Storage, Resiliency, Renewable
Technology	Energy & Fleet Mgmt. Software Integration
O&M	Maintenance, Repair, Networking
Incentives	Govt Incentives, LCFS Credits
Public	Charging away from home, depot

# EV Charging Solutions for Fleets | Solutions



“Preferred Provider” Approach: Solutions can range from Turnkey to Specific.

## Home

Qmerit



Co-Design home installation program for employees tailored to company goals; pre-qualified electricians complete the install and program is tracked to SLAs.

GM leveraged telematics to track vehicle energy usage (kWh) and enable reimbursement.

## Depots

Schneider Electric



DUKE ENERGY

EVgo



Turnkey charging solutions suited to assess initial options, identify opportunities and challenges, and tailor solutions that address today and future goals.

GM enabled tools that reduce cost of operation, like managed charging & grid services.

## Public

EVgo



Whether reliant or complimentary to home and public solutions, ensure access to public charging to solve on-the-go use-cases in the locations that matter to fleets.

GM integrated tools, such as Energy Assist, that allow drivers to find & use public charging.



# EV Charging Solutions for Fleets | Home Solutions

## Qmerit



- Qmerit sources qualified electricians in the US and Canada to provide integrated home charging solutions
- Electricians undergo a rigorous Qmerit qualifying process to be added as preferred vendors
- Continually looking to increase electrician footprint coverage
- GM Fleet utilizing Qmerit's Concierge "white glove" service for certain fleet customers
- Concierge program has Qmerit's highest rated customer satisfaction
- Great solution for pharmaceutical & other sales reps where the vehicle charges overnight at home





# EV Charging Solutions for Fleets | Depot Solutions



- Depot turnkey partners provide a suite of services to ensure fleet customer needs are met
  - Services range from consulting; hardware; engineering, procurement, & construction; installation; financing; facility needs; technology; operations & maintenance; and incentives (gov't & LCFS)
- Hardware agnostic – can provide equipment appropriate for customer
- Energy storage, resiliency, renewable energy, microgrids
- Financing – traditional or charging as a service (CaaS)
  - Fleet customer responsible for payment plan
- Software integration, manage deployment of EVSE, EVs









# Vehicle Grid Integration: EV as a Grid Resource

VGI is the premise that through active and passive control of EV charging, EVs can minimize their impact to the grid and increase the utilization of grid assets, putting downward pressure on rates for all customers.

## RATE DESIGN

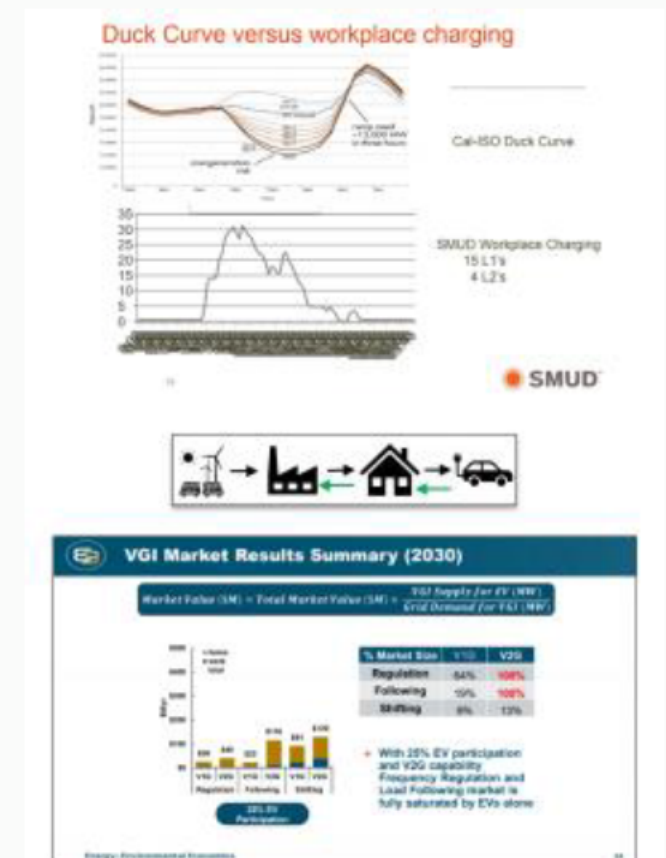
- Passive control through rate mechanisms designed to shift EV loads—i.e. off-peak, renewable integration.

## V1G – MANAGED CHARGING

- Active control of flow of electricity into the vehicle battery from the grid—controlled by utilities, grid operators, aggregators, automakers, etc.

## V2G/V2H – BI-DIRECTIONAL FLOW OF ELECTRONS

- Active control of electricity into and out of the vehicle battery, responding to signals to enable/support grid services and/or local load management (i.e. backup power). The vehicle battery functions as a “generator” (home) or energy storage device.





## ULTIUM CHARGE 360 FLEET SOLUTION

### GOING ELECTRIC JUST GOT EASIER

Every fleet can go electric. With Ultium Charge 360 – our comprehensive offering of vehicles, charging and software solutions for fleet customers – adding a GM Fleet EV to yours can be as simple as 1-2-3.

### STEP 1

#### ENGAGE WITH OUR EV PRODUCT EXPERTS

When you purchase a GM Fleet EV, you get so much more than a new vehicle. You get a team of electric vehicle experts ready to offer your business complete support.



Total cost of ownership analysis



Help placing EV fleet orders or locating current inventory



Infrastructure and charger installation recommendations



EV discounts or industry-specific offers



Vehicle financing solutions



Technical and upfit<sup>1</sup> questions answered



Parts and service support



Help with warranty repairs



#### QUESTIONS?



Learn more about our Ultium Charge 360 fleet solution at [gmfleet.com](http://gmfleet.com)



### STEP 2

#### PICK YOUR PREFERRED CHARGING PROVIDER

We connect you with a turnkey charging provider that best matches your business needs. One that can handle everything from identifying appropriate charging equipment and design engineering to power and utility requirements so your charging infrastructure is powered up to support your fleet.

#### GM Fleet Preferred Turnkey Providers

	HOME	DEPOT	PUBLIC
eTransEnergy (a Duke Energy company)		•	
EVgo		•	•
In-Charge Energy		•	
Schneider Electric		•	
Qmerit	•		

• = Turnkey Provider Capability

### STEP 3

#### SELECT FROM OUR FLEET-SPECIFIC SOFTWARE SOLUTIONS

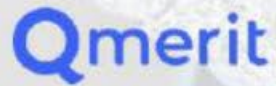
Available fleet-specific telematics offer you the tools your business needs to succeed. OnStar Vehicle Insights™<sup>2</sup>, our embedded solution for fleets of any size, helps track daily operations so you can make more informed decisions. We also offer an extensive range of API services that can be integrated into the applications of a wide variety of telematic service providers and fleet management companies.



<sup>1</sup> Upfits from an independent supplier are not covered by the GM New Vehicle Limited Warranty. GM is not responsible for the safety and quality of independent supplier alterations. <sup>2</sup> Terms apply. Available on select properly equipped 2015 model year and newer GM vehicles (excludes Volt, Low Cab Forward Trucks and GM vehicles built without OnStar Hardware, which includes but is not limited to select base Chevrolet and GMC trucks). Requires an active connected vehicle services plan. Fees, services and availability subject to change without notice. Applicable taxes not included. Does not include emergency or security services. Diagnostics capabilities vary by vehicle model. Not all issues will deliver alerts. See [onstarvehicleinsights.com](http://onstarvehicleinsights.com) for details and limitations.

Not intended for advertising purposes. GM reserves the right to make changes at any time, without notice, in prices, colors, materials, equipment, features, specifications and availability. Product information is preliminary and reflects approved content at time of publishing.





## WHO WE ARE

Qmerit's turnkey home charging installation solutions streamline the switch to EVs — whether your company has 10 vehicles or thousands, managed internally or by a third-party provider.

As the only national provider of home charging installation services, Qmerit makes the switch to EVs easy and seamless for fleet managers and their employees. We simplify the entire process for your light-duty fleet, providing a safe, smooth and predictable experience for you and your employees from start to finish.

### THE QMERIT EXPERIENCE

We've built the leading nationwide team of EV home charging installers. They're carefully vetted, certified and trained in the latest EVSE technologies. Our installation experts work with our customer care specialists to provide you and your employees with white-glove service throughout the installation process.



We walk your employees through every step, from initial education about EVSE to installation — through the end of the warranty period.



Through our easy-to-use platform, your employees can submit home details and photos to receive a fast, accurate quote and schedule their installation — often without the need for an in-person assessment.



Qmerit continuously collects feedback from your employees about their experience and the service quality we're delivering. Fleet owners and managers can track project progress and quality ratings in real time through our digital dashboard.



## HOW WE WORK WITH YOU

Qmerit simplifies the switch to EVs for home-based fleets while helping you manage your budget and ensuring driver satisfaction.



### COAST-TO-COAST COVERAGE

Qmerit built the only network of EV charger installers — all licensed, insured and carefully vetted — stretching across the U.S. and Canada.



### STREAMLINED SOLUTIONS

Qmerit handles all management, billing, paperwork and payments to installers — alleviating your administrative burden.



### PREDICTABLE PRICING

Our structured pricing model, with upfront rates for common installation configurations, helps you manage expenses and stay on budget.



### EXPERT SUPPORT

Your personal Qmerit service team guides you and your drivers through the entire process, answering questions on topics like permitting, electrical panels and installation inspection.



### CONCIERGE SERVICE

Qmerit manages every detail for your drivers — from basic education on home charging through price quotes, installation, billing and follow-up.



### SAFETY & SERVICE QUALITY

Our technology platform and processes, honed over a decade of national EV infrastructure rollouts, ensure we continue to meet the highest standards — protecting your company and brand.



### ROBUST TRANSPARENCY

Track every aspect of your program, from project status to driver satisfaction and feedback, through our online reporting.

## WAYS TO GET IN TOUCH WITH OUR TEAM



customerservice@qmerit.com



qmerit.com



888.272.0090



facebook.com/qmerit



twitter.com/Qmerit



linkedin.com/company/qmerit



instagram.com/QmeritEV





## WHO WE ARE

Schneider Electric™ is an open-protocol technology stack that delivers reliable power and Internet of Things (IoT) intelligence to electric fleet charging. We deliver comprehensive EV charging solutions to all kinds of organizations. Our expertise spans from power distribution fundamentals to advanced islandable microgrids — plus the software and services needed to optimize it 24/7.

We call this full solution EcoStruxure™ for eMobility. Equipped with IoT-enabled connectivity, EcoStruxure enables you to monitor, control and optimize your charging infrastructure from anywhere.

Utility coordination. Charging stations. Energy management. Power distribution. Sustainability. Resilience. Networking and software platform integration. Cybersecurity. Energy as a service. This is what we do.

### HOW ECOSTRUXURE HELPS YOU



#### Open Protocols

Integrate easily with Open Charge Point Protocol (OCPP) platforms and third-party telematics to ensure your EV charging infrastructure accommodates future needs.



#### Energy Sourcing

Add distributed energy resources (DERs) and renewables while optimizing your utility spend in real time.



#### Single Source

Offload operational risk and responsibilities via full life cycle coverage and turnkey execution.



## HOW WE WORK WITH YOU

We serve as the single point of contact for your entire EV charging solution. We coordinate with project stakeholders, such as utilities and suppliers, to deliver a turnkey solution with the right charger for each application and environment. We also integrate numerous software solutions and networks. Ultimately, our approach is designed to minimize your energy spend and cyber risk while maximizing resilience and reliability.

### POPULAR EQUIPMENT OPTIONS



#### ECOSTRUXURE™ FOR eMOBILITY

Add intelligence with our IoT-enabled solution that's cybersecure by design and built on open standards.



#### ENERGY CONTROL CENTER FOR MICROGRIDS

Integrate DERs like solar, fuel cells and batteries into your energy mix.



#### ENERGY AS A SERVICE

Avoid upfront costs for modernizing electrical infrastructure via predictable, cost-effective monthly payments.



#### UTILITY INTERCONNECTION

Simplify the process of working with utilities and adding capacity that supports large-scale charging.



#### FLEET AND ENERGY MODELING

Optimize when and how you charge your fleet based on trends and real-time conditions.



#### FLEXIBLE SERVICE MODELS

Build a custom service agreement that includes access to our remote or on-site engineering support.



#### LOCAL-TO-GLOBAL FLEXIBILITY

Get seamless coverage across North American utility markets and beyond, including self-contained, non-grid solutions.

### WAYS TO GET IN TOUCH WITH OUR TEAM



Schneider-GM.EVFleet@se.com



se.com



978.975.9333





## WHO WE ARE

We are eTransEnergy, a Duke Energy company that provides end-to-end electrification-as-a-service solutions for fleet owners and operators seeking to lower costs, reduce emissions and improve vehicle performance and driver experience. We help a variety of companies across North America achieve optimal total cost of ownership (TCO) as they transition to electric vehicle fleet operations.

### The eTransEnergy Difference

eTransEnergy strives to uphold principles of reliability, affordability and longevity of assets. We're a part of a company with experience providing customers with comprehensive energy solutions to meet their needs for decades. Now, we're ready to help you on your journey toward fleet electrification.



**PLANNING AND EXECUTING**



**ENERGY AND FLEET MANAGEMENT SERVICES**



**SINGLE-POINT SOLUTION**



## HOW WE WORK WITH YOU

We combine total fleet planning with site-level solutions. Our **strategic planning process** offers the full journey toward fleet electrification, and our **project-based process** involves installation of the charging and electric infrastructure needed to charge an electric vehicle fleet.

### OUR END-TO-END SERVICES



#### ANALYSIS AND PLANNING

Fleet electrification planning designed to minimize TCO with future growth in mind.



#### FINANCING

Incentives may be available, and we also offer a subscription-as-a-service financing model.



#### CHARGING INFRASTRUCTURE

We install only quality EV chargers, which enable charging strategies that support optimal site operations.



#### RENEWABLES


Our vehicles can be powered by a combination of on-site solar, energy storage, microgrids and off-site wind energy services.



#### OPERATIONS, OPTIMIZATION & MAINTENANCE

Our team analyzes a fleet's infrastructure to identify opportunities for greater energy efficiency and cost savings.

### Ways to Get In Touch with Our Team

 [etransenergy@duke-energy.com](mailto:etransenergy@duke-energy.com)

 [eTransEnergy.com](http://eTransEnergy.com)

 844.360.2433

Visit [eTransEnergy.com/GM](http://eTransEnergy.com/GM) to submit a form.

**Be sure to identify yourself as a GM Fleet customer.**

eTransEnergy is not the same company as Duke Energy Corporation's regulated utilities, including Duke Energy Carolinas, Duke Energy Florida, Duke Energy Kentucky, Duke Energy Indiana, Duke Energy Ohio and Duke Energy Progress ("Regulated Utilities"). eTransEnergy is not in any way sanctioned by the state utility commissions regulating the Regulated Utilities; Purchasers of products or services from eTransEnergy will receive no preference or special treatment from the Regulated Utilities; and a customer does not have to buy products or services from eTransEnergy in order to continue to receive the same safe and reliable electric or gas service from the Regulated Utilities. Nonpayment for these products or services may result in removal from the program, but will not result in disconnection of electric or gas service by the Regulated Utilities. THIS MESSAGE IS PAID FOR BY THE SHAREHOLDERS OF DUKE ENERGY CORPORATION.





## WHO WE ARE

In-Charge Energy is the leading provider of comprehensive fleet charging solutions in North America, drawing upon the industry's most experienced team of EV infrastructure professionals. The top brands in the industry rely on In-Charge. The company self-performs assessment, engineering and some construction services, ensuring a reliable and cost-effective installation. With more than a dozen makes of chargers and ancillary equipment, your unique fleet needs can be easily accommodated. Additionally, software by In-Charge includes enterprise-grade, fleet-specific features to help run your fleets efficiently.

We offer turnkey fleet infrastructure, charging as a service, charger management software, and operations and maintenance.

### HOW IN-CHARGE CAN HELP YOU



Evaluate the fleet and facility needs and gain internal alignment.



Procure the best hardware and integrated software for reliability.



Finance, install, operate, maintain and optimize your fleet.



## HOW WE WORK WITH YOU



Our installation process overview:

1. Contact In-Charge Energy for a fleet or facility assessment at [sales@inchargeus.com](mailto:sales@inchargeus.com)
2. In-Charge will provide remote and on-site assessment tools for your fleet conversion
3. Together with your team, In-Charge will craft a plan following its four-square approach:
  - Reduce your energy consumption
  - Produce power at the parking stalls
  - Operate your stations
  - Optimize your savings
4. Implement your plan and start saving with General Motors vehicles and In-Charge Energy charging infrastructure

### WIDE RANGE OF SOFTWARE & EQUIPMENT OPTIONS



#### IN-CONTROL SOFTWARE

Our fleet-focused software is designed for end-to-end EV charger management. With enterprise-grade reliability and security, you can track and manage energy consumption and usage to maximize ROI.



#### AC EV CHARGING

We provide Level 2 AC EV Chargers from a variety of EVSE suppliers like ABB, Siemens and other top brands. With a focus on reliability and dependability, L2 equipment ranges from 7.2kW up to 22kW (80A).



#### DC FAST CHARGING

Depending on your demand needs, we can supply DCFC equipment that meet your charging goals. Our DC solutions start at 24kW, but we also offer 50kW, 150kW, 350kW and many ranges with high voltages.



#### AUXILIARY EQUIPMENT

We offer equipment that compliments EV charging hardware — pedestals with ADA compliance, cable retractors that prevent runover damage and mobile carts that provide flexible charging solutions.

### WAYS TO GET IN TOUCH WITH OUR TEAM

[sales@inchargeus.com](mailto:sales@inchargeus.com)

[www.inchargeus.com](http://www.inchargeus.com)

1.818.697.GOEV

[twitter.com/inchargeenergy](https://twitter.com/inchargeenergy)

[linkedin.com/company/incharge-energy](https://linkedin.com/company/incharge-energy)

[instagram.com/inchargeenergy](https://instagram.com/inchargeenergy)





## WHO WE ARE

EVgo is the nation's largest public fast charging network for electric vehicles and the first to be powered by 100% renewable electricity. With more than 800 fast charging locations and more than 1,100 Level 2 chargers in 65 metropolitan areas across 34 states, EVgo manages thousands of charging stations — maintaining an uptime of 98% — and fleet customers can rely on 24/7 customer support. What's more, we are working closely with General Motors to add more than 2,700 new fast chargers to our public network by the end of 2025. EVgo has more than a decade of experience managing thousands of charging stations and a variety of custom and turnkey charging solutions for fleet operators.

### HOW OUR SOLUTIONS CAN HELP YOU



#### EVgo Public Network Access

Help expand your fleet's range with access to EVgo's public charging network.

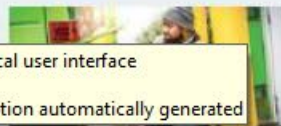
Best for fleets without a home base and as a supplementary charging option for all fleets, especially light-duty vehicles.



#### Fleet Depot Solutions

Head out with a full charge every time, thanks to our comprehensive, turnkey onsite charging solution for your fleet depot.

Best for any vehicle type that returns to a home base.



Graphical user interface  
Description automatically generated

#### Dedicated Chargers & Outside Depots

Keep your busy fleet charged — without returning to home base — with a dedicated charging hub or network of charging hubs available only to your team.

Best as a supplement to depot charging, for fleets without a consistent home base or for those that need strategic charging to extend coverage.



## HOW WE WORK WITH YOU

EVgo can help electrify your fleet with our turnkey service offerings, including Level 2 and DC fast charging solutions. Our team of experts understands the unique charging requirements your fleet faces and will work with your team to customize solutions to help maximize operational performance. We can also offer suggestions for future electrification plans as you scale.

### TOTAL VALUE CHAIN

EVgo's comprehensive fleet solution offering simplifies electrification.



FLEET TRANSITION PLANNING



EQUIPMENT PROVISIONING



INFRASTRUCTURE DEPLOYMENT



FLEET SOFTWARE & NETWORKING



SYSTEMS INTEGRATION



FLEET O&M MANAGEMENT

### WAYS TO GET IN TOUCH WITH OUR TEAM

[Fleets@EVgo.com](mailto:Fleets@EVgo.com)

[EVgo.com/fleet](http://EVgo.com/fleet)

[facebook.com/EVgonetwork](https://facebook.com/EVgonetwork)

[twitter.com/EVgonetwork](https://twitter.com/EVgonetwork)

[linkedin.com/company/EVgo](https://linkedin.com/company/EVgo)

[youtube.com/user/EVgonetwork](https://youtube.com/user/EVgonetwork)

# GENERAL MOTORS FLEET

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**GMC**



# Miller Electric Company

Experts in EV design/build infrastructure



MILLER ELECTRIC COMPANY  
*Powering the Possibilities*



# Miller Electric Company Qualifications

- Founded in 1928, Miller Electric employs over 2,000 electricians nationwide, with offices across the country, including Tempe, AZ
- In-house engineers, CAD & BIM designers
- Turn-key project experts; civil work & electrical installation
- EVITP (Electric Vehicle Infrastructure Training Program) participant
- EVITP instructor for Phoenix is a local Miller Electric electrician
- Successfully installed hundreds of Level 2 and Level 3 across the country
- Brand agnostic, but experienced with nearly every manufacturer
- Leader in Supplier Diversity Equity and Inclusion Programs



MILLER ELECTRIC COMPANY  
*Powering the Possibilities*

# Our EV infrastructure life cycle

1. Conduct a site visit
2. Evaluate existing service
3. Determine existing loads
4. Calculate available capacity
5. Propose solutions
6. Engineered drawings and construction budget- 60-100%
7. Final proposal
8. Construction
9. Commissioning & testing



MILLER ELECTRIC COMPANY  
*Powering the Possibilities*

# Step 1: The site visit

- Meet with the customer to understand goals of EV infrastructure installation
- Determine expectations of ROI, budget, installation timeline
- Evaluate site-specific conditions & challenges
- Evaluate existing fleet equipment, future EV equipment



MILLER ELECTRIC COMPANY  
*Powering the Possibilities*



## Step 2: Evaluate existing service

- Gather all pertinent information of the existing electrical infrastructure
  - Existing service size and voltages
  - Location & nameplates of all distribution panels, transformers, utility cabinets
  - Existing generators, UPS, renewables
  - Customer to provide one-line diagrams (if available)
- Identify any major issues



MILLER ELECTRIC COMPANY  
*Powering the Possibilities*

## Step 3: Determine existing loads

- Gather historic information (utility bills) for the site
- When applicable, temporarily install demand-metering equipment as necessary to compare real-time loads in conjunction with utility information



MILLER ELECTRIC COMPANY  
*Powering the Possibilities*

## Step 4: Calculate available capacity

- Using the information from the utility bills and load study, Miller Electric will determine the available capacity of the existing infrastructure.
- Determine limitations of existing
- Identify needs for additional infrastructure, with scalable solution



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## Step 5: Propose solutions

- Identify recommended next-steps
  - Utilize existing service(s)
  - Engage utility for possible new service
- Prepare proposal for engineered drawings
- Identify available utility incentives/rebates
- Establish project specifications
- Identify aligned EVSE manufacturers



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## Step 6: Engineered drawings- 60%-100%

- Provide 100% design solution that includes permit documents and construction drawings
- Confirm with utility available incentives/rebates



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## Step 7: Final proposal

- Provide 100% design solution, for a system that meets the customer needs
- Confirm rebate/incentive amounts
- Present turn-key proposal for:
  - Engineering
  - Civil work
  - Electrical infrastructure
  - All EV equipment



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## Step 8 : Construction

- Secure permits; electrical and civil
- Procure all EVSE
- Coordinate with utility company as needed
- Coordinate with rebate/incentive provider
- Develop project schedule
- Manage all resources
- Complete updated one-line diagrams



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## Step 9 : Commissioning & Testing

- Coordinate all required commissioning with EVSE manufacturer(s)
- Complete all required commissioning documentation



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# Thank you

Jeremy Urfer

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MILLER ELECTRIC COMPANY  
*Powering the Possibilities*

# Ad Hoc Committee Timeline



## Ad Hoc Committee Calendar

Action	Jan (week)				Feb (week)				Mar (week)				April (week)				May (week)				June (week)			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Ad Hoc Committee Meeting	7				4				4				1				6				6			
Education, Outreach & Equity		14				11				11				8				13				13		
Public, Workplace & Home Charging			21				18				18				15				20				17	
City Fleet & Charging Infrastructure			18				15				15				19				17				21	
Drafting of report (Stages)	Draft Deliverables				1st Draft Roadmap				Translation				2nd Draft				Final				★	★		
Homebuilder Roundtable				27																				
Valley Partnership / Industrial Roundtable																								
Employer Roundtable							16																	
Public Workshops					2	9																		
1st Draft Public Surveys + Workshops														6		21								
City Council Meetings					General Packet				★ 1st Draft Roadmap ★								City Budget ★				Final Roadmap ★			