



SMART ENERGY
CONSUMER COLLABORATIVE

2024 Consumer Symposium
Monday, February 26 | Orlando



SMART ENERGY
CONSUMER COLLABORATIVE

...On the Road

#SECC2024



**2024
CONSUMER
SYMPOSIUM**

Co-located with
DISTRIBUTECH
International

The Consumer Voice in the Energy Movement

MON, FEB 26 | ORLANDO, FLA

SECC's New "Electrification" Report



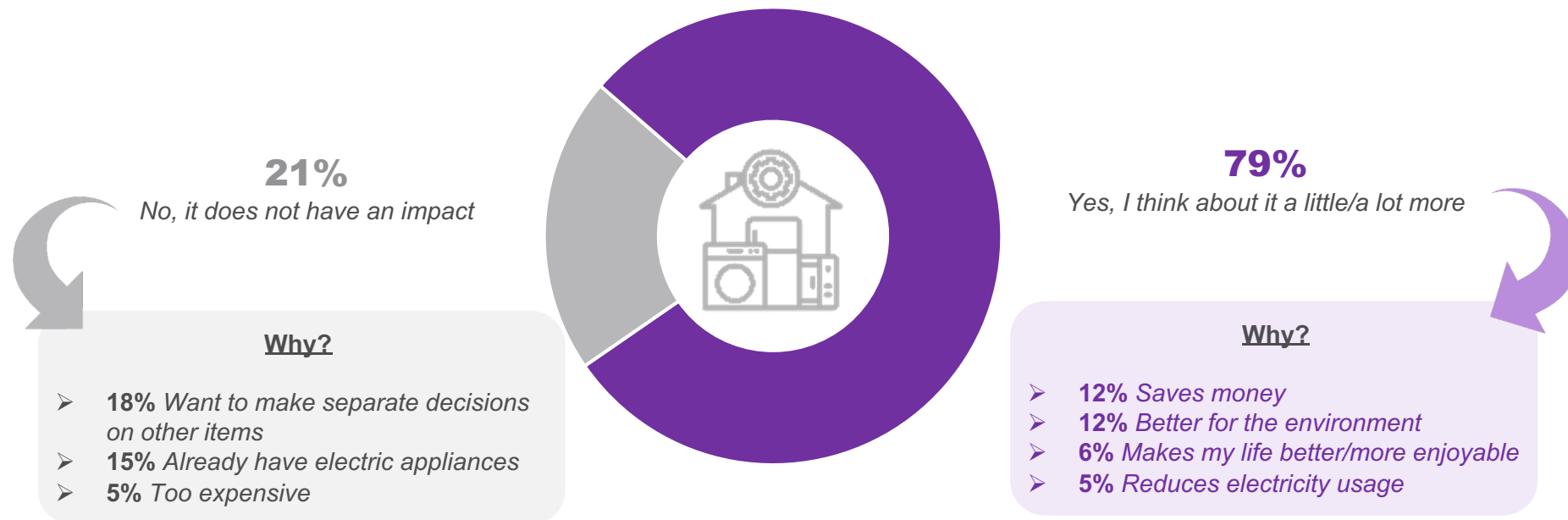
- Online survey of 1,500 Americans – plus sample of 621 EV drivers
- Consumer awareness of home electrification technologies
- Strategies to engage consumers in home electrification
- Profile of current EV drivers
- Consumer concerns around public charging infrastructure

Impact of EVs on Electrification

Electric vehicles are great motivator for electrification. Eight-in-ten drivers think about electrifying other parts of their home after adopting an electric vehicle. Reasons for thinking more about electrification include cost and environment benefits, as well as overall enjoyment.

Impact of Driving an EV on Electrifying Upgrades in Home *Among EV Drivers*

Does driving an electric vehicle make you think more about electrifying other parts of your home?



Base: EV Drivers (n=621)

Q_ElectricIncrease. You previously mentioned that you currently drive an electric vehicle. Does driving an electric vehicle make you think more about electrifying other parts of your home (i.e., clothes dryer, water heater, cooking, space heating)?

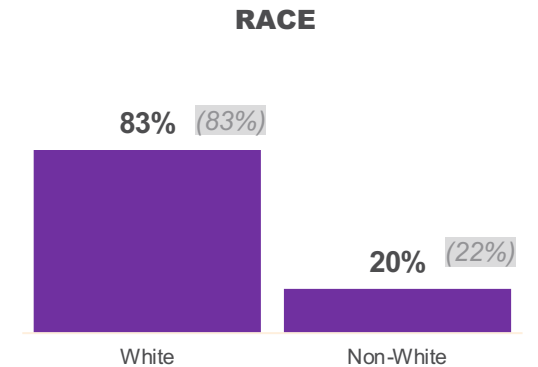
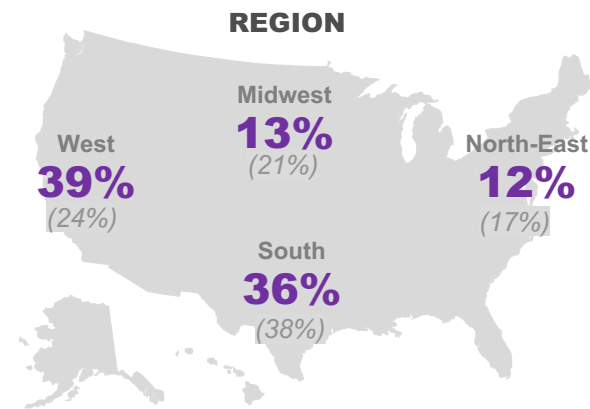
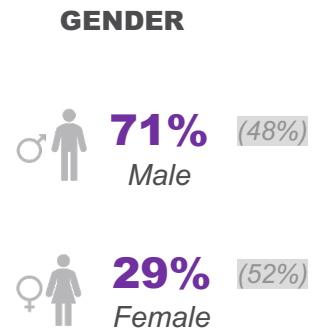
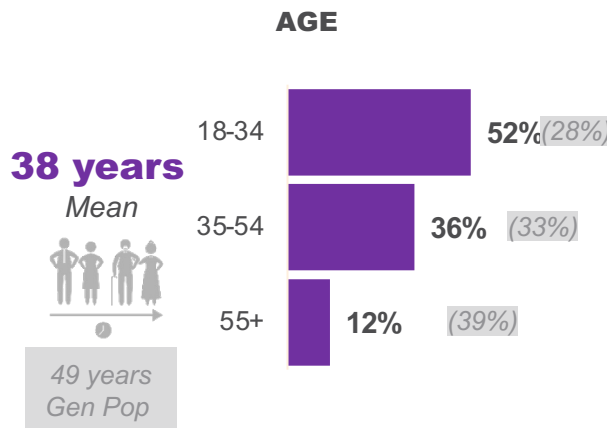
Q_ElectricIncreaseOE. Why do you say that?

EV Driver Demographic Profile

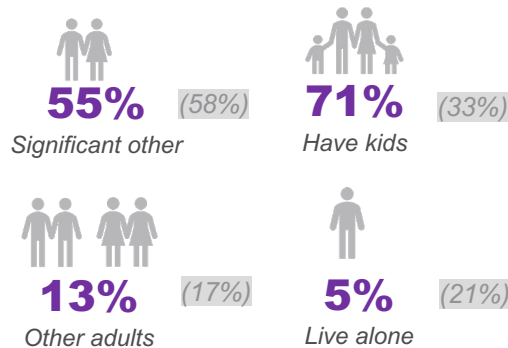
Electric vehicle drivers are typically young males with families. They have a high income and education level, being more likely to live in the West than the general population.

EV DRIVERS (DRIVE A PHEV/BEV)

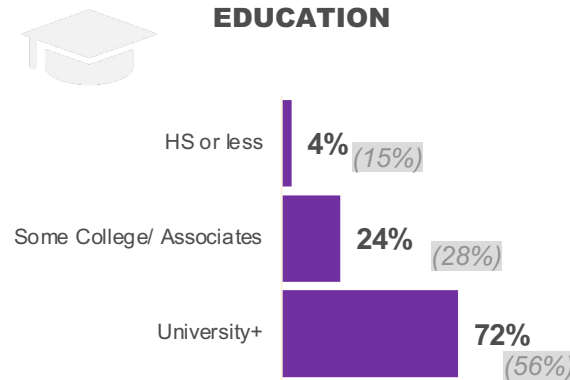
DEMOGRAPHICS



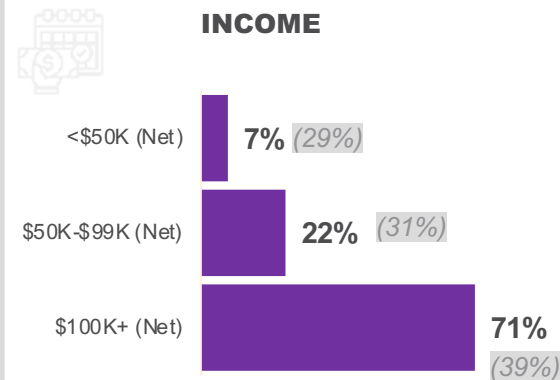
HOUSEHOLD COMPOSITION



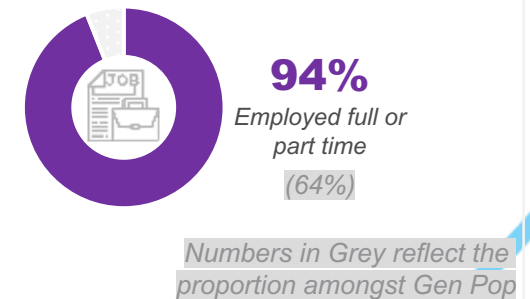
EDUCATION



INCOME



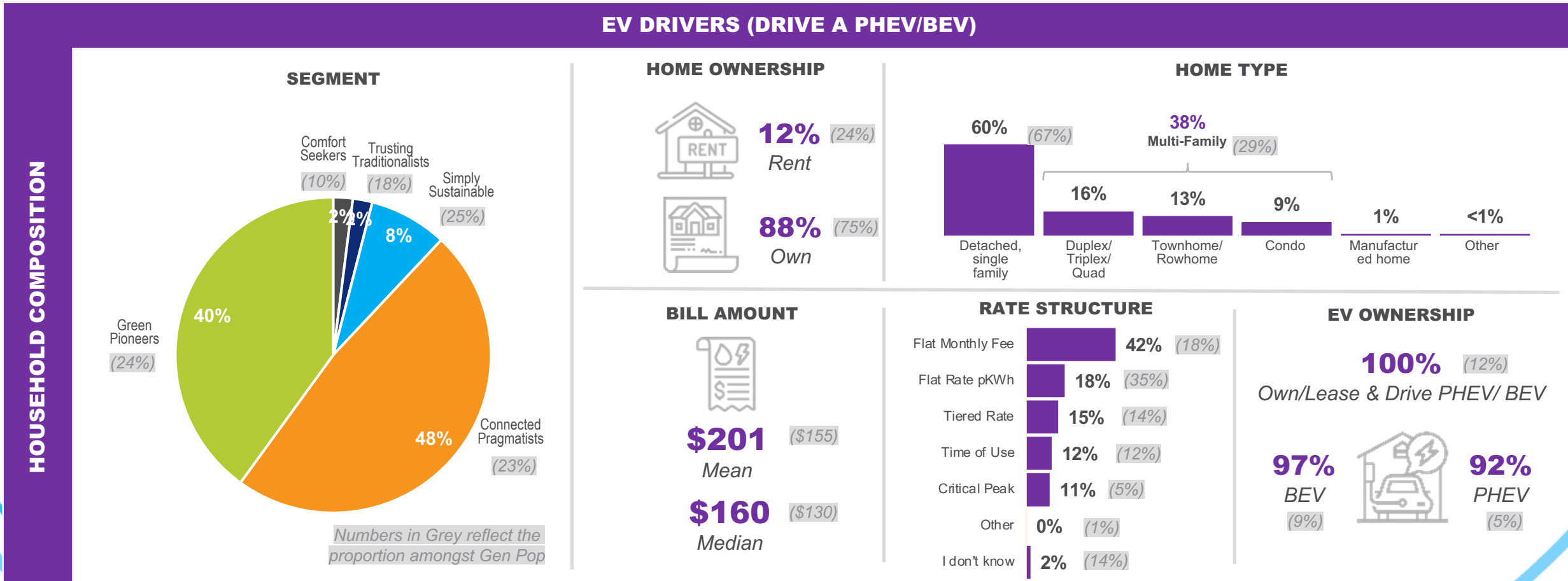
EMPLOYMENT



Base: EV Drivers (n=621) | Total Gen Pop (n=1,500)
 QAGE. Age | QGENDER. Gender | QREGION. Region | QEducation. Please select the highest level of education you've completed. | QHHIncome. Please pick the range that best describes the total annual income of your household, before taxes. | QEmployment. Please choose the option that best applies to you. | QHHCOMP. Who do you currently live with in your household? | QRace. Which of the following best describes your race/ethnicity?

EV Driver Electricity Usage

Coinciding with being younger and more affluent, electric vehicle drivers are primarily composed of Green Pioneers and Connected Pragmatists. They have a higher-than-average electric bill and mainly own their home. However, they are more likely than the general population to live in a multi-family rather than a single-family home.













Base: EV Drivers (n=621) | Total Gen Pop (n=1,500)
 Q_HOMEOWNERSHIP. Do you currently rent or own your home? | Q_HOMETYPE. Which dwelling type best describes your home? | QHHCOMP. Who do you currently live with in your household? | Q_BILLAMOUNT. How much is your average monthly electricity bill? | Segment | Q_EVDrive. Do you drive any of the vehicles below that you own or lease? | Q_EVOwnership. Do you currently own or lease any of the following vehicles for personal use?

EV Sources of Information

Consumers, including electric vehicle drivers, primarily rely on general online searches for reliable information on electric vehicles. Vehicle manufacturers are secondary sources, followed by dealerships. Only 15 percent go to their electricity provider; however, this increases to over one-third among electric vehicle drivers.

Sources of Reliable Information on Electric Vehicles

Among Gen Pop and EV Drivers

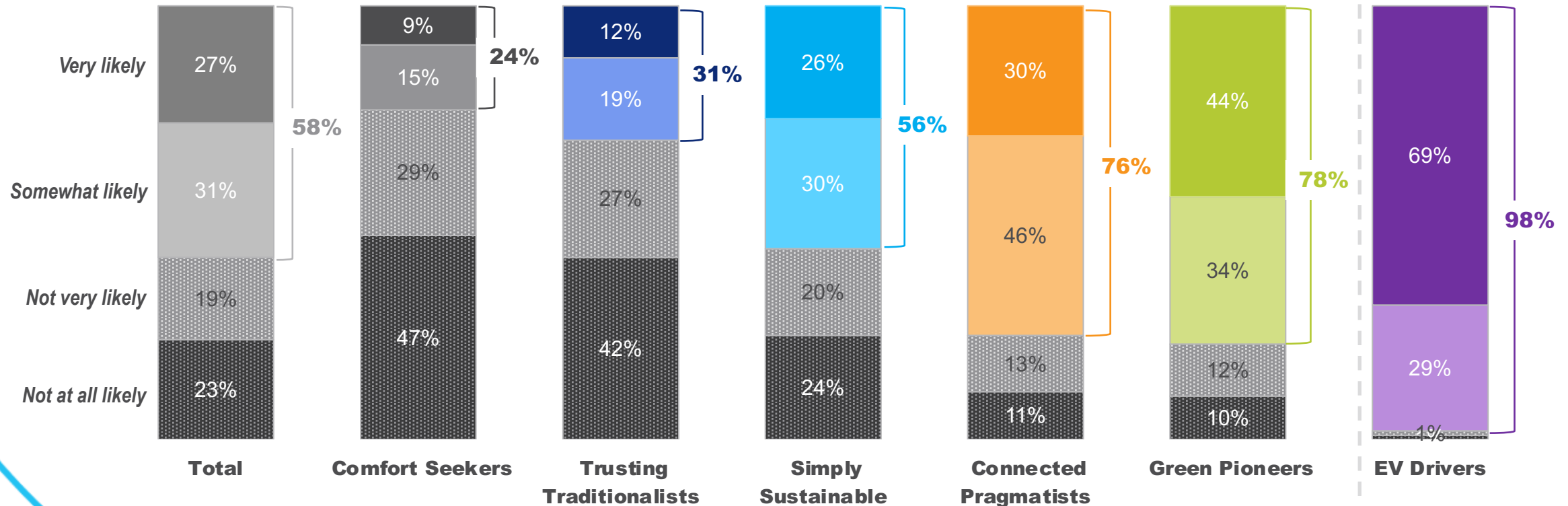
	Total	Comfort Seekers	Trusting Traditionalists	Simply Sustainable	Connected Pragmatists	Green Pioneers	EV Drivers
Online search 	55%	48%	44%	57%	50%	67%	56%
Vehicle manufacturers 	46%	35%	43%	51%	31%	60%	48%
Vehicle dealerships 	37%	28%	35%	40%	33%	43%	45%
Friends/family 	24%	25%	23%	21%	27%	25%	36%
Government websites 	19%	5%	15%	21%	20%	26%	31%
My electricity provider/utility 	15%	4%	10%	12%	22%	18%	37%
Social media 	11%	4%	3%	5%	20%	17%	42%
Non-profit organizations/community groups 	11%	8%	8%	10%	14%	11%	21%
Other 	2%	5%	3%	3%	0%	2%	1%
Not sure 	11%	21%	22%	10%	7%	2%	0%

Interest in Purchasing an EV (with no cost impact)

If the price were the same, about six-in-ten consumers are likely to purchase an electric vehicle in the future. This decreases to one-quarter of Comfort Seekers, who are the least engaged segment. However, electric vehicle drivers are happy with their purchase and nearly all would purchase another in the future.

Likelihood of Purchasing an Electric Vehicle if Price was Comparable

Among Gen Pop and EV Drivers



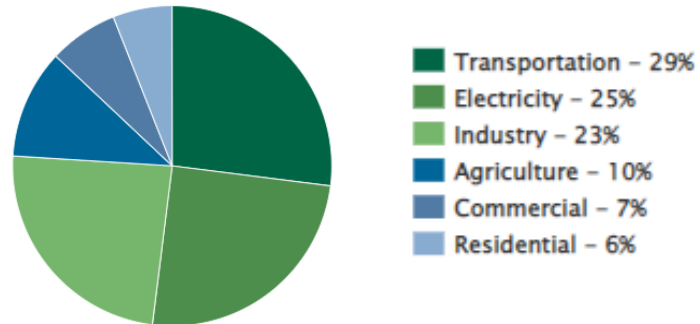


Educating Consumers on Electric Vehicles

Consumer Symposium
Smart Energy Consumer Collaborative
Orlando, FL
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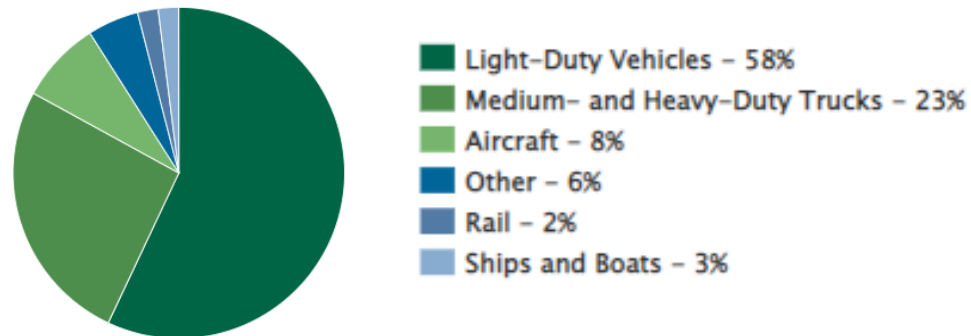
THE IMPORTANCE OF OUR LIGHT DUTY VEHICLE CHOICES

2021 U.S. GHG Emissions by Sector



GHG emissions in U.S. –
Transportation sector
#1

2021 U.S. Transportation Sector GHG Emissions by Source



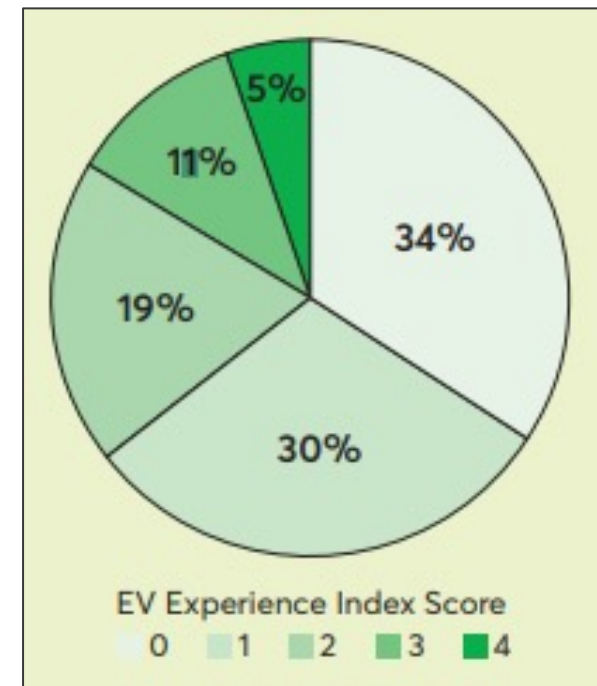
Light duty vehicles #1 in
transportation sector (58%)

THE IMPORTANCE OF EV EDUCATION FOR CONSUMERS

Majority of consumers have little experience with or knowledge about electric vehicles.

Consumer Reports' [EV Experience Index](#) – 1 pt. for each “yes”

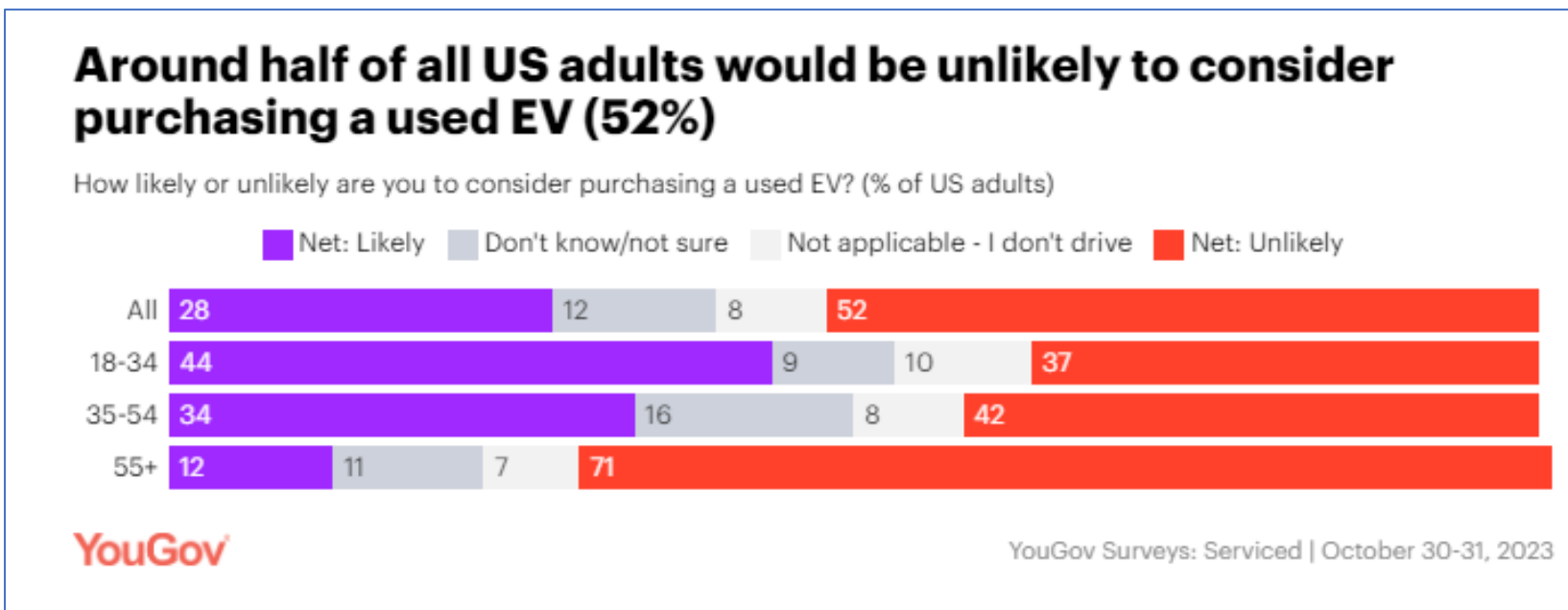
- In the past month, I have seen an electric-only vehicle in my neighborhood.
- I have a friend, relative, or co-worker who owns an electric-only vehicle.
- In the past 12 months, I have been a passenger in an electric-only vehicle.
- In the past 12 months, I have driven an electric-only vehicle.



(June/July 2023 Survey)

THE IMPORTANCE OF EV EDUCATION FOR CONSUMERS

Many still not sold on the idea of electric vehicles.



YouGov survey conducted online, October 30-31, 2023, n= 1,433 U.S. adults.

EPA's EV INFORMATION FOR CONSUMERS

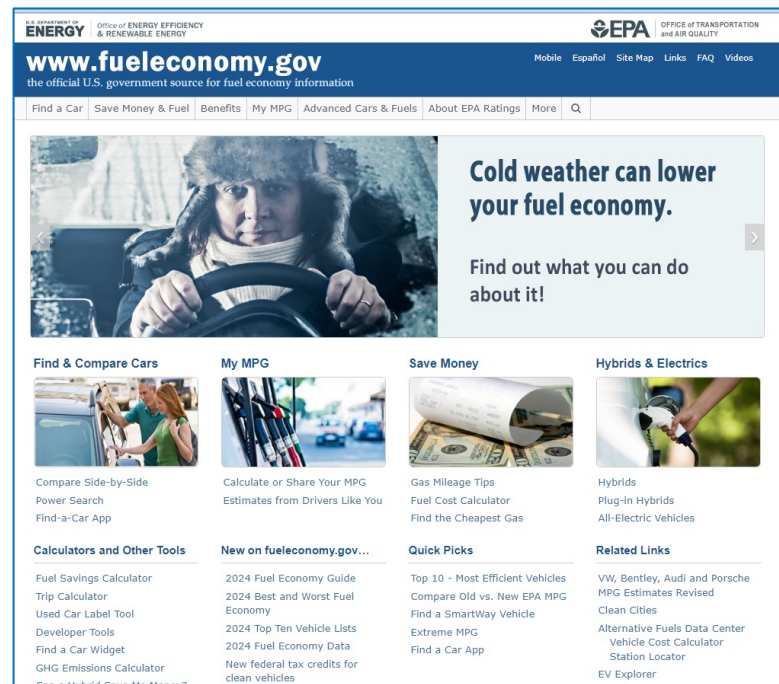
1. Green Vehicle Guide (GVG)



Annual Web Stats	
Visitors	716K
Page Views	1.1 million

- 4 of top 10 pages are EV-related
- EV Myths page gets ≈32K hits a month

2. Fueleconomy.gov



Annual Web Stats	
Visitors	30 million
Page Views	180 million

- “Find and Compare Cars” most popular page
- About 13% of new vehicle searches are for all-electric vehicles

GREEN VEHICLE GUIDE

EV BASICS

Electric & Plug-In Hybrid Electric Vehicles

Electric vehicles (EVs) have a battery instead of a gasoline tank, and an electric motor instead of an internal combustion engine. Plug-in hybrid electric vehicles (PHEVs) are a combination of gasoline and electric vehicles, so they have a battery, an electric motor, a gasoline tank, and an internal combustion engine. PHEVs use both gasoline and electricity as fuel sources.

[More on PHEVs](#).

Watch the video to learn how electric vehicles and different types of plug-in hybrid electric vehicles work.

Visit [EV Myths](#) to learn even more facts about electric vehicles.

Emissions

EVs produce no tailpipe emissions. While charging the battery may increase pollution at the power plant, total emissions associated with driving EVs are still typically less than those for gasoline cars—particularly if the electricity is generated from renewable energy sources like wind.

PHEVs produce tailpipe emissions when gasoline is being used as a fuel source.

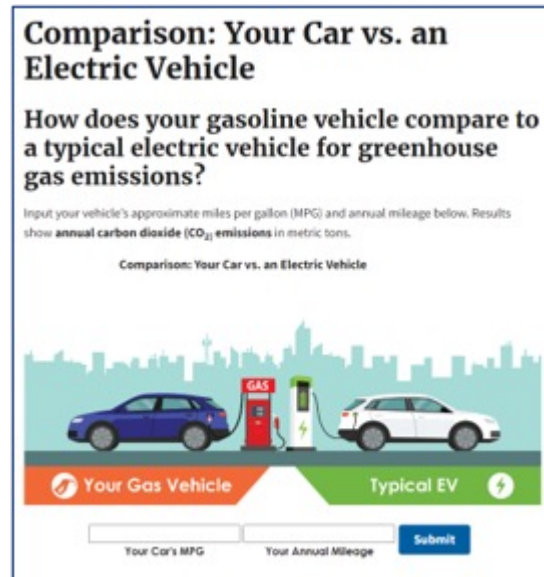
To estimate the greenhouse gas emissions associated with charging and driving an electric or plug-in hybrid electric vehicle where you live, visit our [Greenhouse Gas Emissions for EVs and PHEVs Calculator](#).



[Sign up for E-Updates](#)



3-minute video on how EVs work



Input your average (gas) MPG and annual mileage → Shows your GHG emissions compare to an average EV

EV CHARGING: FROM THE BASICS TO THE DETAILS

Plug-in Electric Vehicle Charging: The Basics

Charging your all-electric vehicle (EV) or plug-in hybrid electric vehicle (PHEV)—together known as plug-in electric vehicles (PEVs)—is similar to charging other electronics. One end of an electrical cord is plugged into your car, and the other end is plugged into a power source or charging equipment.



There are various types of charging equipment also available.

- How
- How
- The
- Tem



Volts, Amps, and Watts. Oh My.

Voltage (Volts): The measure of electrical potential. Like pressure, it measures how strongly electricity is being "pushed" through a circuit. Volts = watts / amps.

Amperage (Amps): The measure of the flow of electricity. Like volume, it measures how much electrical charge is moving past a given point in one second. This term is used when describing the amount of electric current that a circuit can provide. Amps = watts / volts.

Kilowatt (kW): The measure of electrical energy that is equal to 1,000 watts. A 50kW charger is five times more powerful than a 10kW charger. Using a water pipe analogy, it refers to how much water (or energy) is flowing through a pipe at any point in time.

Kilowatt-Hour (kWh): The measure of how much electrical energy flows (generally used or dispensed) over one hour. Using a water pipe analogy, you can think of kWh as the equivalent to how much water comes out of the pipe and into a bucket in one hour. The size of a PEV battery is measured in kWh, which describes the total energy capacity. If the useable battery capacity is 100 kWh, and the vehicle gets two miles per kWh, then the range would be 200 miles per charge. kWh = (kW × hours).

Charging My Electric Vehicle



Level 1 • Charging cord is typically provided with electric vehicle (EV) purchase.
• Adaptor/charger plugs into a standard wall outlet.
• Provides about 5 miles per hour of charging.
• Great option for overnight charging.

Level 2 • Faster charge than Level 1.
• Provides about 25 miles per hour of charging.
• If you have a long daily commute, consider installing a Level 2 charger at home.
• Consult with an electrician to install a Level 2 charger at home.
• Level 2 charging can also be found at some workplaces and parking garages. Visit Department of Energy's (DOE's) [station locator](#) to find Level 2 charging locations near you.

DCFC • DCFC - Direct Current Fast Charging.
• Fastest way to charge your vehicle.
• Provides about 100-200+ miles per 30 minutes of charging.
• Many newer EVs have the capability of taking a fast charge.
• Three types of connectors. The type of connector your EV takes depends on the manufacturer and model.
• DCFC is available at some public charging stations. Visit DOE's [station locator](#) to find up-to-date DCFC locations.

Charger Fast Facts

	Level 1 (120 Volt)	Level 2 (240 Volt)	Direct-Current (DC) Fast Charging
Charging Options			
What does the charge port on the vehicle look like?	 J1772 Tesla Combo	 J1772 Tesla Combo	 CCS CHAdeMO Tesla Combo
How fast do they charge?	About 5 miles per 1 hour of charging*	About 25 miles per 1 hour of charging*	~100 – 300+ miles per 30 minutes of charging†
Where can I find them?	<ul style="list-style-type: none"> • In your house/garage • Possibly at your apartment/condo and workplace • May not need to install anything; some 	<ul style="list-style-type: none"> • In your house/garage (You will need additional equipment) • Possibly at your apartment/condo 	<ul style="list-style-type: none"> • At public charging stations • In many cities and along highway routes across

EV MYTHS PAGE: POPULAR & INFORMATIVE

Over 32,000 pageviews/month

Electric Vehicle Myths

On this page:


- [Myth #1: Electric vehicles are worse for the climate than gasoline cars because of power plant emissions.](#)
- [Myth #2: Electric vehicles are worse for the climate than gasoline cars because of battery manufacturing.](#)
- [Myth #3: The increase in electric vehicles entering the market will collapse the U.S. power grid.](#)
- [Myth #4: There is nowhere to charge.](#)
- [Myth #5: Electric vehicles don't have enough range to handle daily travel demands.](#)
- [Myth #6: Electric vehicles only come as sedans.](#)
- [Myth #7: Electric vehicles are not as safe as comparable gasoline vehicles.](#)

Myth #3: The increase in electric vehicles entering the market will collapse the U.S. power grid.

- **FACT:** Electric vehicles have charging strategies that can prevent overloading the grid, and, in some cases, support grid reliability.

It is true that the increasing number of electric vehicles (EVs) on the road will lead to increased electricity demand. Yet, how that impacts the grid will depend on several factors, such as the power level and time of day when vehicles are charged, and the potential for vehicle-to-grid (V2G) charging³ among others.

- **EVs can be charged at off-peak times**, such as overnight, when rates are often cheaper. Even with a mix of charging times (so not all nighttime charging), research indicates that sufficient capacity will exist to cover EVs entering the market in the coming years.⁴ And further down the road, when renewables make up a larger part of our energy mix in many regions, switching to more daytime charging (when some renewables like solar generate energy) with some energy storage capability should allow the grid to handle increases in EV charging.⁵ California leads the country with more than 1 million electric vehicles and EV charging currently makes up less than 1% of the state's grid total load, even during peak hours.⁶
- **Vehicle-to-grid (V2G) charging** allows EVs to act as a power source that may help with grid reliability by pushing energy back to the grid from an EV battery. This is done by allowing EVs to charge when electricity demand is low and drawing on them when that demand is high.

Long term, higher electricity demand from EV growth may drive the need for upgrades to transmission and distribution infrastructure. Planning for this possibility is underway. The Department of Energy's (DOE) [Build a Better Grid Initiative](#) , launched as part of the Bipartisan Infrastructure Law, will provide over \$13 billion towards improving the reliability and efficiency of the grid through the next decade. Visit DOE's [Bipartisan Infrastructure Research](#)

OTHER USEFUL VEHICLE INFORMATION

What If One of Your Cars was Electric?



Like laptops and cell phones, electric vehicles (EVs) operate on electricity stored in a rechargeable battery. Electricity is the fuel. EVs typically have lower annual fuel costs than similar gasoline vehicles and provide both a similar driving experience to and the same functionality as a gasoline vehicle.¹ They also have no tailpipe emissions (in fact, they don't even have a tailpipe!). Research suggests that many households, especially those with multiple cars, may be able to use an EV in place of a gasoline car with little or no change to their driving habits. Current surveys show that 96% of multi-car households travel, on average, fewer miles per day on all of their cars together than the typical EV range available today.² Just over half of households drive less than 50 miles per day, which is well under the shortest range available for new EV models.³ What if every multi-car household swapped either their primary or secondary car for an EV?

What's the Bottom Line?

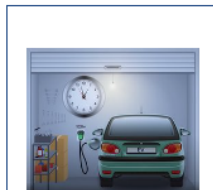
Switching one of your cars to an all-electric model could have an impact on both your wallet and the environment.

There are 68 million multi-car homes in the US. If these households switched one of their main cars to an EV, they could collectively save \$36–72 billion in annual fuel costs.⁴ Even when accounting for power plant emissions, this switch could reduce greenhouse gases by an estimated 160–320 million metric tons per year.⁵ This is comparable to the amount of energy used by 18 to 36 million homes each year. As more electricity is generated from renewable sources like wind or solar, future emissions savings could be higher.

What Would it Be Like?

Most of us are used to swinging by the gas station when our car's fuel light goes on. With an EV, you have more options for refueling:

- Notice your charge is low as you head home for the evening? Pull up to your house, plug in and, when you wake up, your car is ready to go. [Learn more about EV](#)



Multi-car homes adopting electric vehicles could save up to:

- **\$72 billion** in fuel costs per year
- **320 million** metric tons of CO₂ per year (equal to 36.5 million US homes' annual energy use)

Your Mileage May Vary

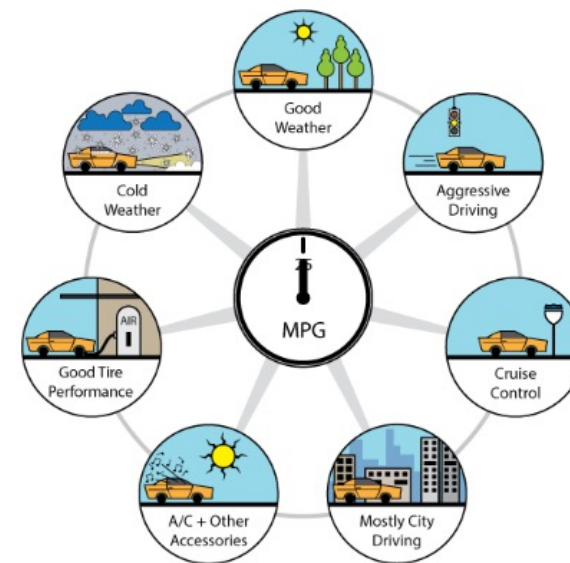
Actually, your mileage **WILL** vary.

The mileage you get depends on a lot of different factors. Some factors you can control, and others you cannot. If your vehicle provides instantaneous fuel economy information, take advantage and learn from it!

Factors that Affect Fuel Economy

Some factors, like playing the radio, have a small effect on MPG, while others, like aggressive driving, have a greater effect. When you combine multiple factors you have the opportunity to increase or decrease your MPG by a significant amount.

Scroll over each factor below to see how it affects MPG.



FUELECONOMY.GOV EV INFORMATION

Updated tax incentives for EVs

U.S. DEPARTMENT OF ENERGY | Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

www.fueleconomy.gov Mobile Esp

the official U.S. government source for fuel economy information

Find a Car Save Money & Fuel Benefits

Federal Tax Credits for Plug-in Hybrid and Electric Vehicles Purchased in 2023 or After

Federal Tax Credit Up To \$7,500!

All-electric, plug-in hybrid, and fuel cell vehicles purchased new in 2023 or after may be eligible for an income tax credit of up to \$7,500.

The availability of the credit will depend on the vehicle's MSRP, its final assembly location, battery component and/or critical mineral content, and your modified adjusted gross income (MAGI).

Learn more about requirements. ▶

Qualified vehicles purchased before 2023 may be eligible for a similar tax credit of up to \$7,500.

Pre-owned vehicles purchased in 2023 may be eligible for a tax credit of up to \$4,000.

State and/or local tax incentives may also apply.

Search for Eligible Vehicles

Vehicle eligibility for some makes and models depends on the date you plan to take delivery, sometimes called the placed-in-service date.

Select date you plan to take delivery (required)

January 1, 2024 – December 31, 2024

Refine your search (optional)

Model Year

From: Select... To: (optional) Select...

Make

All

Model

Select Model

Vehicle Type

All-Electric **EV**

Plug-in Hybrid **PHEV**

All

GHG emissions from the electricity used by EVs

Greenhouse Gas Emissions from Electric and Plug-In Hybrid Vehicles

Beyond Tailpipe Emissions Calculator

Use this calculator to estimate the total greenhouse gas (GHG) emissions associated with driving an electric vehicle (EV) or plug-in hybrid electric vehicle (PHEV), including GHG emissions from the production of electricity used to power the vehicle. Enter your ZIP Code, model year, and vehicle to calculate the tailpipe and upstream emissions.

What are the emissions from your EV or PHEV?

Vehicle: Year [dropdown] Vehicle [dropdown]

Your Location:* ZIP Code [input]

See your results

* GHG emissions depend on how electricity is generated in your area.

What is the difference between tailpipe and upstream emissions?

Tailpipe Emissions

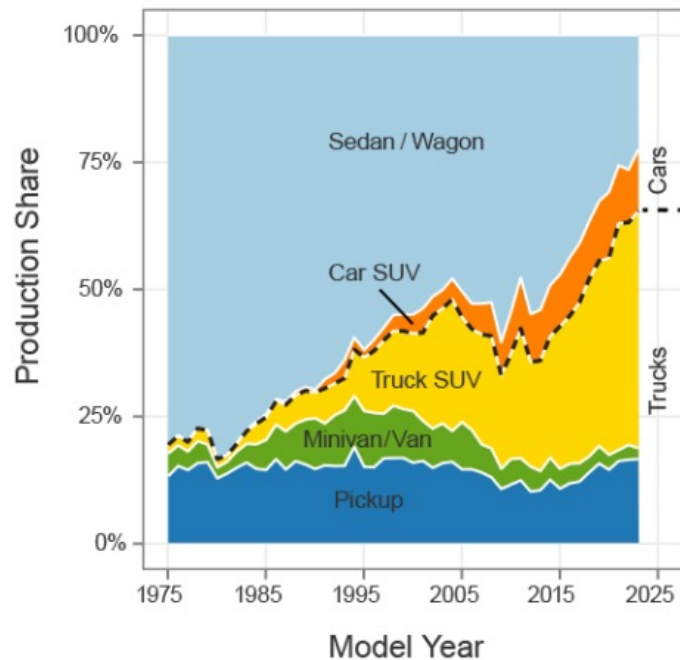
Vehicle tailpipe emissions are the GHGs your car produces when driving.

Upstream Emissions

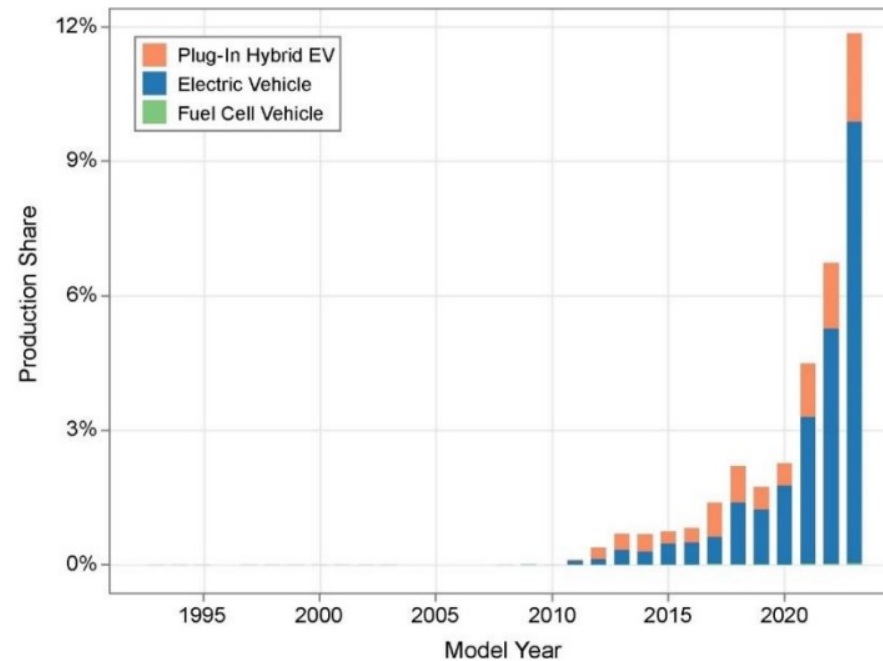
Upstream emissions are the GHGs associated with the production and distribution of gasoline and electricity.

EPA'S LIGHT DUTY VEHICLE TRENDS REPORT*

Vehicle Class Trends



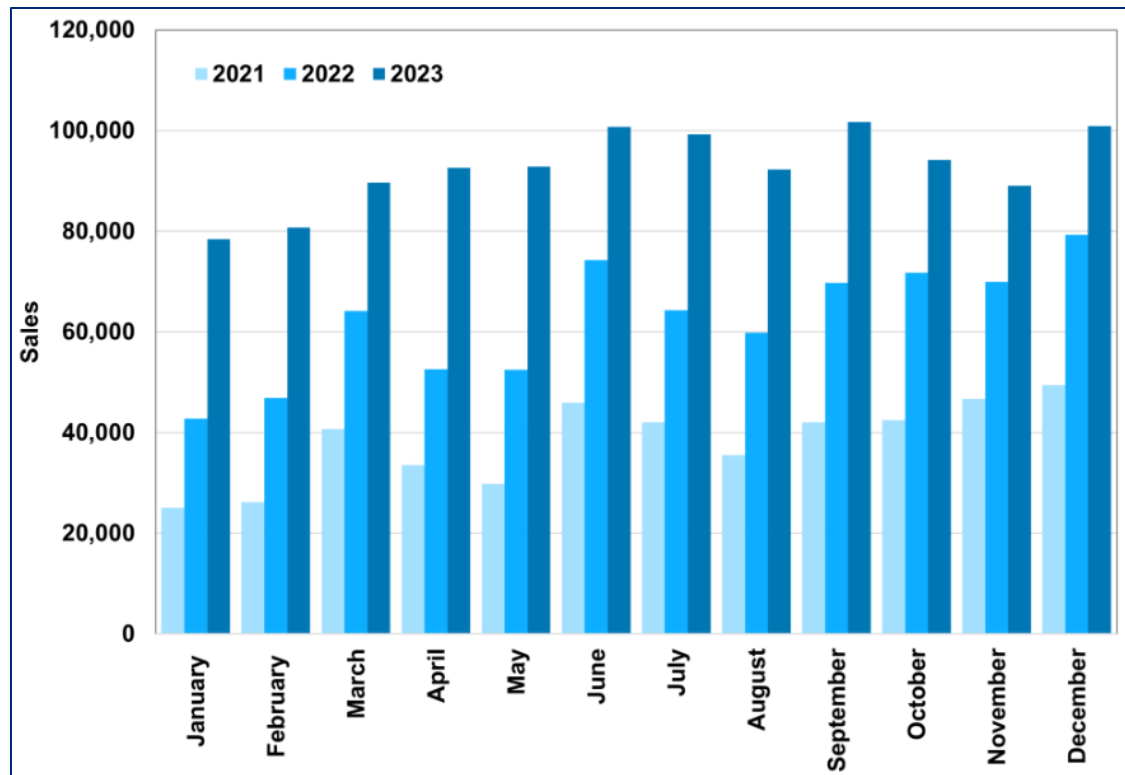
Production Share of EVs, PHEVs, and FCVs



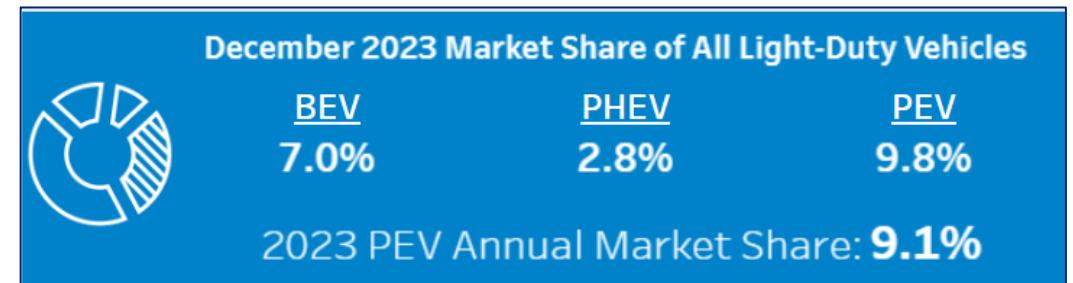
*50th Anniversary of the Light Duty Vehicle Trends Report!

WORKING TOGETHER TO KEEP THE EV TREND GOING

EV Sales by Month (2021-2023)



Current EV Sales



HELP EDUCATE CONSUMERS ON ELECTRIC VEHICLES

- ✓ Use our materials! Government website content is considered public domain.
 - Add/use any of our materials on your websites or newsletters
 - Link to useful pages
 - Develop handouts for community events
- ✓ Discuss how utilities assist in planning for EV chargers in your area.
- ✓ Provide information on how EVs affect the grid in your area.

Resources:

- EPA's [Green Vehicle Guide](#)
- EPA/DOE's [fueleconomy.gov](#)
- DOE's [Alternative Fuels Data Center](#)
- [Driveelectric.gov](#)



Stay connected!

[Sign up for GVG quarterly e-updates](#)



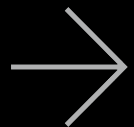
Kristin Kenausis

U.S. Environmental Protection Agency
Office of Transportation and Air Quality

(pronouns: she/her/hers)

(202) 343-9225 | kenausis.kristin@epa.gov

<https://www.epa.gov/greenvehicles>



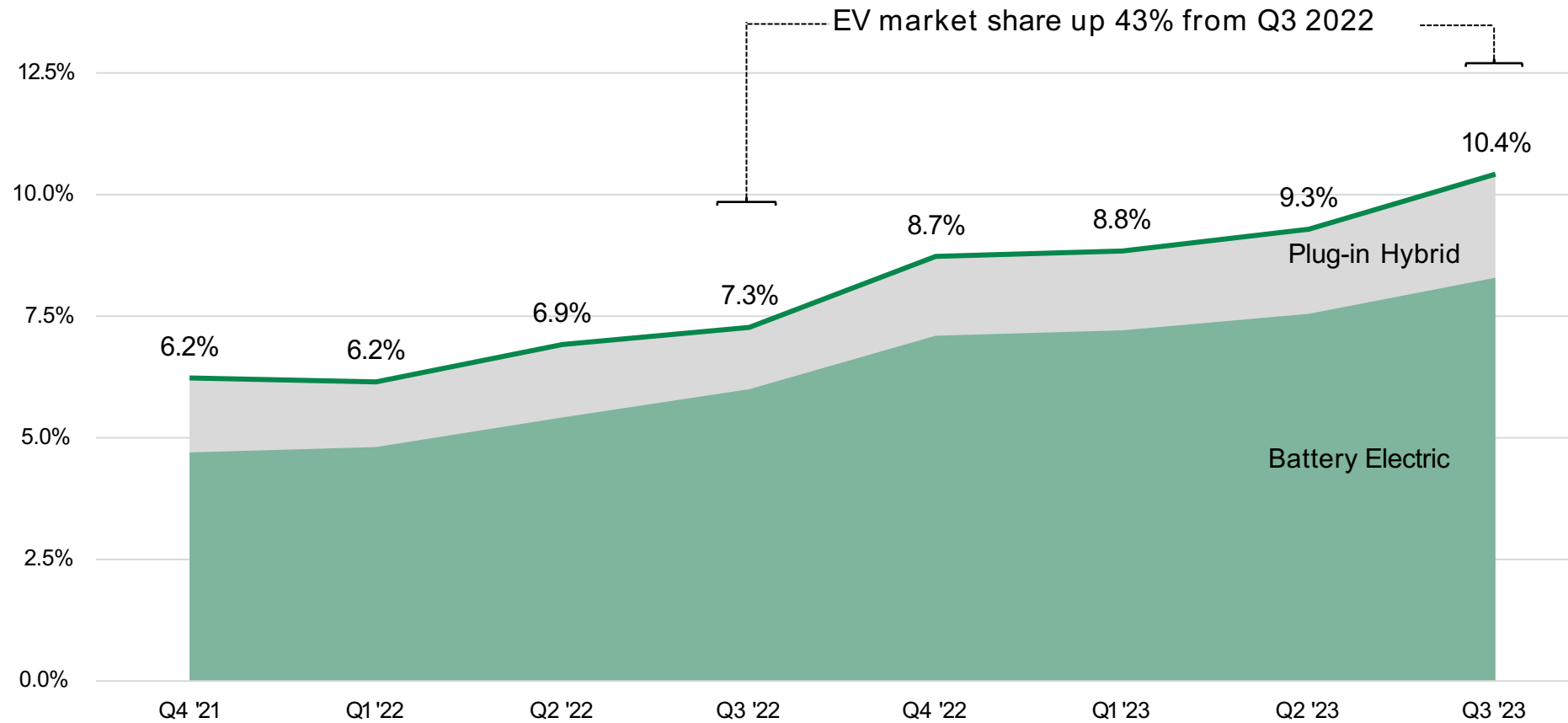
Electrification on the Road
Smart Energy Consumer Collaborative



Lauren Kastner
Senior Manager, Transportation Electrification
Lauren.Kastner@icf.com

February 26, 2024

EV Market Share (Light-Duty)



Source: [Automakers Dashboard - Atlas EV Hub](#)

→ One out of every 10 vehicles sold in Q3 was electric



Public funding

\$16.1 billion awarded



Volkswagen settlement

\$1 billion available*



Bipartisan Infrastructure law

\$50.3 billion appropriated *



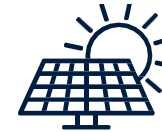
Utilities

\$6.4 billion approved



Industry

\$234 billion committed*



Inflation Reduction Act

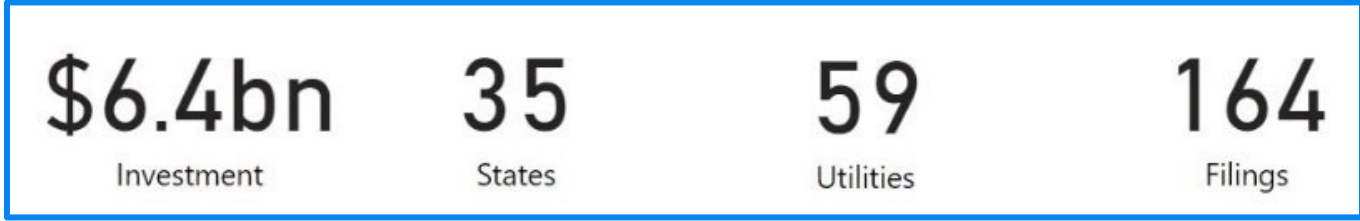
\$103 billion appropriated *

→ Where is the funding coming from?

* Funding is eligible for, but not exclusive to, EVs.

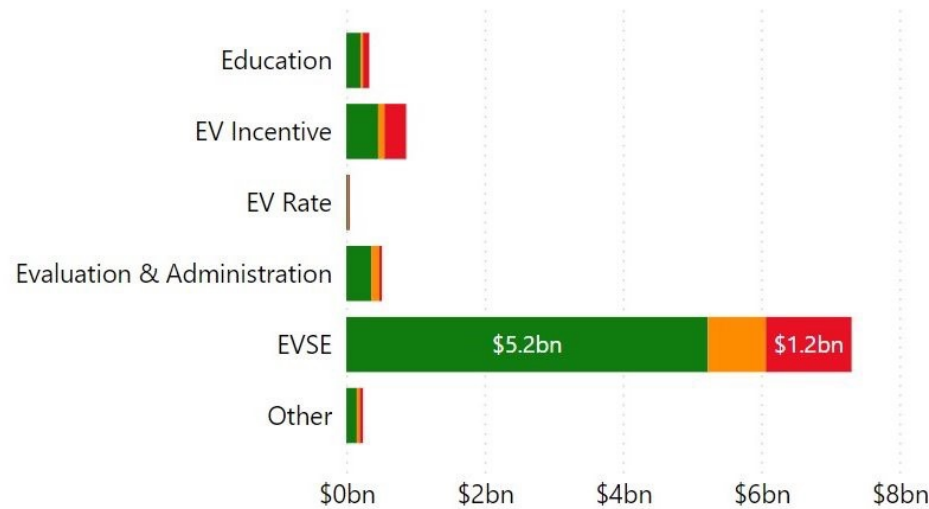


ALL-TIME UTILITY INVESTMENT SUMMARY



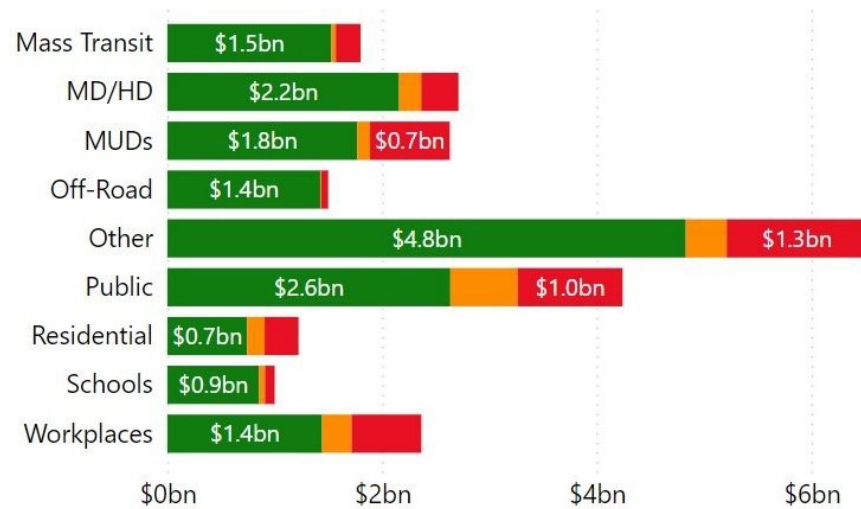
Investment Amount by Type and Status

Status ● Approved ● Filed ● Denied/Withdrawn



Investment Amount by Use Target and Status

Status ● Approved ● Filed ● Denied/Withdrawn



Other = underserved communities, fleets, taxi/rideshare, small business

➔ What are utility programs funding?

Source: Atlas EV Hub



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icf.com

 [linkedin.com/company/icf-international/](https://www.linkedin.com/company/icf-international/)

 twitter.com/icf

 <https://www.facebook.com/ThisIsICF/>

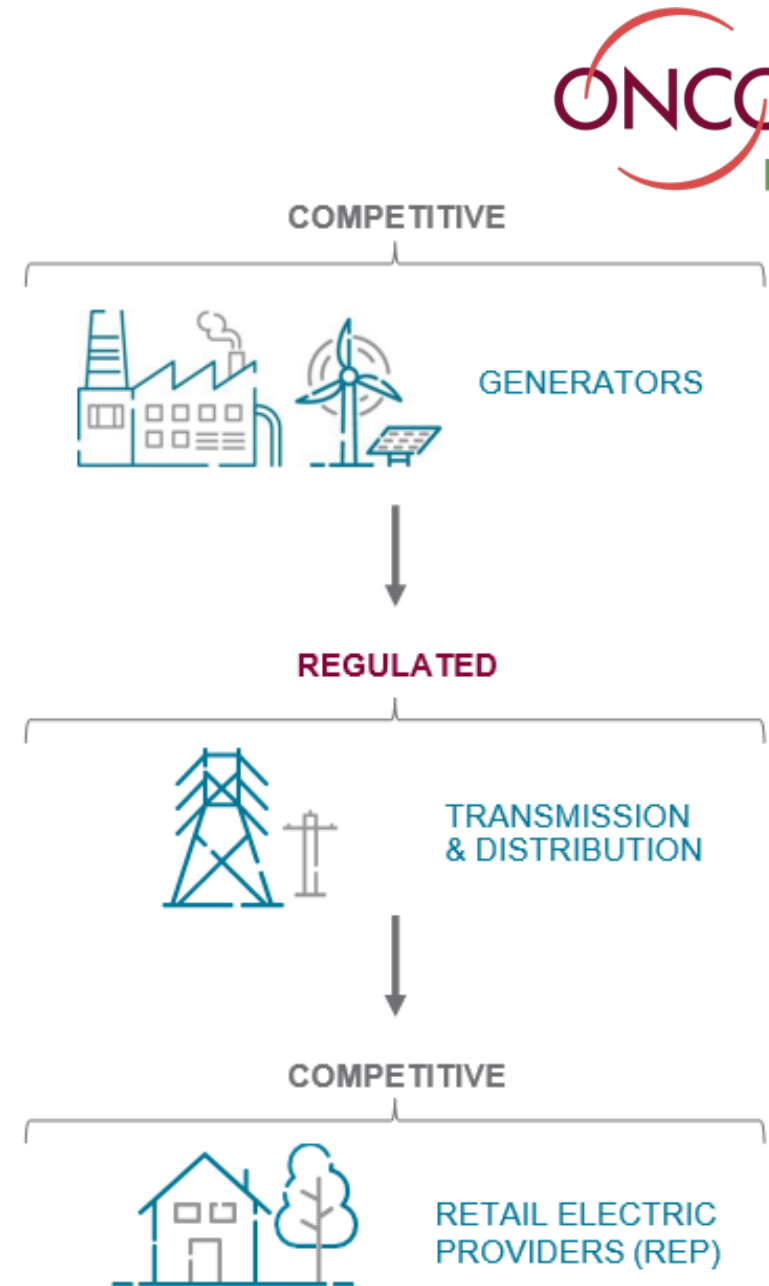
WELCOME

Jennifer Deaton – Manager Transportation Electrification

About Oncor



- Oncor is a regulated transmission & distribution utility (TDU) that operates the largest electric delivery system in Texas.
- Provides transmission and distribution services under regulations established by the Public Utility Commission of Texas (PUCT) and the Electric Reliability Council of Texas (ERCOT).
- We're your "poles and wires" company. Oncor does not own, generate, produce or sell electricity.



Where We Serve



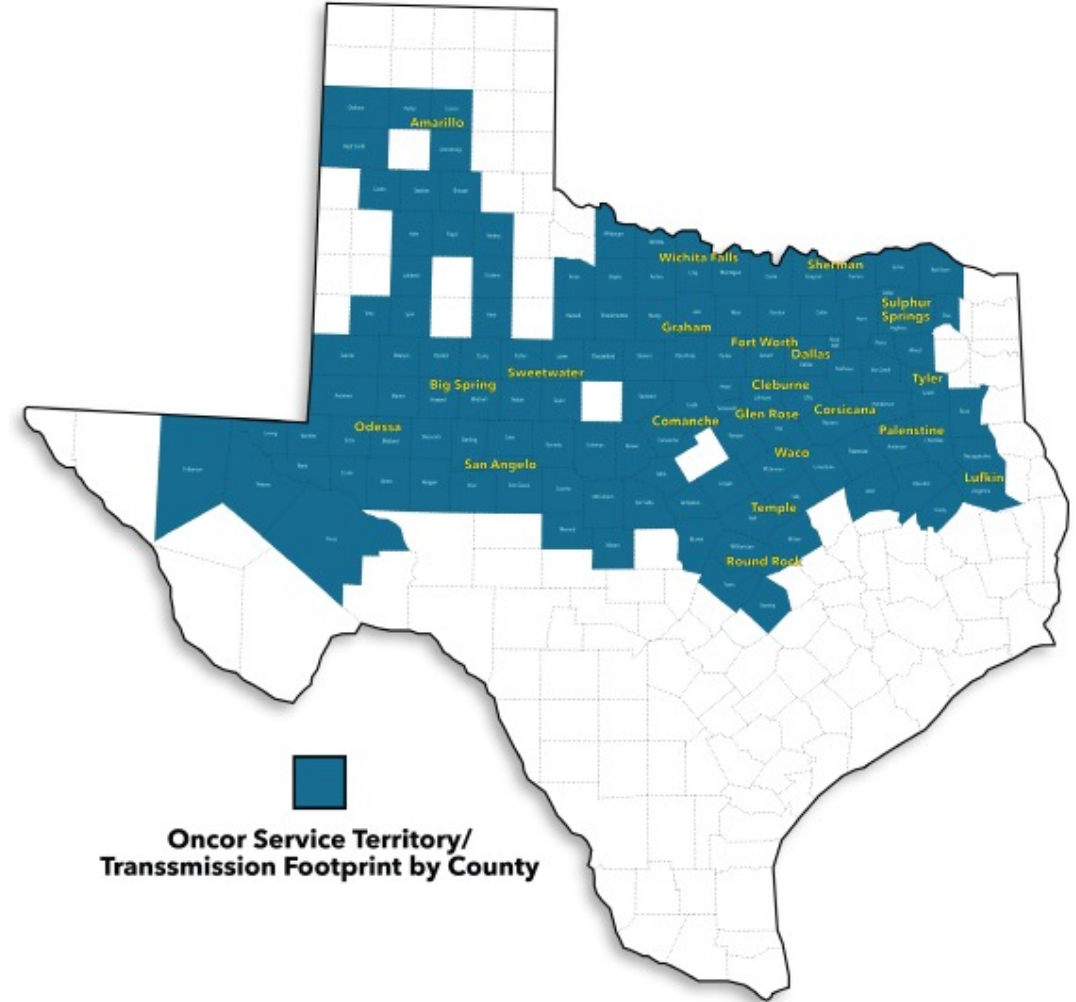
SERVING ~13 MILLION
TEXANS

98 COUNTIES
AND 400+ COMMUNITIES

141,000 MILES
OF TRANSMISSION AND DISTRIBUTION LINES

3.9 MILLION
ADVANCED METERS

4,500+ EMPLOYEES
ACROSS THE STATE



Supporting Growth in the Lone Star State



Oncor has invested billions of dollars across its service area to build, upgrade and operate a safer, smarter, more reliable electric grid.

From 2019 - 2023, Oncor added:

- **Over 10,500 miles** of new & re-built transmission & distribution lines,
- **~ 340,000 new customer connections**, and
- **More than 200 new substations** across its service area.

Oncor's capex plan includes \$19 billion in investments over the next five years. These capital expenditures are expected to be used for investment in transmission and distribution infrastructure, including investments to support system growth, reliability and resiliency.

Oncor also focuses on making appropriate and necessary investments in an efficient and cost-effective manner. **Oncor rates are among the lowest electric delivery rates of any investor-owned utility in Texas.**



Vehicle Classes



Light-Duty (Class 1-2A)
Total Class Registration: 202,035

Most popular: Tesla Model 3



Medium-Duty Vehicles (Class 2B
- 6)

Total Class Registration: 1309

Most popular: Ford Transit



Heavy-Duty Vehicle (Class 7-8)
Total Class Registration: 37

Most popular: New Flyer XcelSior

New Commercial Construction Process



Customer submits request (including general and detailed site plans) and load-sheet.

1

Oncor reviews submission for completeness. (Off-site analysis process)

2

Designer is assigned and a preliminary design is created/ approved by customer.

3

Final design and off-site designs created; CIAC requirements and FEA contract sent (Time varies based on geography, resource availability, complexity etc.).

4

Customer Decision (contracts are good for 30 days).

5

Customer contract, easements, funds returned to Oncor; Oncor provides estimated completion date, rate code and ESI ID. Orders XFMR if needed.

6

Pre-Construction: Material ordered and crews scheduled. Customer's civil engineering work is inspected.

7

Construction: Customer service installed; Customer calls for city inspection; Meter(s) set.

8

Important note: Long-lead time items cause additional delays.

Additional Considerations



- Padmount XFMR lead times sit @ 45 week
- All 277/480V chargers require service from a padmount XFMR
- Easement exhibit creation is the responsibility of customer through preferred surveyor

What is DG?

- Distributed Generation is a variety of technologies; solar, batteries or generators, used to generate electricity at or near the point where it will be used.
- **If you plan to install DG at your site to supplement your EV charging (ex. solar panels, Vehicle to Grid (V2G), Battery Storage), you will need an interconnection agreement to meet safety and equipment standards.**
- Delay of interconnection agreement submission will cause a delay in a project.



Pro-Tips For Customers Interested in DG

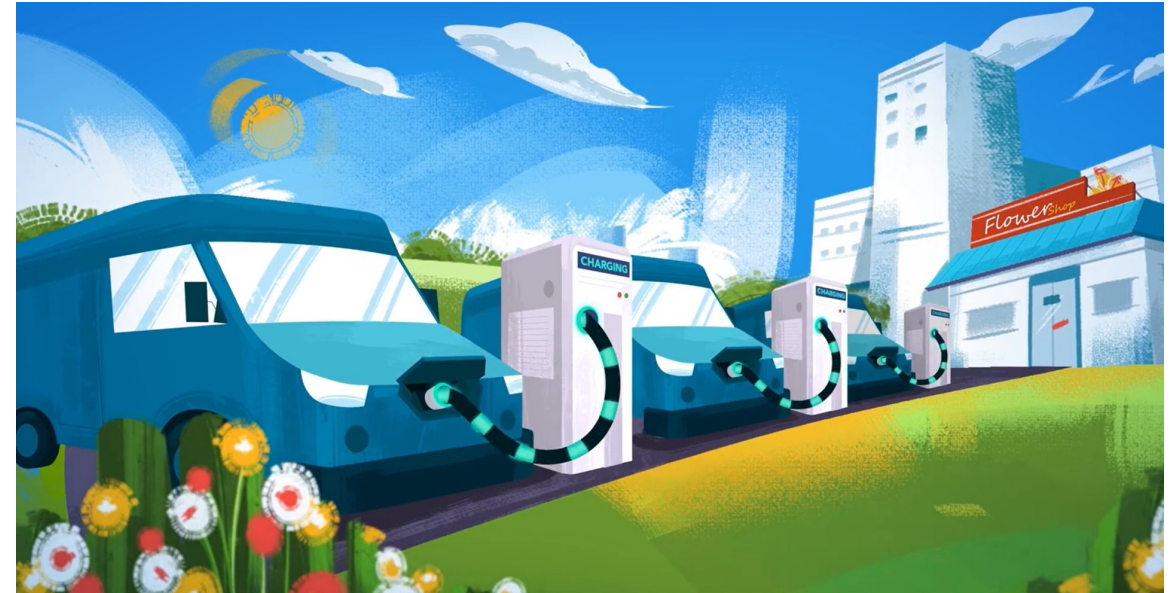


An example of how you might see DG appear in an EV project:

- Co-location of an EV charger, on-site battery storage, and solar panels
- A customer recently installed all of these technologies together to offset the cost of charging
- Solar panels charge a battery, and the batteries are used to charge EVs during peak times to lower charging costs

Necessary Information for Interconnection Agreement:

- Electric One-Line Diagram (shows configuring of electric system)
- Layout Sketch of where systems are laid out
- Equipment spec. sheets
- PDF Application



Limited Availability: Managed EV Charging Study



OBJECTIVE

Educate commercial customers with EV fleets and/or charging locations about peak demand shifting and energy consumption reduction strategies.



ELIGIBILITY

- Valid ESIID
- Deploy a minimum of 5 electric vehicle chargers or at least 2 medium-heavy duty electric fleet vehicles.



BENEFIT

Understand strategies that can decrease utility costs from managed fleet charging.



REQUIREMENT

Participants agree to have monthly touch point with Oncor to discuss ongoing research for at least a year.



INCENTIVE

Oncor will provide incentives for participation.

- Enrollment up to \$10,000
- Participation up to \$10,000
- Maximum incentive \$25,000



MORE INFORMATION

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Sr. Program Manager
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EEPM Help Desk
866 258 1874
support@oncoreepm.com

REP Pricing Plans with EV Programs



- Review if your REP has an EV charging plan or incentives
 - What plans are available?
 - What plans do other REPs have available?
- Some REPs support Time of Use Plans
 - Why is that important?
 - Installing EV stations will increase usage
 - Energy usage during off peak hours is typically less expensive than during peak hours
 - Consider charging during off peak hours – economical approach
 - Electric Vehicles and charging station charging times can be scheduled

Evaluate energy consumption for your business model (hours of operation) and hourly load requirement including EV Charging Stations

Planning for the Addition of Fleet EV Chargers



Points to consider:

- Does the existing electrical infrastructure support the current kW demand and the addition of future kW demand required for fleet charging?
 - Will electric infrastructure require an upgrade?
 - How will the addition of the charges affect current billing?
- How do upfront costs compare for upgrading existing facilities to taking a new point of delivery for the chargers?
- Is your accounts payable department engaged and on board with the impacts of the additions of EV Chargers?

Planning for the Addition of Fleet EV Chargers



Owned/leased property (Cust Example 1)

- If leased
 - Will owner provide easements?
 - Who is responsible for construction costs?
 - How will it be metered?

Short term/long term plans (Cust Example 2)

- Load ramp
 - Will more chargers be installed at a later date?
 - Can new equipment support full deployment plans?
- How will they be used?
 - Employee Charging / For Pay charging
 - Will determine how it can be served?



Opinion **Dynamics**

Fleet Forward: Unpacking Non-residential Charging needs, challenges, and opportunities

Jordan Folks, Associate Director of Demand Flexibility

February 26, 2024



EV fleets are on the rise in the US

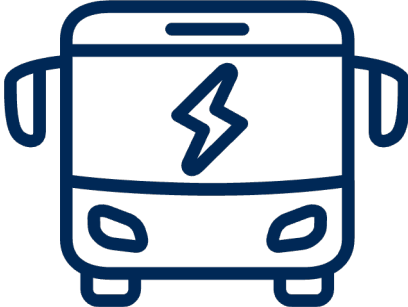
Fleet electrification is growing in a variety of sectors



Rental Car Companies



Municipal / Government



Schools

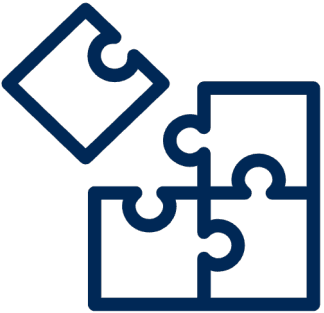


Distribution Warehouses

Non-residential managed charging: key opportunity to advance transportation electrification



Significant Loads



Improved Grid Integration



Value for Fleets

With added complexity....

Unlike residential single-family homes, non-residential site hosts may not have control over the vehicles that charge at their sites

Fleets are a heterogenous population with a variety of different charging needs

- Charging patterns may vary based on sector, operational schedules, fleet vehicle classes (light duty, MDHD), and the types of end-customers they serve

Demand flexibility opportunities abound, but mysteries remain

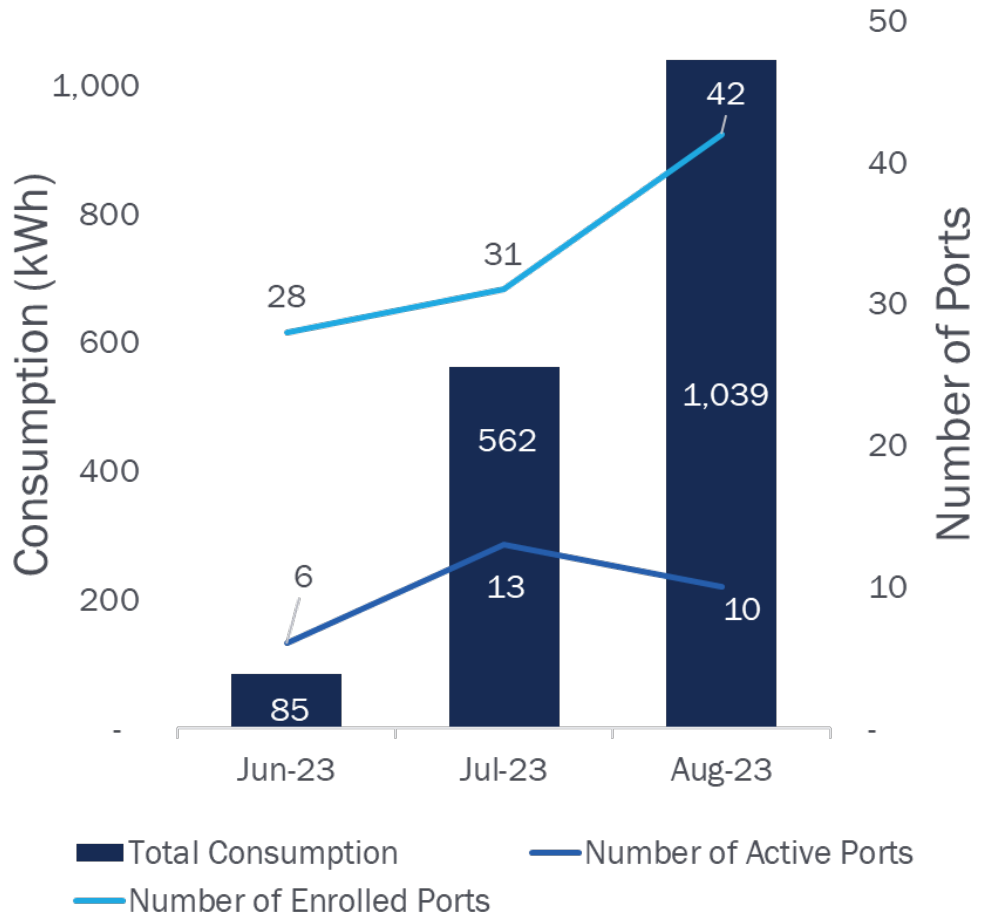


Research Question #1

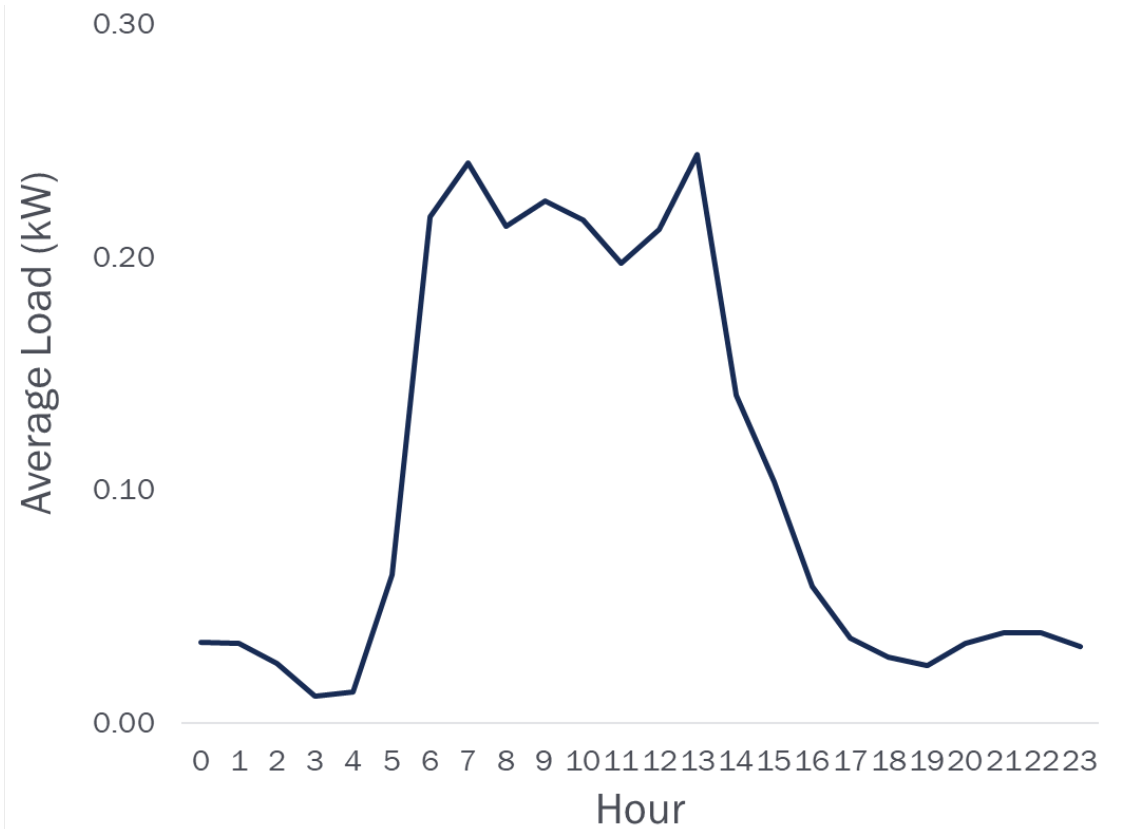
When do fleet customers charge and how does that align with grid needs?

West Coast Case Study: Charger Energy Consumption

Fleet Pilot Monthly Energy Consumption



Fleet Pilot Average Load Curve



Pilot data represents three sites consisting of 17 chargers



Research Question #2

What is the customer baseline level of awareness and understanding of EV load management concepts?

Colorado Case Study: Commercial site hosts somewhat aware of LM



Most fleet managers were aware of TOU rates and DR programs and understood the benefits of these offerings

About half were already enrolled in TOU rates



Research Question #3

What is the customer's level of interest in participating in EV load management?

West Coast Case Study: Fleets managers interested in DR, but need more information

All nine interviewed fleet managers were interested in participating in a managed charging program

- Most had no specific concerns, but need more information to understand how the program would impact their organization
- Concern over emergency situations in which people would need to be transported reliably and quickly

Building EMS provides LM experience and may ease fears

Colorado Case Study: Interest in DR varies by segment

Fleet and multifamily charging properties less interested in DR than public and workplace charging properties

Fleet properties require 24/7 charging to maintain fleet operations

Multifamily properties have less flexibility - unwilling to adjust charging times (concerns about limiting tenant charging times/speeds)



The Path Forward for Non-Residential Managed Charging

- One-size-fits-all program design will not work
- Gather data to understand charging needs, behaviors, and demand flexibility potential
- Potential program design options include:
 - ‘Choose your own adventure’ program design
 - Multiple program options tailored to specific non-residential customer segments
 - Providing support for vendors to assist individual customers with optimizing load management at their site



Opinion **Dynamics**

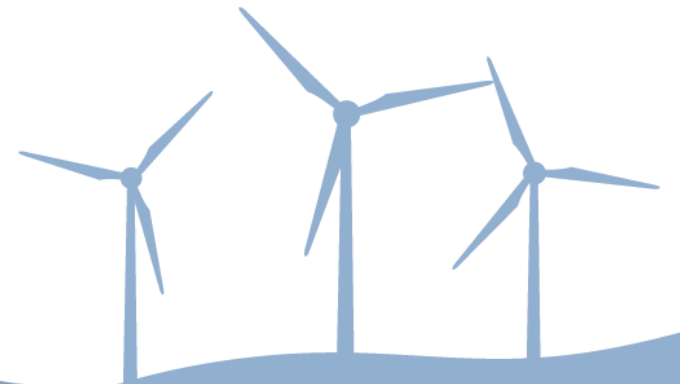
Questions?

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See You in Dallas



March 24th, 2025

A tall, blue, vertical sign for the Kay Bailey Hutchison Convention Center Dallas. The sign features a white star with red and blue stripes at the top. The text "KAY BAILEY HUTCHISON" is written vertically in white, with "CONVENTION CENTER DALLAS" written vertically in white below it. The sign is set against a blue sky with white clouds and a modern building with a large glass facade.

KAY BAILEY HUTCHISON
CONVENTION CENTER DALLAS