EV 101

Driving EVs into your community

cleanenergy.org
Southern Alliance for Clean Energy

Who We Are: Southern Alliance for Clean Energy

cleanenergy.org
Southern Alliance for Clean Energy

ELECTRIFY THE SOUTH

Why Electric Vehicles (EVs)?

The transportation sector is now the largest source of carbon dioxide (CO_2) pollution in the United States.

We can do something about that!

Agenda

What is an EV?

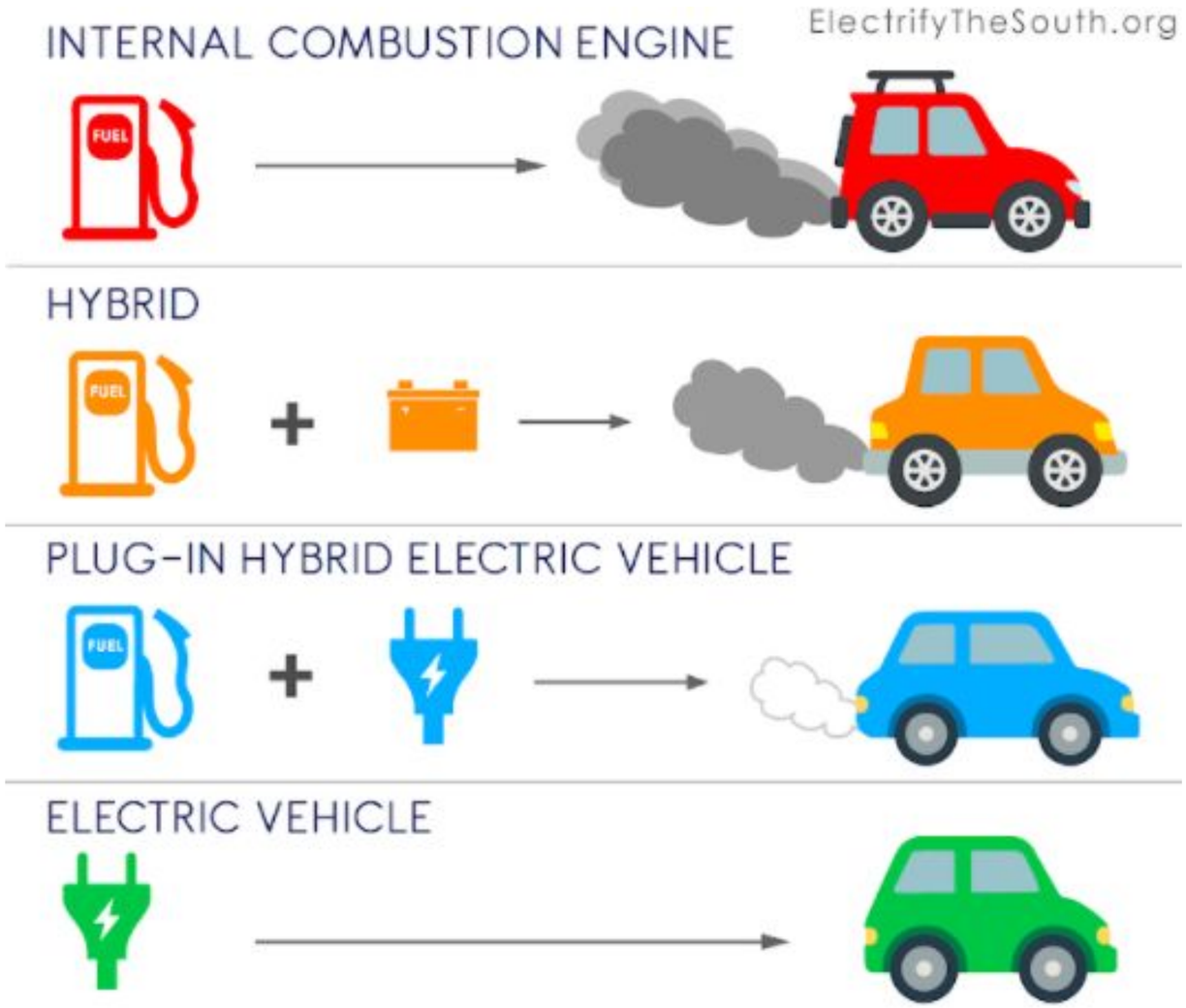
Why Go Electric?

Models available

School buses, transit buses, medium-duty

How to charge an EV

What Is an EV?


ElectrifyTheSouth.org
INTERNAL COMBUSTION ENGINE
FUEL
HYBRID
FUEL
PLUG-IN HYBRID ELECTRIC VEHICLE
FUEL
ELECTRIC VEHICLE

Why Drive Electric? Lower Lifetime Ownership Costs

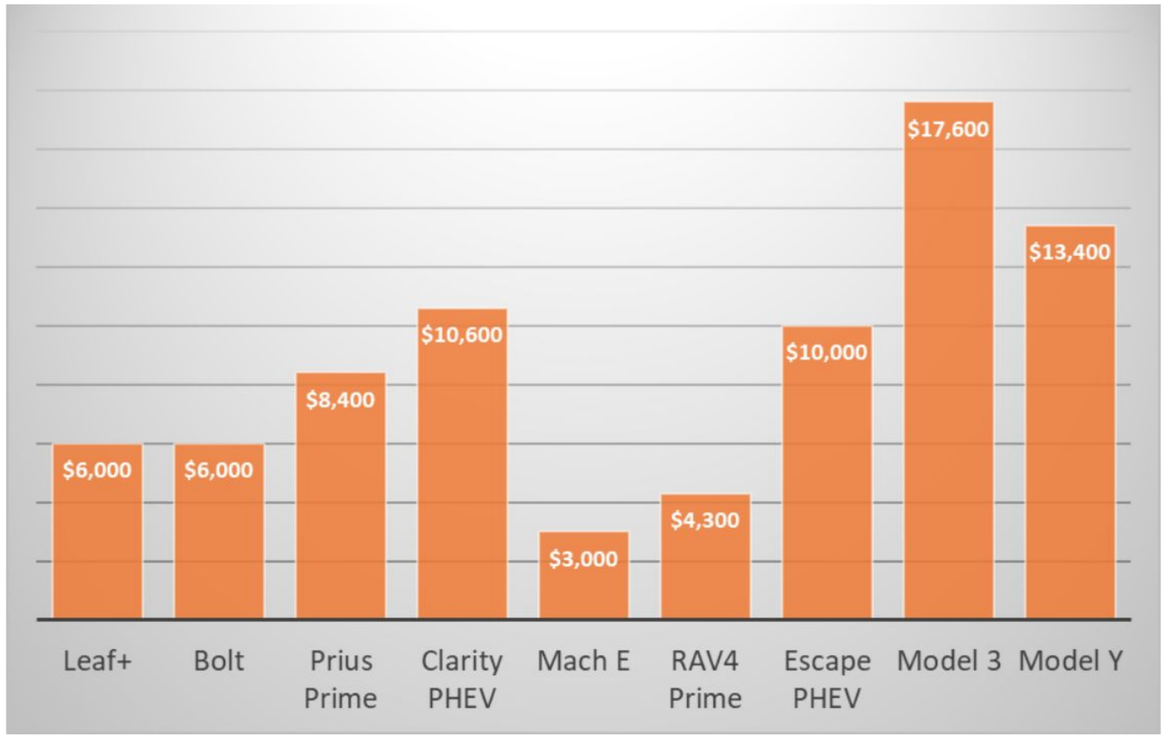
Typical driver saves **$6,000 to $10,000** over the life of the vehicle,

vs.

owning a comparable gas-powered vehicle.

Source: Consumer Reports

Lifetime Savings From EVs vs. Best-Selling Gasoline Powered Vehicles in Class



Why Drive Electric? Lower Fuel Costs

MODEL	COST PER MILE (CENTS)	1,000 MILES COST (DOLLARS)
Gasoline	14.5	$145
Electric	3.5	$35
Electric from Solar	1	$10

Assuming $3.35 cost per gallon of gasoline and 23 mpg
Assuming 33.7kW/h= 1 gallon and $.12/kWh and 115 mpge

Driving electric may add about $35-40 per month to your utility/power bill.

Driving electric will cut your fuel costs by more than half.

UC Davis Electric Vehicle Explorer tool for calculating annual vehicle energy costs: gis.its.ucdavis.edu/evexplorer/#!/locations/start

Why Drive Electric: Convenience and Time Savings

Save time and money

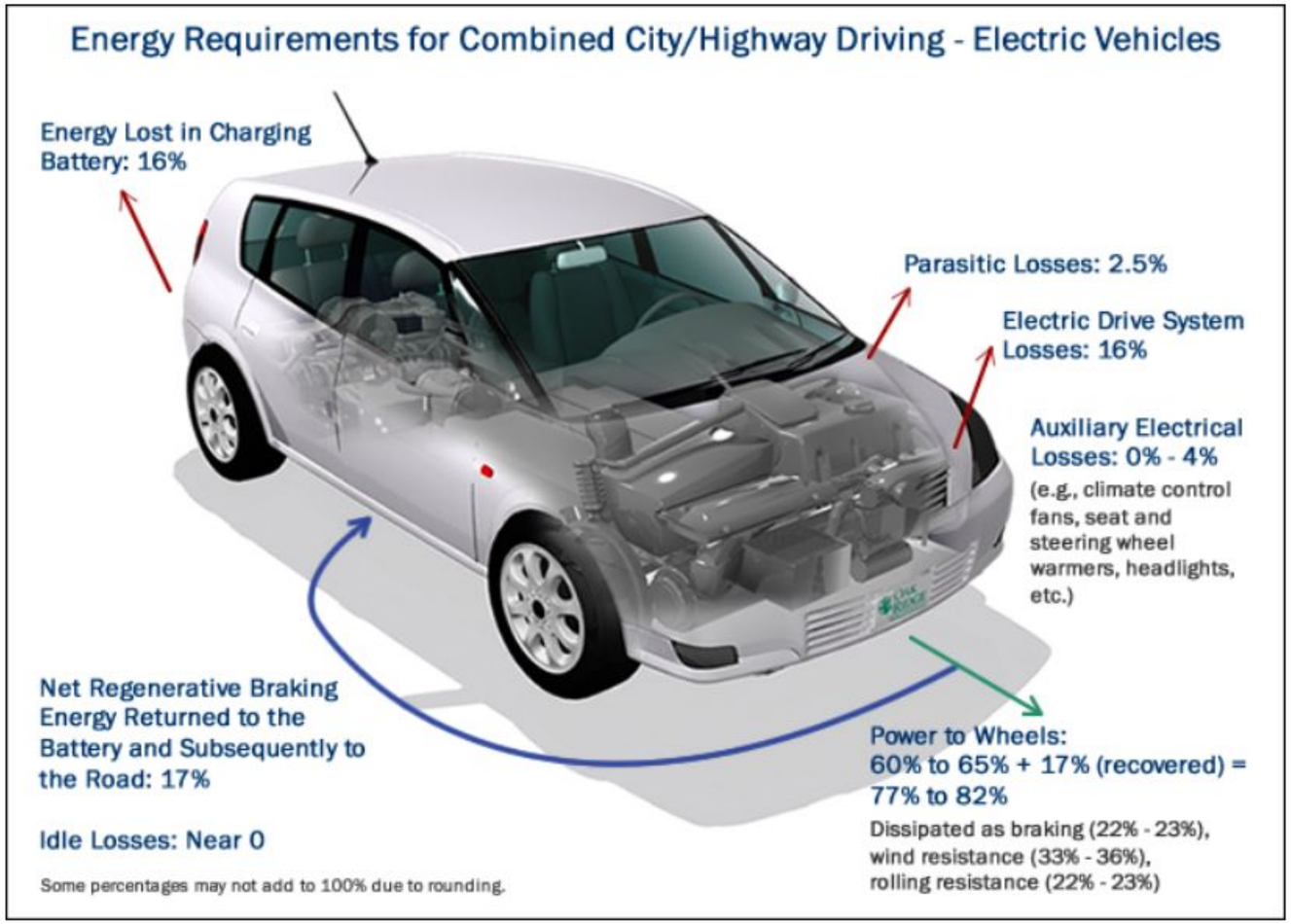
No oil changes

Very low maintenance

Powering them is convenient

Drop the pump

Why Drive Electric: Superior Efficiency

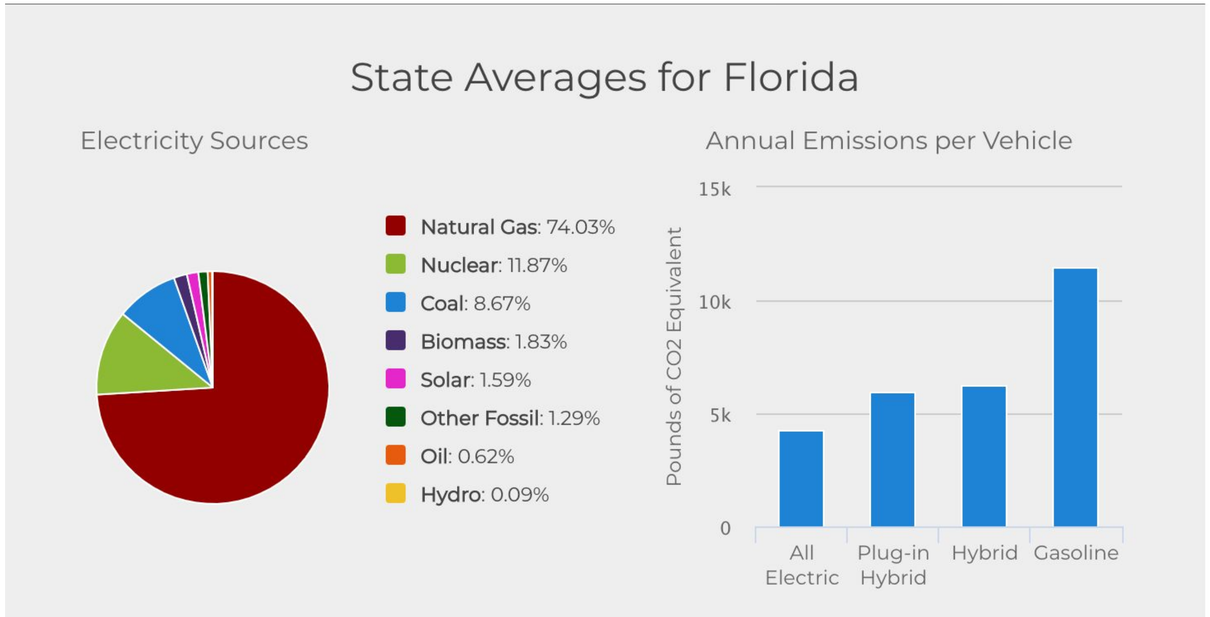


The average fuel efficiency in the US is 25.1 miles per gallon

The fuel efficiency for most electric cars is over 100 MPGe

Source: EPA, DOE

Why Drive Electric? Reduced Emissions



Source: Department of Energy: AFDC, Union of Concerned Scientists

EVs emit over 60% less life cycle GHG emissions compared to gasoline vehicles.

In FL, the average EV produces only ~~4,261~~ 4,132 lbs. of CO_2e per year, compared to 11,435 lbs. by gasoline powered vehicles.

An average EV on the road in the U.S. has the same greenhouse-gas emissions as a car getting 88 miles per gallon (MPG).

Why Drive Electric: Superior Technology

EVs are a smoother ride

They are quiet

Electric vehicles are fun to drive

EVs have instant torque. The quickest car in the world is a Tesla Model S

Computer on wheels

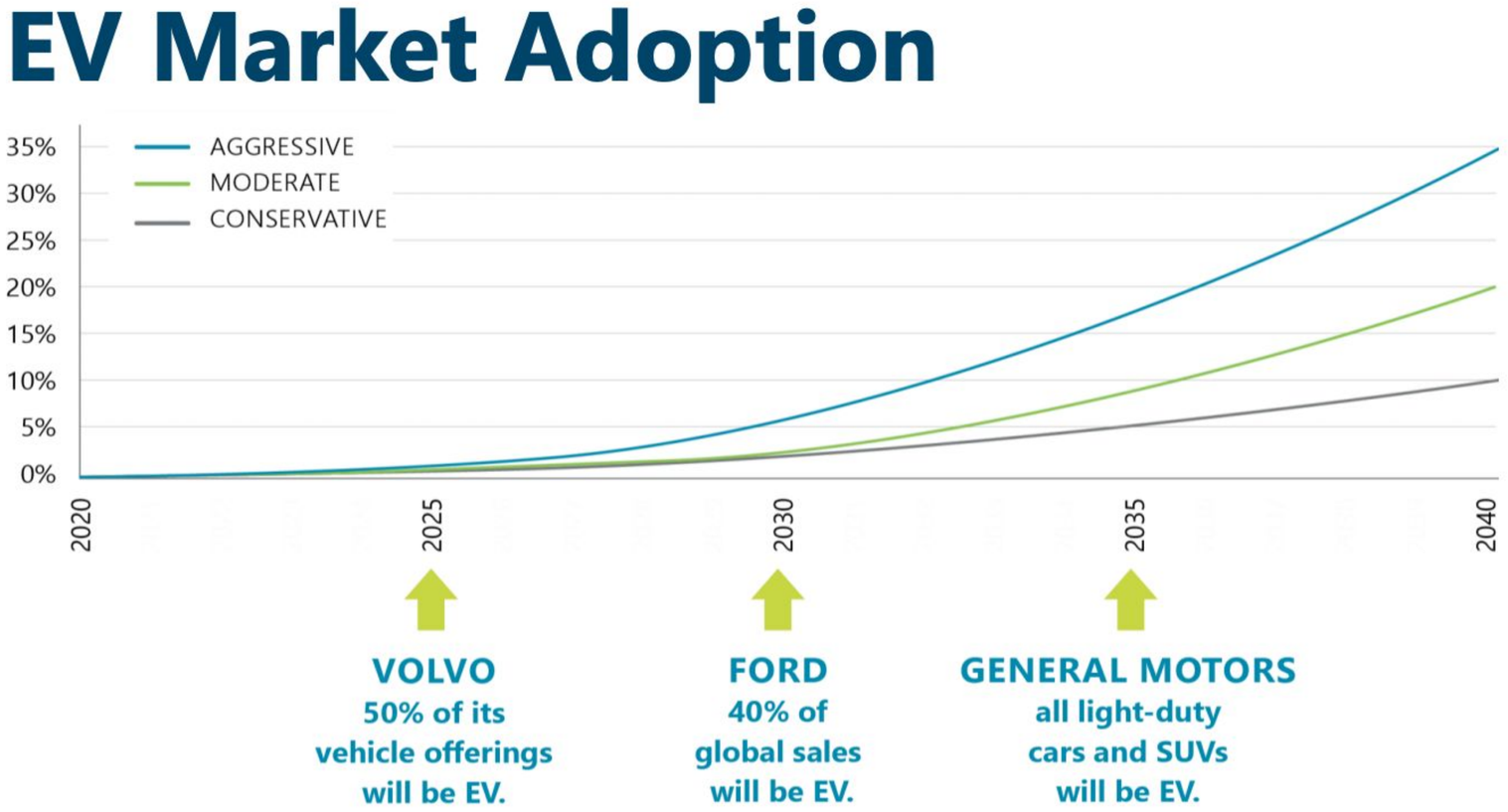
Models and Trends

59 models sold today

91 new models on the way

234 average mile range

$574B in global investment

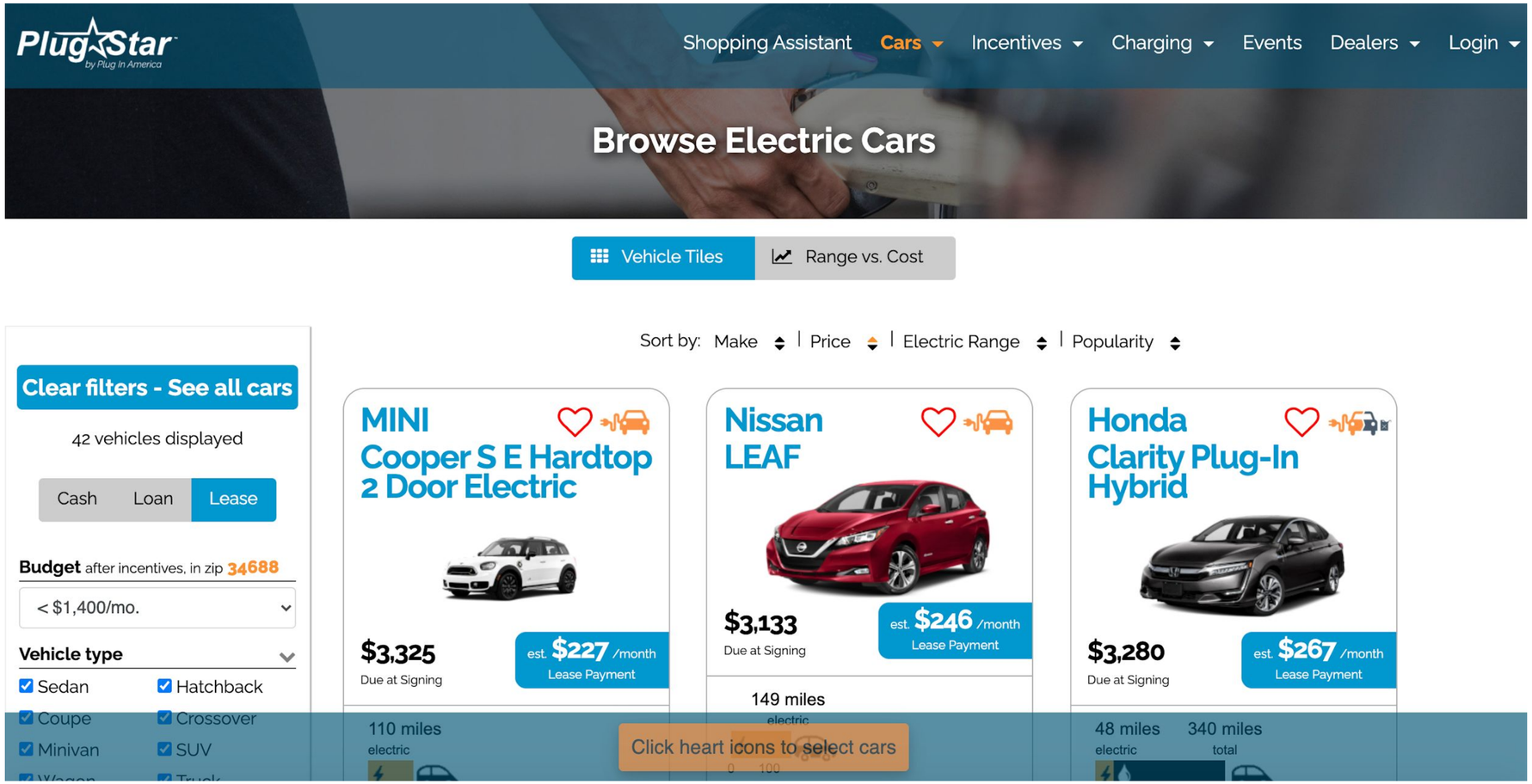


Source: Atlas Public Policy

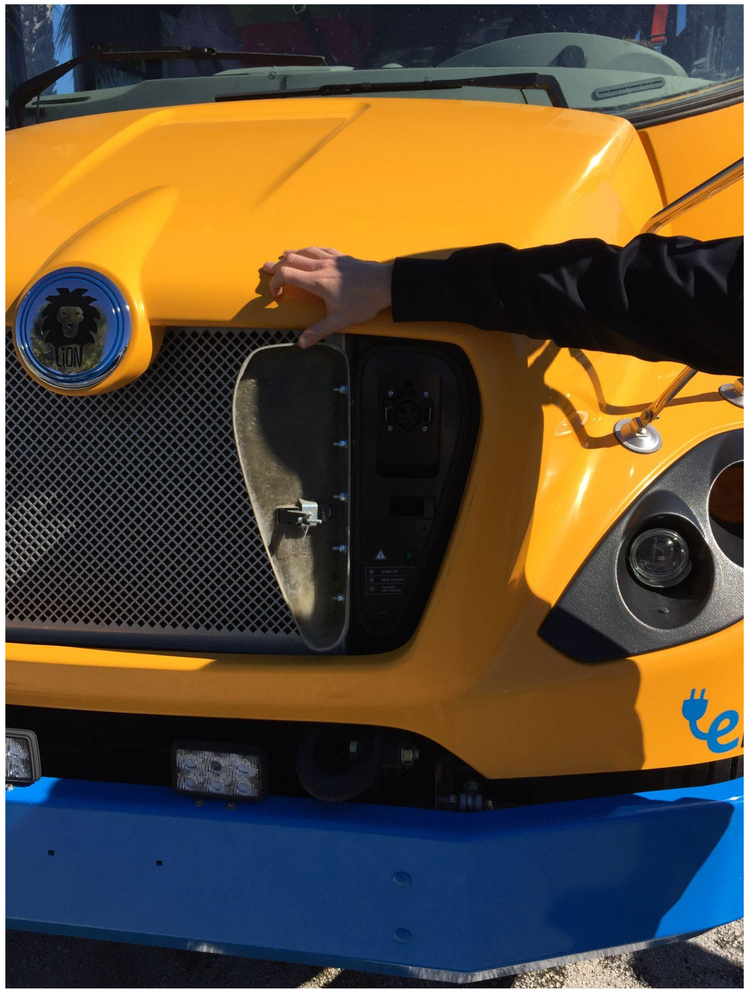
Source: FLDOT EVMP

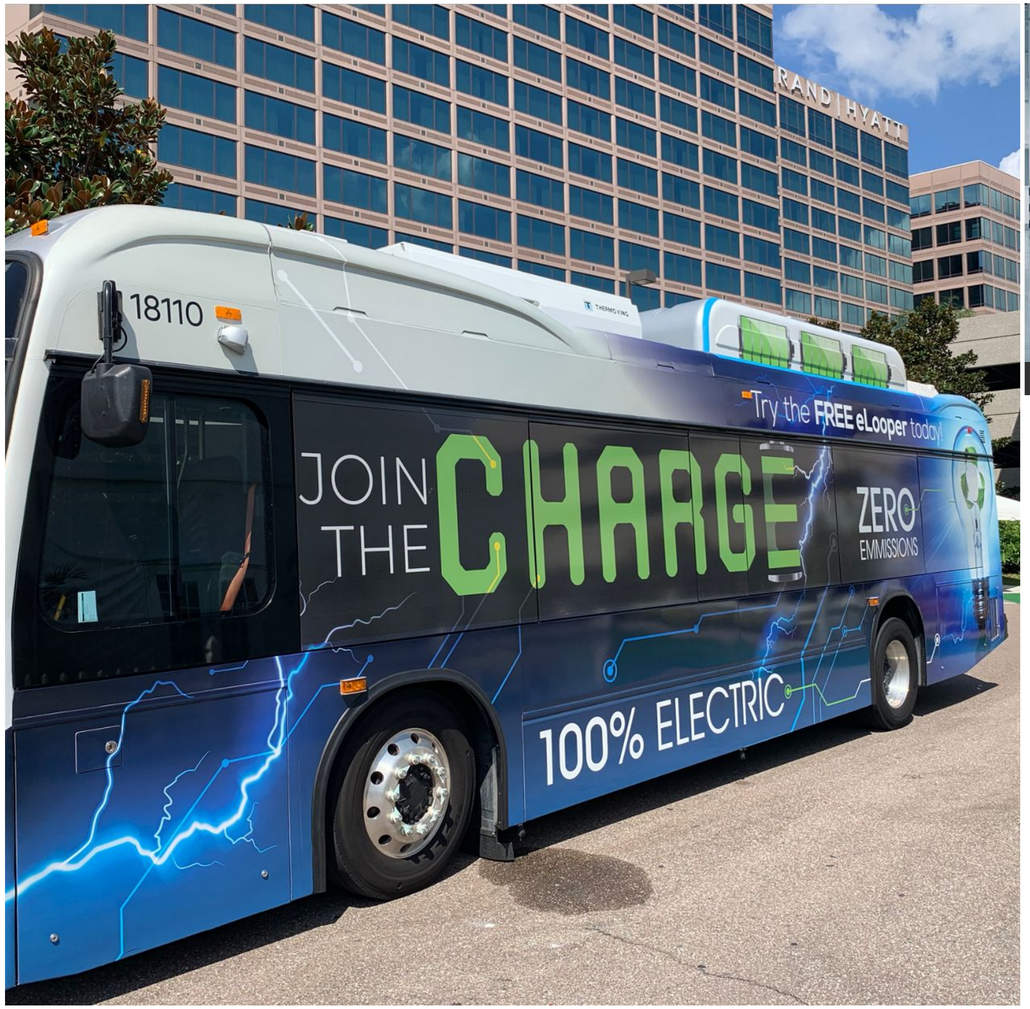
Available Models

https://plugstar.com/



School Buses, Transit Buses and Medium-Duty





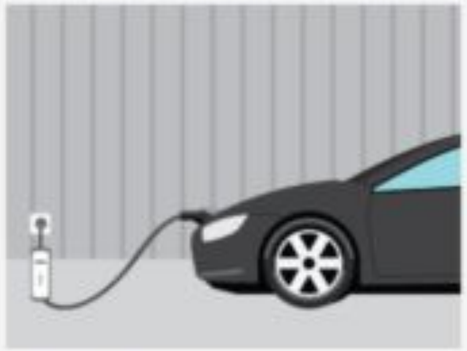
Mack's battery-powered LR joins a growing list of electric-powered trash haulers. (Photo: Mack)

Tax Credits and Rebates

- Federal EV Tax Credit up to $7,500 for vehicles https://afdc.energy.gov/laws/409
- Federal Tax Credit for EV charging station https://afdc.energy.gov/laws/10513
- Utilities have rebates https://afdc.energy.gov/laws/state_summary?state=fl

CHARGING YOUR EV

Level 1



VOLTAGE:
120V 1-Phase AC

AMPS:
12-16 Amps

CHARGING LOAD:
1.4-1.9 kW

CHARGING TIME:
3-5 Miles per Hour

Level 2

VOLTAGE:
208V or 240 V 1-Phase AC

AMPS:
12-80 Amps (Typ. 32 Amps)

CHARGING LOAD:
2.5-19.2 kW (Typ. 6.6 kW)

CHARGING TIME:
12-60 Miles per Hour

DC Fast Charge

VOLTAGE:
208V or 480V 3-Phase AC

AMPS:
>100 Amps

CHARGING LOAD:
50-350 kW

CHARGING TIME:
60-80 Miles in 20 Minutes

J1772 charge port

J1772 combo

CHAdeMO

Charging your EV

- **Level 1 Charging 110V (~1.4kW)**
- **3-5 miles per hour**

J1772 charge port

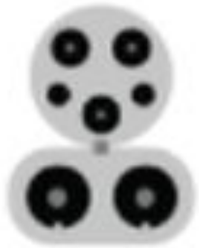
Charging your EV

- **Level 2 Charging 220V (7-19kW)**
- **25-60 miles per hour**

J1772 charge port

Charging your EV

- **DC Fast Charging (50- 350kW)**
- **Up to 80% battery capacity per half hour**



J1772 combo

CHAdeMO

Charging Your EV

Tesla Charging

- **Level 1**
- **Level 2**
- **Supercharging**

Tesla
combo

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QUESTIONS + STAY CONNECTED

ElectrifyTheSouth.org

Monthly newsletters, electric vehicle actions, EV blogs for new and established drivers, and more!

@ElectrifyTheSouth