Massachusetts Electric Vehicle Drivers' Experience

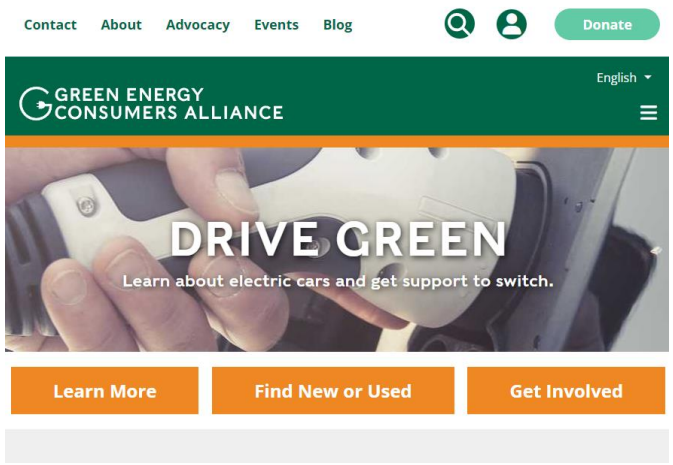
June 20, 2023

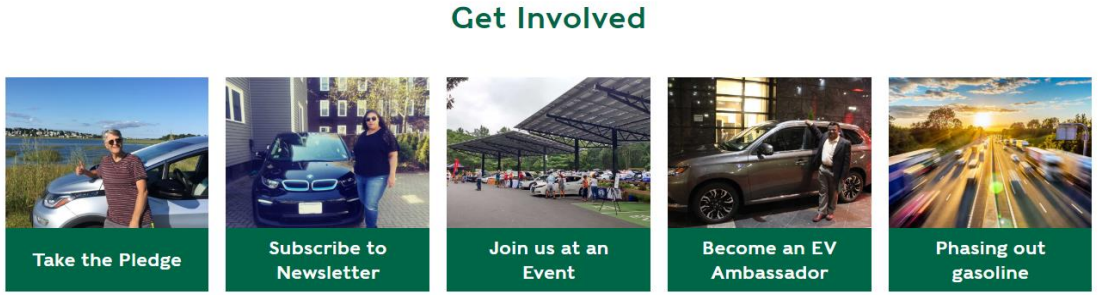
Green Energy Consumers Alliance

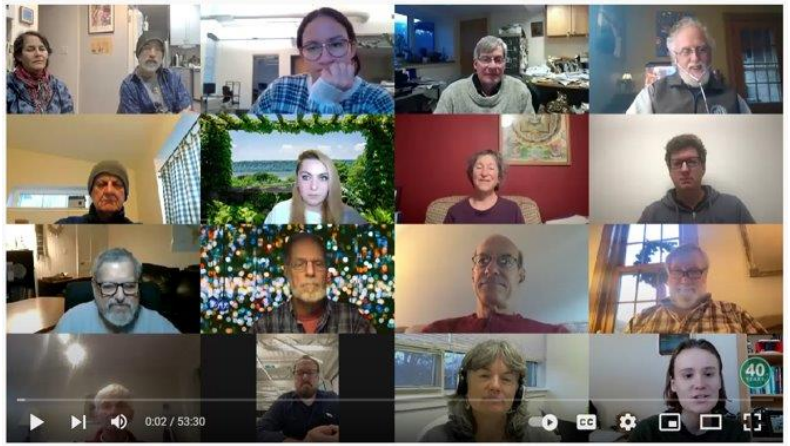
Harnessing our power as energy consumers to speed the transition to a zero-carbon future.

- **Non-profit founded in 1982**
- **Massachusetts & Rhode Island**
- **Programs & Advocacy**

Our Drive Green program experience







Point 1: There's a learning curve with EV charging.

To start comfortably driving and charging an EV, consumers must understand:

- The different levels of EV charging (Level 1, Level 2, DC Fast Charging)
- The different charging standards (J1772, CCS, CHAdeMO, Tesla/NACS)
- What you can install at home and how, where and how you can find public charging, how much it all costs

Point 2: With home charging, worries fade fast.

Before people get an EV, they are *very* concerned with the availability of public charging.

Once they get an EV and experience charging at home, concern about public charging decreases rapidly.

Major caveat: *Much* harder if you don't own your home or don't have off-street parking!

Charging at home is the most convenient and cheapest option, when it's possible.

Point 3: We need charging accessible to everyone.

- If you don't own your own home or live in a condo, you have to persuade other decision-makers to install charging.
    - There are new incentives that help, but that's not always enough to overcome inertia.
- If your property doesn't have off-street charging, you have to find nearby public charging to charge your vehicle.
    - Might be too far away;
    - Might not be available at the times you need it (like overnight);
    - Might be hard to get a spot;
    - Price is likely higher than what you'd pay at home.

Point 4: Finding public charging can be a challenge.

There are competing networks and brands drivers have to become familiar with before they settle on the tools that work for them.

- Charging providers: ChargePoint, EVgo, Electrify America, etc.
- Other apps: PlugShare, A Better Route Planner

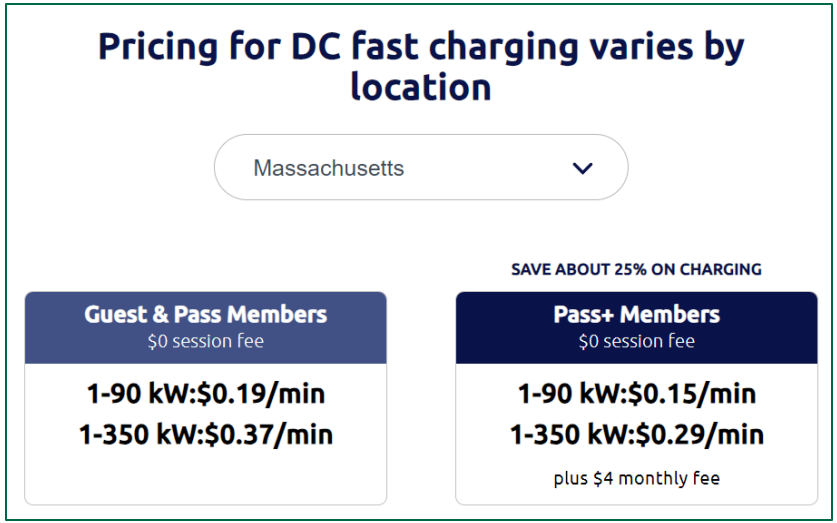
It takes a while to figure out what works best for each individual driver. As a result, transitioning to EVs is particularly hard for people who are not comfortable with smart phones.

Point 5: Locations often feel unsafe or unwelcoming.

- In large parking lots, with no protection from sun or rain/snow and no seating;
- Not well lit at night and/or placed near businesses that are closed overnight;
- Not within easy or safe walking distances of bathrooms, food, or other amenities where a family could spend 40 minutes comfortably

Point 6: Pricing at public stations is confusing.

- Parking
  - Could be free
  - Could have a flat or per-hour charge
- Charging
  - Could be free
  - Could be by the hour or min
  - Could be by the kilowatt-hour
    - Could depend on the maximum kW draw



Point 7: Stations are unreliable.

Too many stations do not work when drivers pull up to charge.

We hear about this most often with DC Fast Chargers: could be because it happens more frequently and/or because if you're expecting to use a DCFC, you *really* need it to work.

Often, problems can be solved by calling the helpline and having service provider reboot the charger, but that still takes time and energy.

When that *doesn't* solve the problem, it often takes a long time for a charger to get fixed: whose responsibility is it?

Our EV Drivers:

"The fear of an occupied or non-functioning charging station keeps me closer to home."

"Love my car, I am proud to be off gasoline, but it's hard for me to encourage others to adopt these at this time."

Point 8: EV drivers want smarter rates.

Electric vehicle drivers who charge at home see that they can schedule their charging for certain times and have heard of time-varying-rates in other parts of the country. They want to get rewarded for doing the right thing at home.

Our EV Drivers:

"I mostly charge at home and would appreciate a rebate for off peak charging"

A Note on NACS

The recent announcements by Tesla, General Motors, and Ford that they will all use the North American Charging Standard (NACS) charger moving forward *fundamentally* shakes up the whole EV market.

What is the future of the CCS and CHAdeMO standards? What is the future of the J1772 standard?

FORD AND GM CUSTOMERS WILL SOON HAVE ACCESS TO TESLA'S CHARGING NETWORK

Devan DiLibero & Anna Vanderspek | June 16, 2023

Big news in the electric car world over the past couple of weeks! Tesla has struck a partnership with both **Ford** and **General Motors** to allow their vehicles access to Tesla's network of over 12,000 (and counting) Superchargers.

This is a huge development. It's great for drivers of Ford and Chevy and the other GM brands, because one of Tesla's key advantages in the electric car market is its expansive and reliable charging network. It also fundamentally shakes up the trajectory of the EV market, which seemed to have been settling on the CCS standard for DC fast charging (for non-Tesla vehicles) and is now settling on Tesla's technology. (Don't know what some of those terms mean? Check out our Charging Basics page.)

Questions?

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