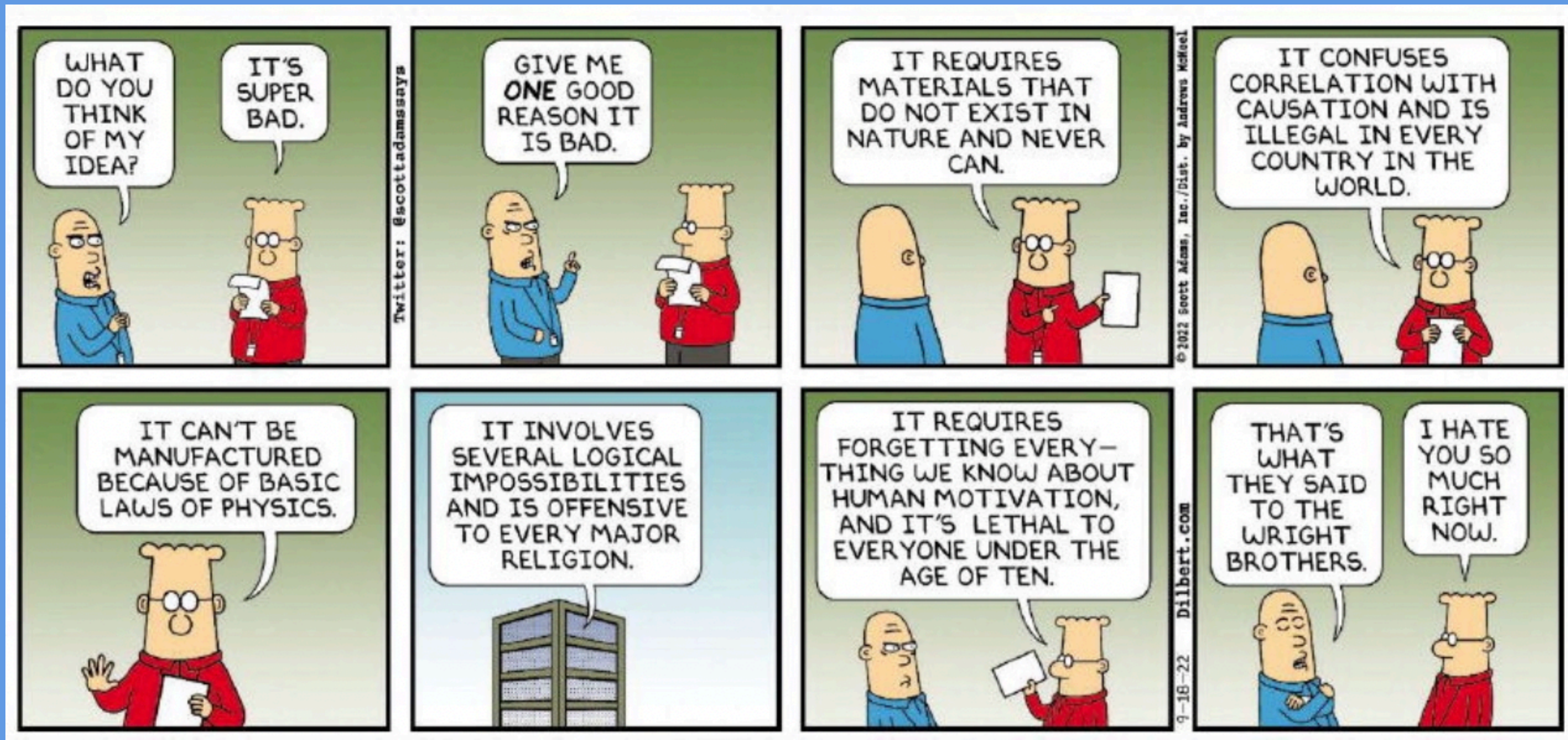


Looking Into Electric Cars

Session 1 : Intro

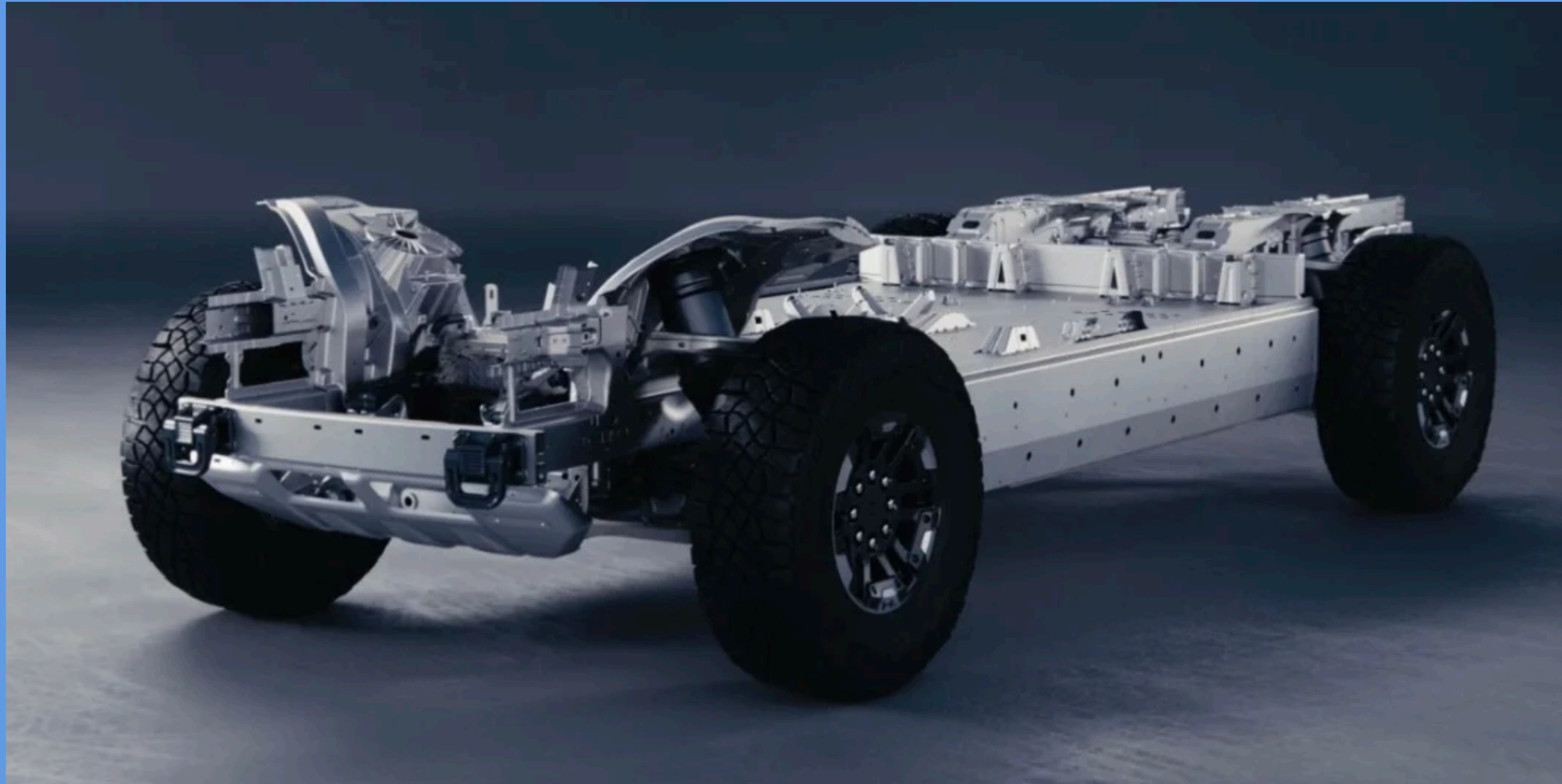


Looking Into Electric Cars

Session 1 : Intro

Upcoming Sessions

2. Chargers
- 3 Charging
- 4 Range
- 5 A Short list of EVS currently available
- 6 Alphabet soup BIB = NEVI = CEJA = IRA
(& things might change a little)
(will change a little with questions)



This is the Chevy Ultium Platform
Named for its Ultium battery

All cars are basically the same



But there are several traits in opposition.

Gas can be better on the road <==

==> EVs are always better in town.

Gas can go farther without stopping. But I need to stop anyway.

Filling up with gas is faster <==

==> but newer EVs are catching up.

People always fill-up with gas <==

==> EVs spend less time charging if they don't fill-up.

All cars are basically the same

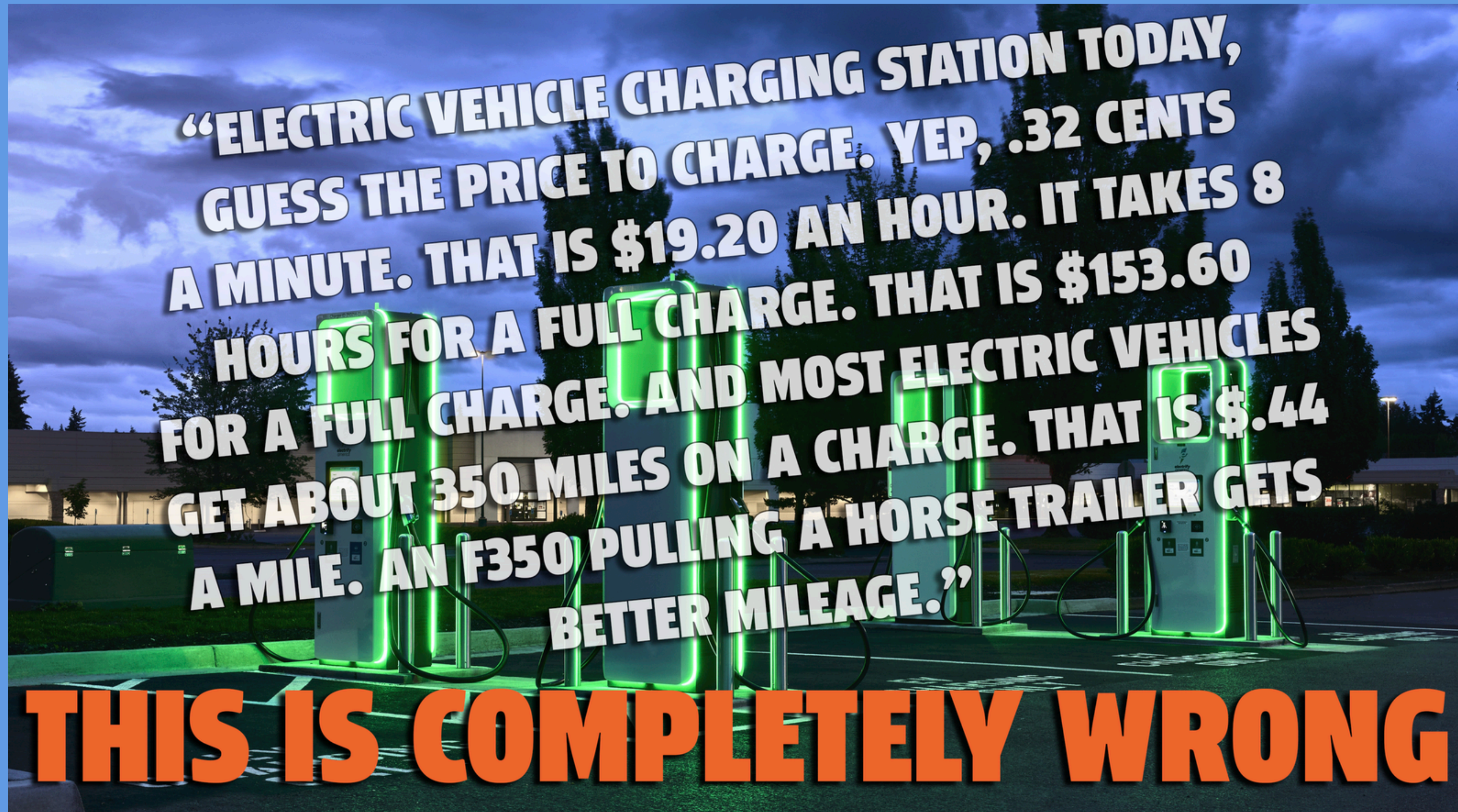


This is the VW MEB platform.
My ID4 is built on this

Audi is part of VW .

The E-tron is built on this

And next year in Europe
Two Fords will be built on
this



6.6 kW AC	
Charging duration: May 17, 2022, 9:46 AM - 10:31 AM	
Energy	
4.5323 kWh @	1.13
\$0.25/kWh	
9:46:33 AM - 10:31:51 AM	
<hr/>	
Total	\$1.13



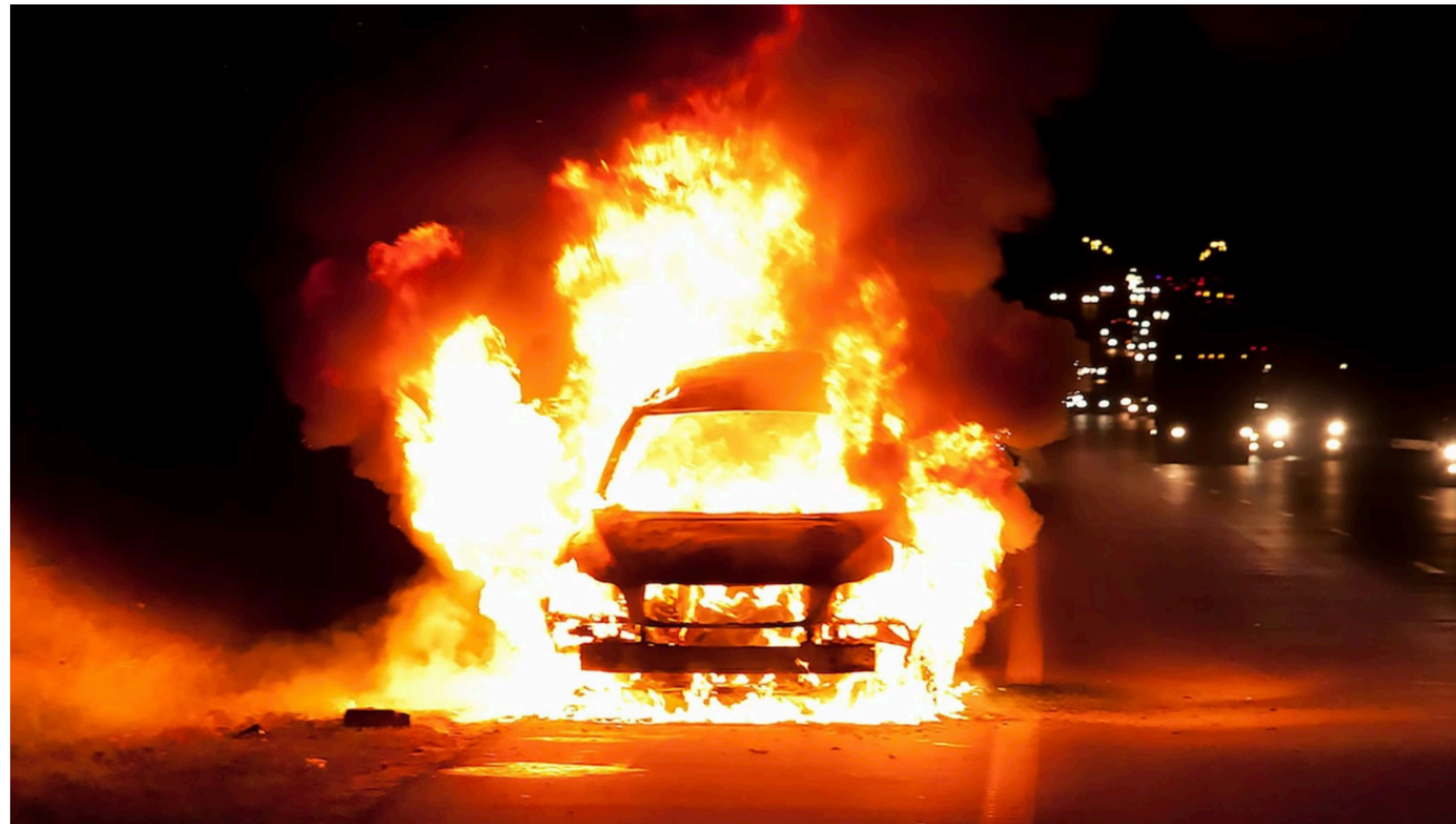
ChargePoint
Equals about \$.08/mile

At Home I get about \$.025/mile

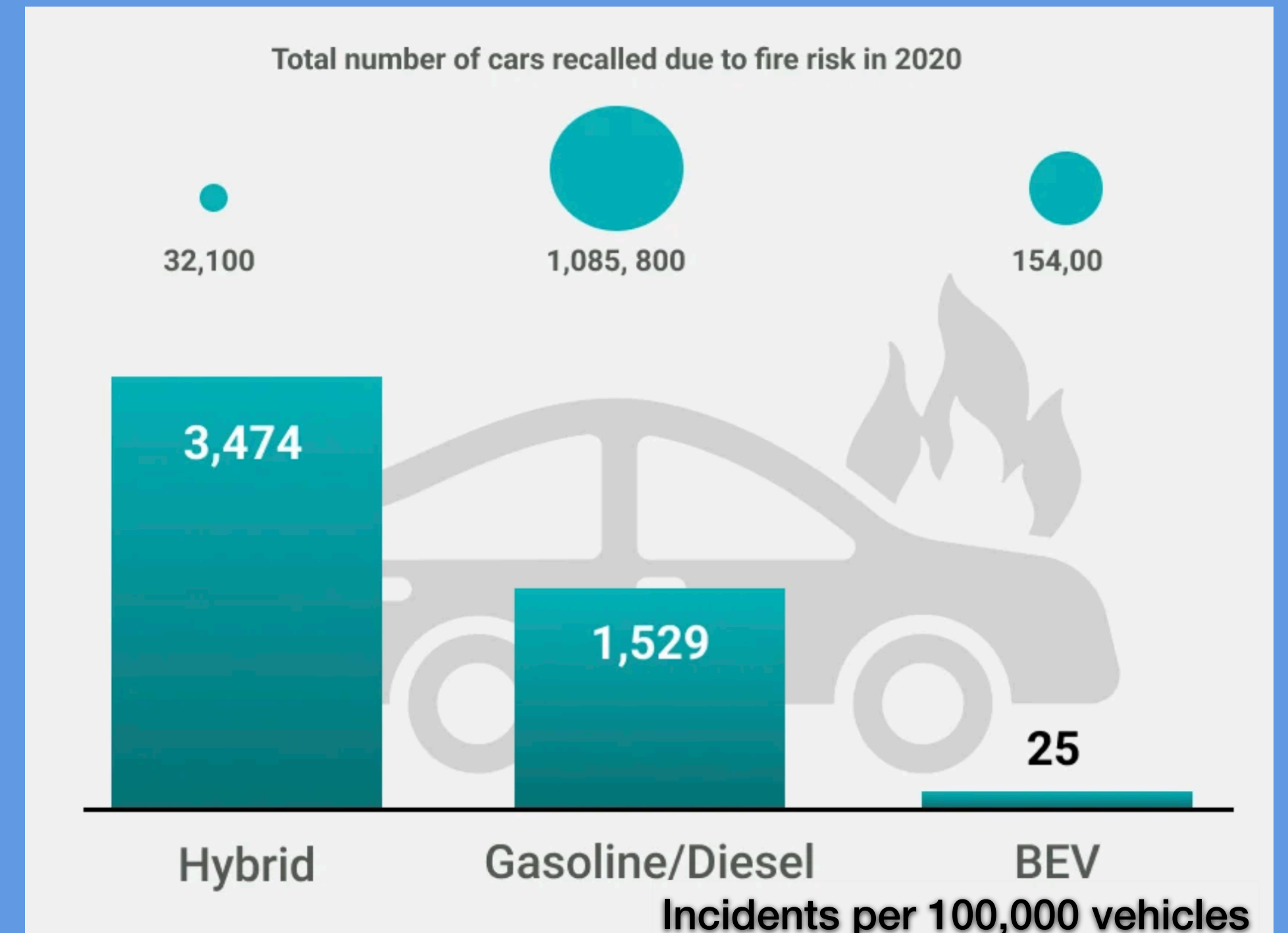
Electrify America \$.13/mile
(Note charging speed 12 times
faster) I consider the extra money
well spent since I get to leave 3
hours sooner.

Study: Electric Vehicles Involved in Fewest Car Fires

01/28/2022 9:28am



Electric cars have been subject to several high-profile recalls over fire risk. Yet, a new study shows they are less likely to cause a vehicle fire than either gas-powered cars or hybrid vehicles.



Its nice that when someone mentions an EV fire, Almost immediately there is a gas car fire I can counter with.


Note: that hybrids have the most.

A few myths

EVs are expensive.

Nissan
LEAF S

From Electric for All



PRICE ESTIMATE* SEATS: 5

\$ 19,900

*After Incentives App

This price is reduced by federal \$7500 tax credit. You may not qualify for all of credit

EV DETAILS

Car Type	Electric Range	Total Range	
BEV	149 Miles	149 Miles	HOV

**With my Oct 21 corrections.
MSRP. \$28040
This price becomes \$16,540 after
fed credit & Illinois rebate.**

2023 Nissan Leaf S starts at
MSRP \$28,040
Minus the Federal Tax credit - \$7500.
Also, IL rebate \$4000.

So the Leaf is \$16,540 (NEW)

This is just the purchase price and doesn't
take into account the lower total cost of
ownership.

A few myths



The grid can't handle the load of EV charging.

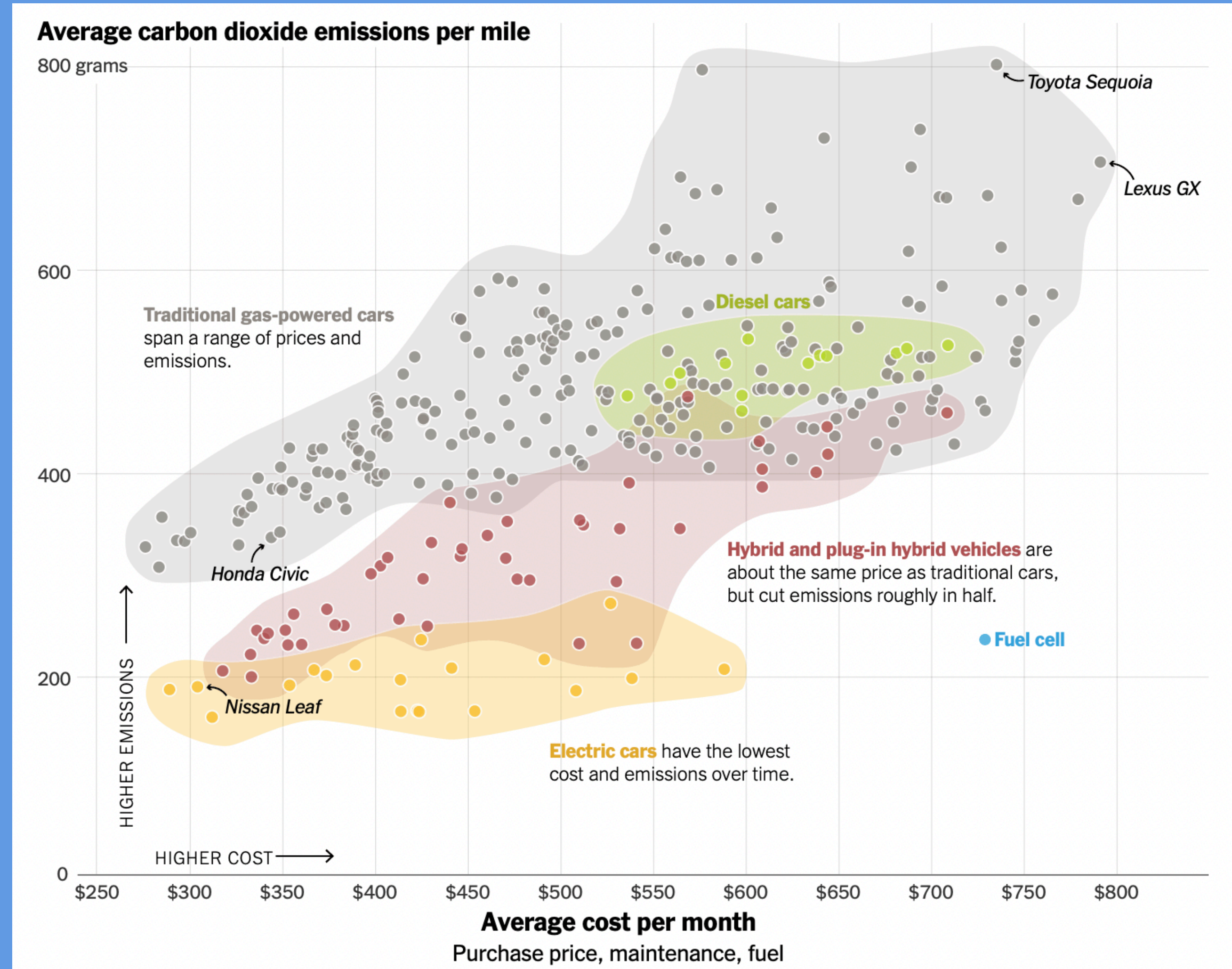
When home AC became popular, they said the same thing. And the grid was OK.

“The long tail pipe” -EVs powered by coal plants

7. Electric vehicles are worse for the environment. EVs are fundamentally more efficient than gas-powered vehicles. While a gas engine only converts **around 20%** of gasoline’s stored energy to power at the wheels, an EV motor converts about 60% to **77%** of the energy from the battery. This means that **even on a coal-powered grid**, EVs are better for the climate than gas cars.

Article on Freethink June 2022

Illinois electricity is about the national average at 25% coal.
And the 12th cleanest in the US.



Cost is one reason to like EVs.

But wait - there's More.

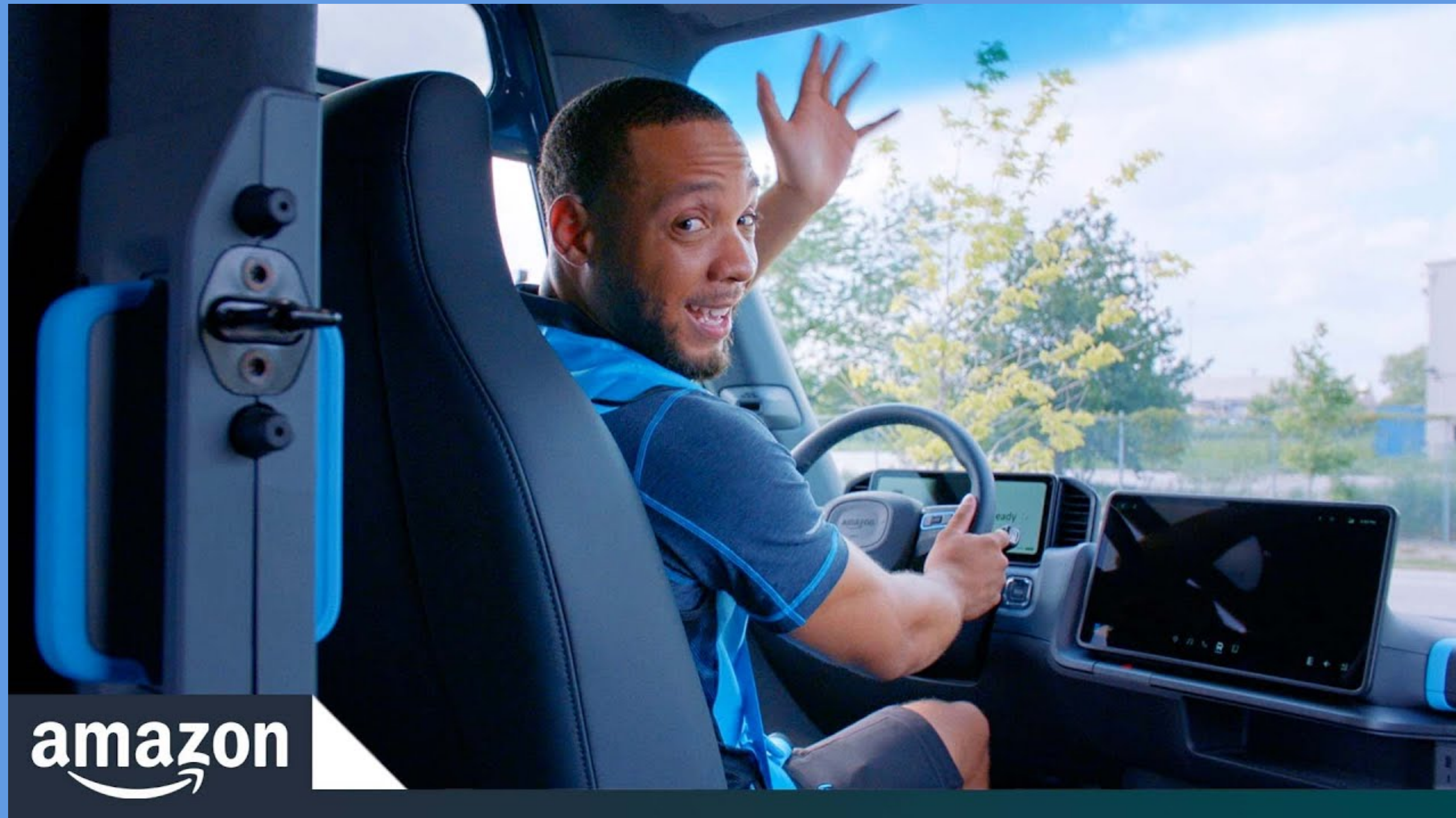
New York Times

Will show very few videos. They run sooooo long
I will mention some and put a link in the downloads.

Most of the EV videos ramble on more than I do.
So many of them talk and talk. After 30 minutes to an hour, you realize they
said very little.

There was one where a gas and electric pickup truck with a huge trailer did a
range test. No surprise the gas went farther. A surprise for me, neither truck
made it to the destination without stopping.

Amazon Loves Their Rivian Delivery Vans





Private sector fleet managers like saving money. A big item is how EVs have lower maintenance and reduced down time.

Then there is the lower energy costs. A lot of EVs have an MPGe around a hundred. But for my car driving around town its more like 170 MPGe.



Except for the US postal service. At one time the largest private fleet of vehicles (now second) The federal Government is offering money to cover the cost of buying EVs to convert fleet to as close to 100% electric as possible. The little trucks that drive past my house are estimated to save \$8000 per year per vehicle.

Weird bad - no AM radio

Kinda bad – too quiet

Kinda bad – too quick

Cost of energy

Cost of maintenance

It drives better

Always nice and smooth

Love Hate \Leftrightarrow One Pedal Driving.

EVs help reduce air pollution.



Cars, trucks, and buses powered by fossil fuels are major contributors to air pollution. In fact, transportation emits more than half of nitrogen oxides in our air, and is a major source of global warming emissions in the US. ;Studies have linked pollutants from vehicle exhaust to adverse impacts on nearly every organ system in the body.

Experts Issue Warning About Carbon Monoxide Dangers Ahead of Hurricane Ian

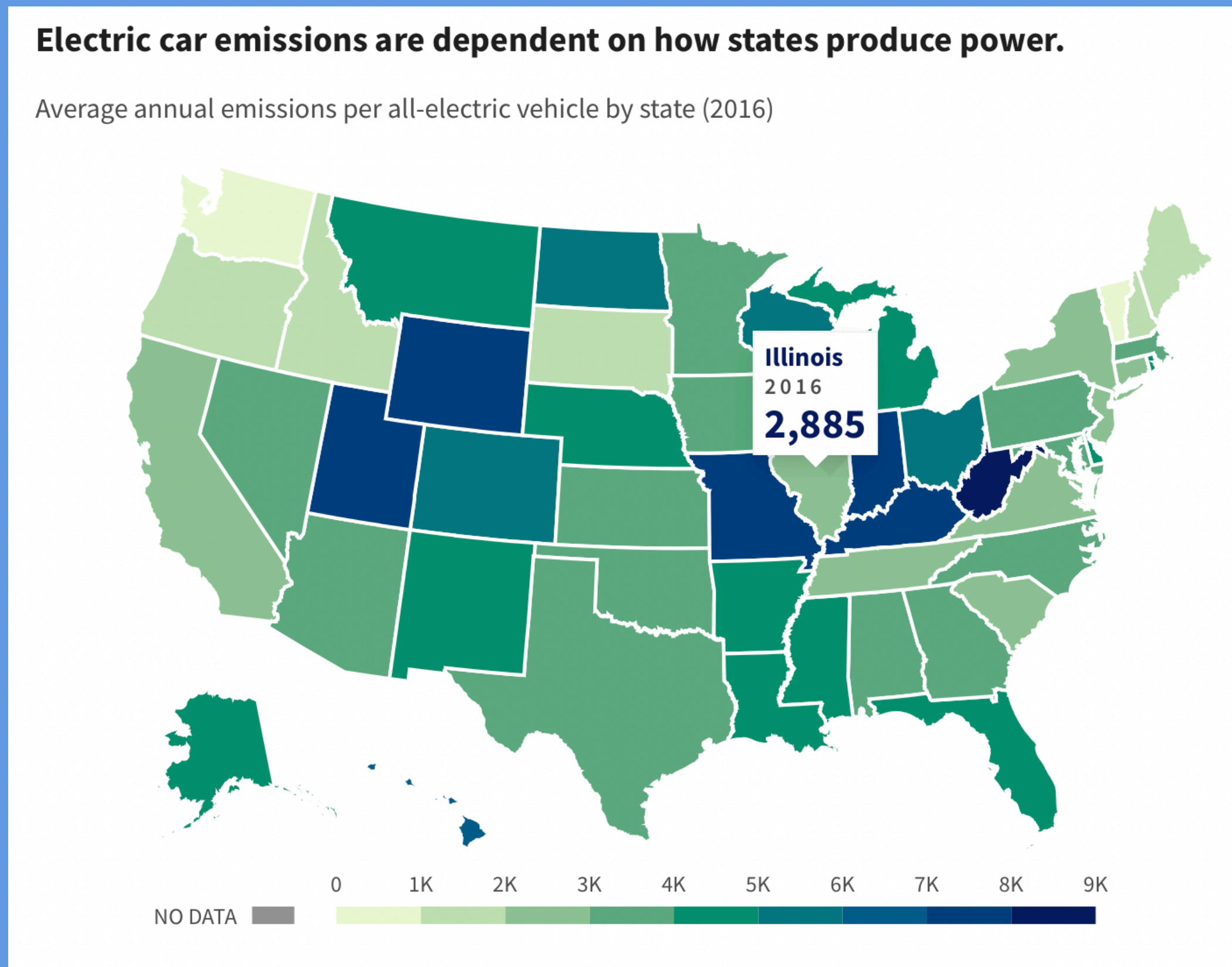
Cara Murez Sep 28, 2022 Updated Sep 28, 2022



Why people love them

Automobile exhaust is still dangerous.

When a weather forecast includes the risk of power outages, warnings go out to not run a gas generator inside the house, but also to have it 20 feet away from the house.



USAFacts

Illinois is 12th cleanest grid for electric cars

A profound change is coming to American school buses

Within a decade, advocates say electric school bus will supplant the old polluting ones

Michael Birnbaum • October 26, 2022 at 6:30 a.m. EDT



Driver John Walters plugs in his bus for recharging in Bethesda, Md. (Bill O'Leary/The Washington Post)

Studies show that students that ride on Diesel Buses have a higher rate of respiratory illnesses