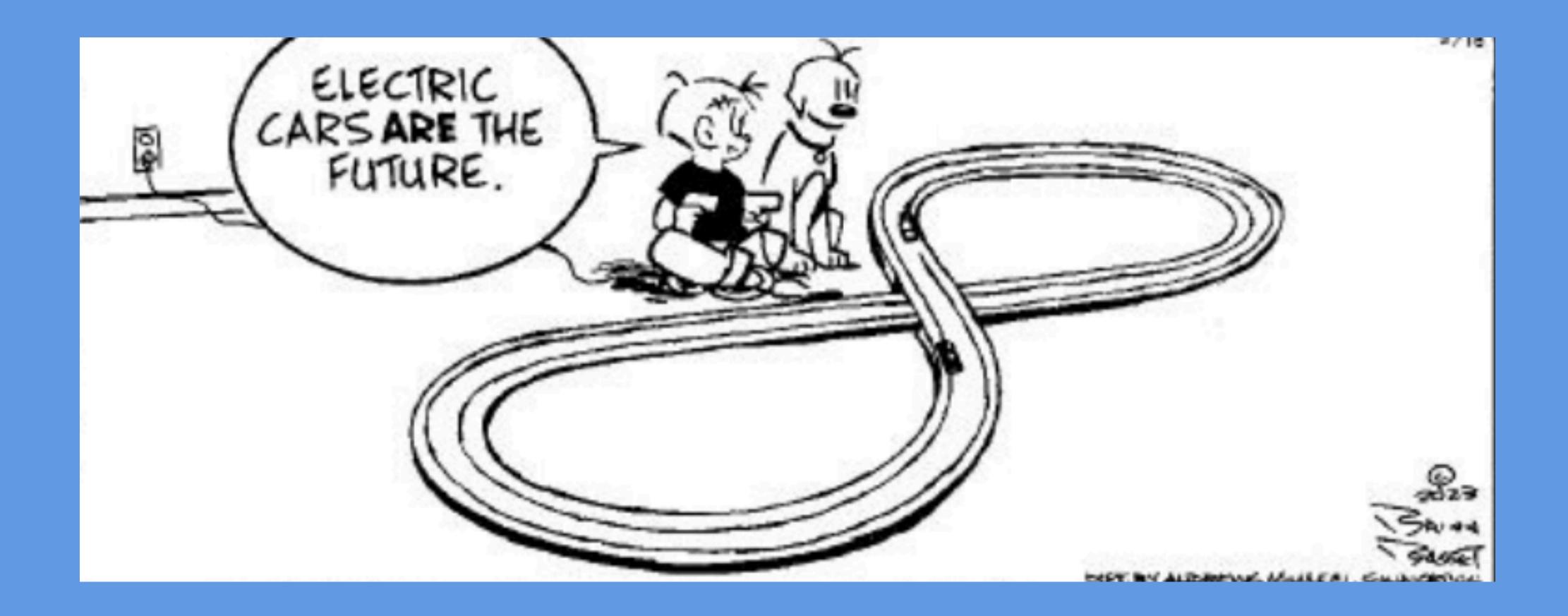
Session 1: Intro



Session 1: Intro

Breaking news



We are beyond *thrilled* with the new IRS guidance that came out last week about how consumers will be able to use the federal tax credit on new and used EVs in 2024. Besides giving buyers access to the tax credit instantly, people who have lower wealth and no tax liability will also be able to benefit from the credit, giving more people access to EVs. We've included more information in this email and on our website about how the credit will work in 2024.

This is sooo - Cool!!

Dealer must be registered with the IRS

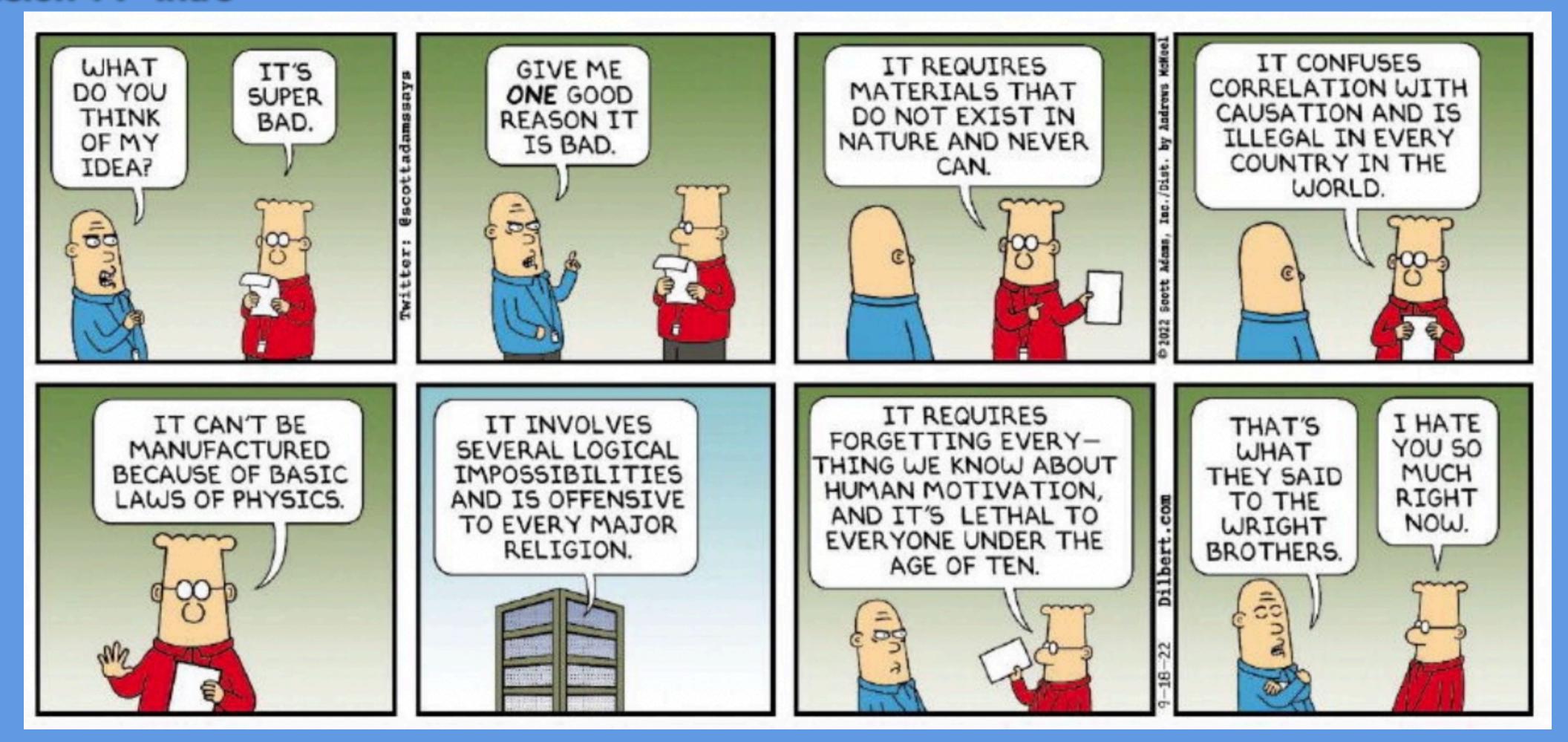
The Treasury says that "eligible consumers may transfer the full value of the new or previously owned vehicle credit regardless of their individual tax liability."

Session 1: Intro

More than 7,000 dealers registered to offer point-of-sale EV tax credits next year

The figure represents about 40% of the nearly 17,000 franchised dealerships selling light-duty vehicles in the U.S., according to 2023 NADA data.

Session 1: Intro



This will (hopefully) be a kinder gentler version of the previous sessions. With the theme - -Don't think like gas!

How I got here

Session 1: Intro



For me it started with a hybrid Subaru. After experience with several Subarus, I bought a 2014 Subaru hybrid, mostly to save some money on gas. I grew to love the electrical advantages of the car. I bought a short range EV in 2020. In December of 2021 I took delivery on my second EV (with longer range).

How I got here

Session 1: Intro



I made mistakes buying each one of them.
But I love them both (and their differences)
I'm keeping both of them.

How I got here

Session 1: Intro



After driving the BMW for a while including a range challenging trip to Bloomington, I realized community differences would have an effect on adopting Electric vehicles.

I wanted to change that and encourage change in the EV landscape and help people realize that going electric was possible and could suit their different needs.

Session 1: Intro

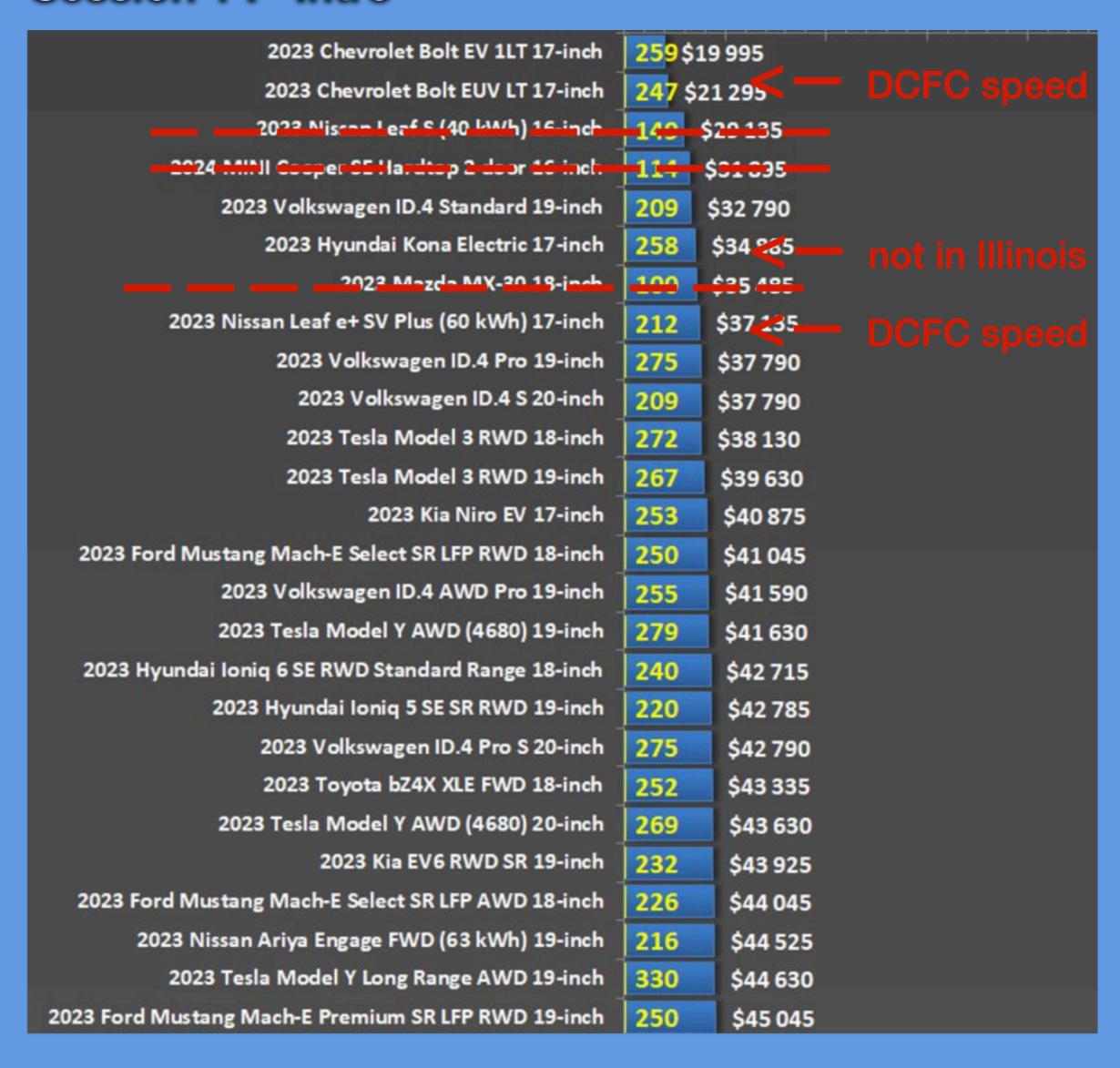
2023 Chevrolet Bolt EV 1LT 17-inch	25 <mark>9</mark> \$19 995
2023 Chevrolet Bolt EUV LT 17-inch	247 \$21 295
2023 Nissan Leaf S (40 kWh) 16-inch	149 \$29 135
2024 MINI Cooper SE Hardtop 2 door 16-inch	114 \$31 895
2023 Volkswagen ID.4 Standard 19-inch	209 \$32 790
2023 Hyundai Kona Electric 17-inch	258 \$34 885
2023 Mazda MX-30 18-inch	100 \$35 485
2023 Nissan Leaf e+ SV Plus (60 kWh) 17-inch	212 \$37 135
2023 Volkswagen ID.4 Pro 19-inch	275 \$37 790
2023 Volkswagen ID.4 S 20-inch	209 \$37 790
2023 Tesla Model 3 RWD 18-inch	272 \$38 130
2023 Tesla Model 3 RWD 19-inch	267 \$39 630
2023 Kia Niro EV 17-inch	253 \$40 875
2023 Ford Mustang Mach-E Select SR LFP RWD 18-inch	250 \$41 045
2023 Volkswagen ID.4 AWD Pro 19-inch	255 \$41 590
2023 Tesla Model Y AWD (4680) 19-inch	279 \$41 630
2023 Hyundai Ioniq 6 SE RWD Standard Range 18-inch	240 \$42 715
2023 Hyundai Ioniq 5 SE SR RWD 19-inch	220 \$42 785
2023 Volkswagen ID.4 Pro S 20-inch	275 \$42 790
2023 Toyota bZ4X XLE FWD 18-inch	252 \$43 335
2023 Tesla Model Y AWD (4680) 20-inch	269 \$43 630
2023 Kia EV6 RWD SR 19-inch	232 \$43 925
2023 Ford Mustang Mach-E Select SR LFP AWD 18-inch	226 \$44 045
2023 Nissan Ariya Engage FWD (63 kWh) 19-inch	216 \$44 525
2023 Tesla Model Y Long Range AWD 19-inch	\$44 630
2023 Ford Mustang Mach-E Premium SR LFP RWD 19-inch	250 \$45 045

I might show apparent bias I like ID.4

Like other items that will pop up through this series. Often it turns out there is a good reason for it.

This is a list of cars by range and price after tax credits.

Session 1: Intro

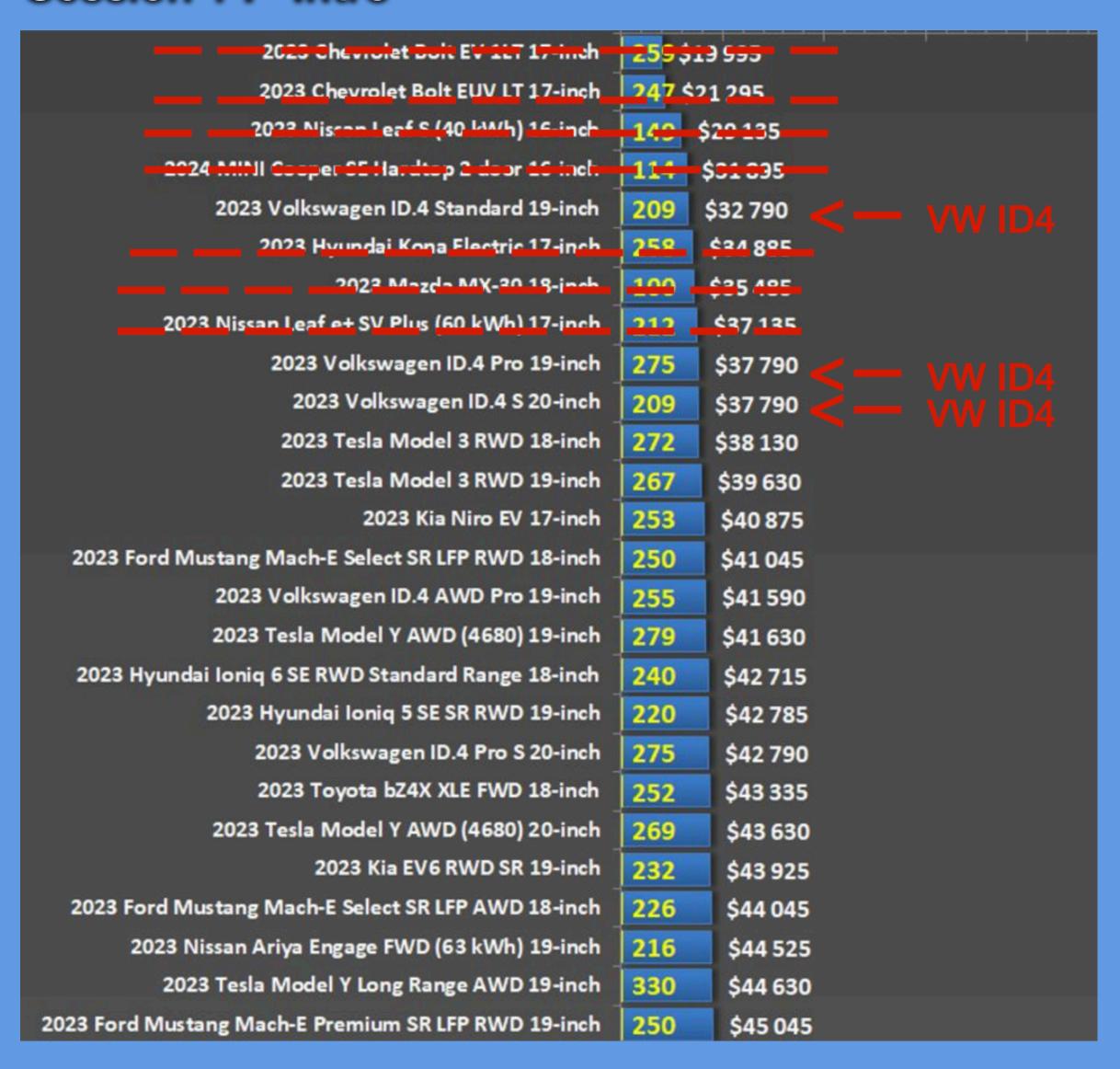


First remove EVs with a very low range

Then EVs with low DCFC charging speed.

And any EVs only available on the coasts.

Session 1: Intro



And viola

The top 3 are three different models of the VW ID4

But ultimately a car is a personal choice, each person should get what suits them.

Session 5: The Market Place

List of 8 Electric Cars to Avoid Buying is Mostly Stupid

Zachary Shahan



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Clean Technica

I had to stick this one in somewhere.

I read so many bad, false, misleading junk - - and some are just stupid. I read the article referenced and this article appeared the next day.

- 1. Mazda MX-30
- 2. Tesla Model X
- 3. Chevrolet Bolt
- 4. Ford Mustang Mach-E
- 5. Nissan LEAF
- 6. Porsche Taycan
- 7. Hyundai Kona Electric
- 8. Ford Focus Electric

The list if you're curious, half are fine - the other half OK

Session 5: The Market Place

Two stories - Same day.

One says EV sales surging - the other EV sales are slumping

The Electric-Vehicle Transition Is Quietly Surging Ahead

Nearly 10 percent of cars sold in 2023 were EVs.

BY RYAN COOPER JANUARY 2, 2024

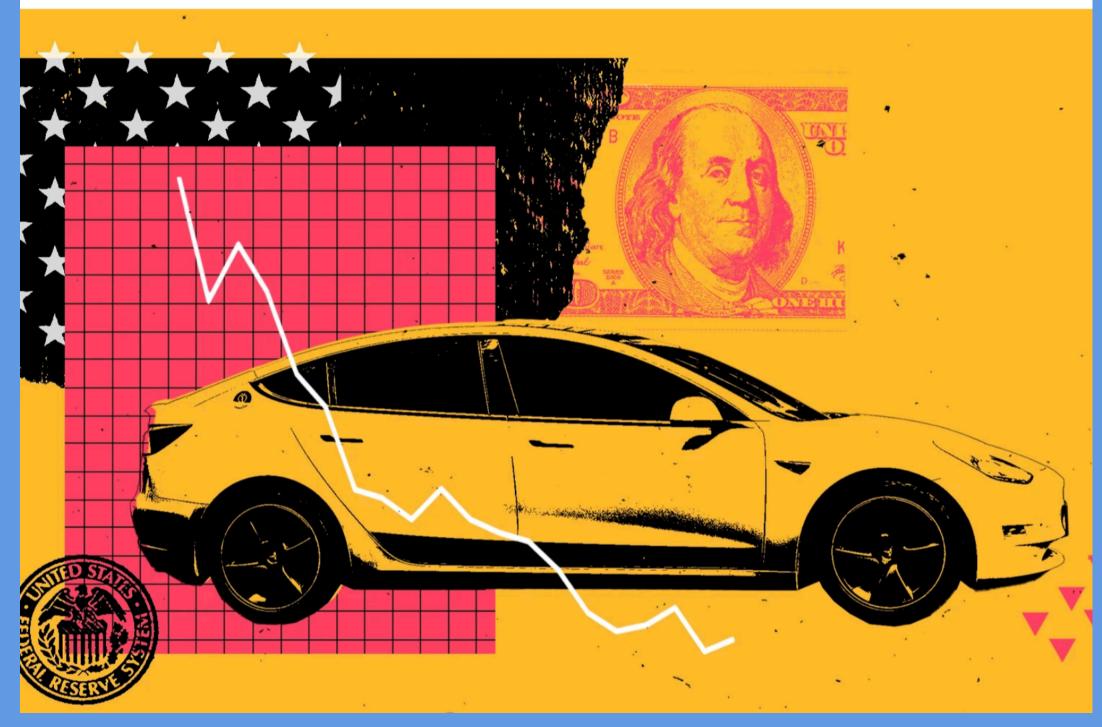




prospect.org

What happened to EVs?

The sudden slowdown in electric car sales is a symptom of a much uglier problem.

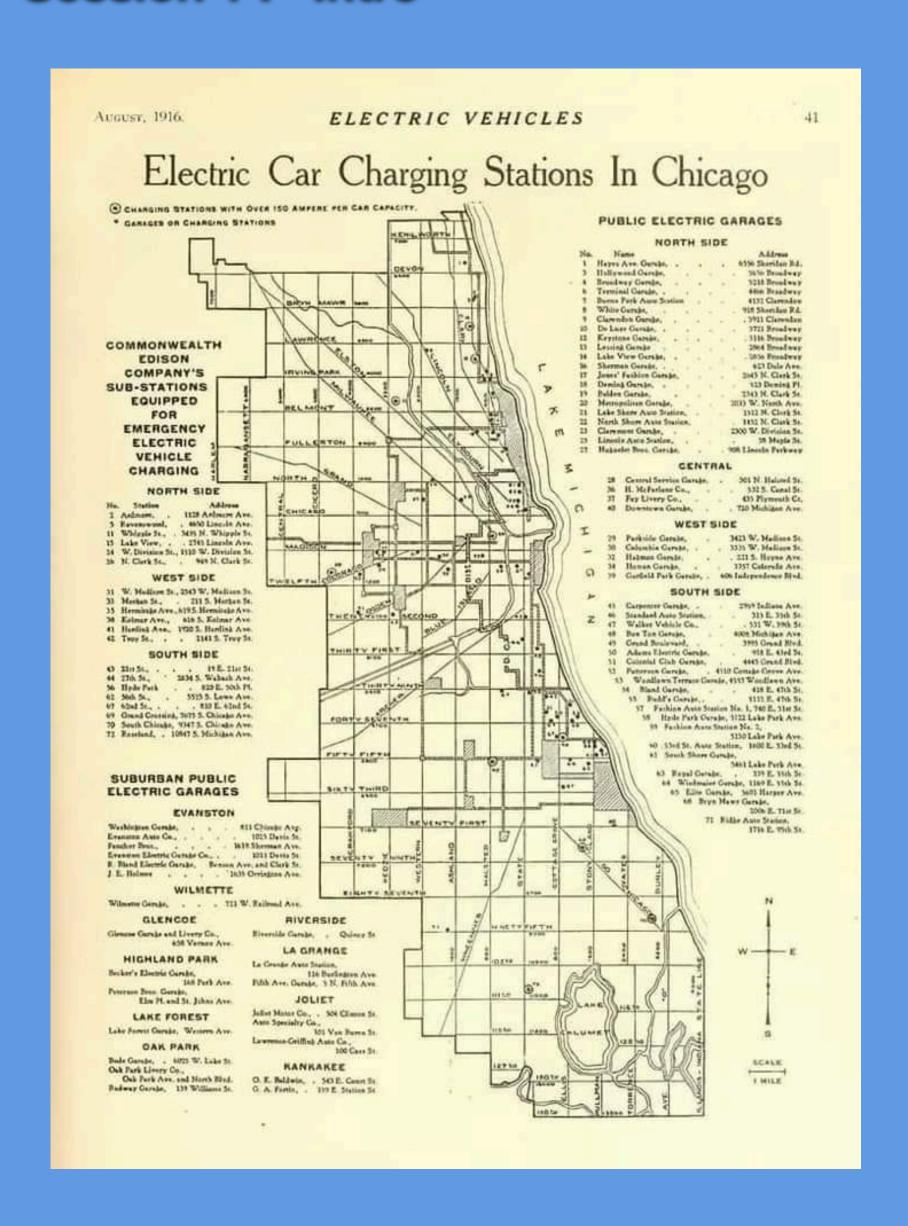


Business Insider

Session 1: Intro

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Upcoming Sessions
                Range Anxiety
3
                 Charging
               Battery Secrets
4
     Marketplace - both silly and serious
5
   Alphabet soup Questions, Credits and Rebates
6
     & things might change a little )
     (it will change a little with questions)
      (I will read the clipboard)
```

Session 1: Intro



The History of Electric Vehicles Is Older Than You Think

Danny Chadwick @jdannychadwick Feb 4, 2023, 9:00 am EST | 6 min read



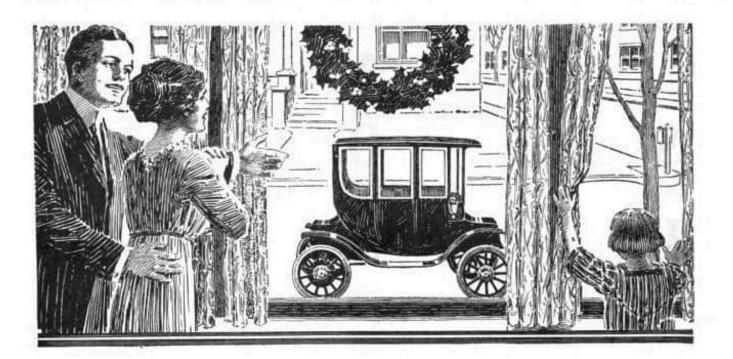
Year and make of this car not mentioned in article

The roots of EVs go back to the early 1800s. With the first electric car dating to about 1830.

August 1916 map of EV chargers

Session 1: Intro

AMERICAN JOURNAL OF SURGERY



Make This the Happiest Christmas -Give Your Wife an Electric

A N Electric for her very own—what more enjoyable surprise could your wife receive on Christmas morning? Every woman longs to own an Electric. Every woman knows the comfort, convenience and heightened social prestige it gives. Why not make this year the *happiest* Christmas?

Your wife would love to drive about in her own Electric-quiet, fashionable, simple and safe. She can pay her social calls; do her shopping; attend the theatre and receptions. You will enjoy the luxury and convenience of it, too, in paying your professional calls.

And Christmas is the season of seasons for an Electric. The cold, biting winds and snow flurries make you feel all the cosier within an Electric. There is such exhilarating pleasure in gliding noiselessly down the boulevard, through the park, threading in and out of congested traffic-quickly, easily, without bother or effort.

Driving an Electric is simplicity itself - no trouble whatever. Any woman-even a child-can operate an Electric efficiently. The first cost of an Electric is decidedly moderate when you consider its lasting, satisfactory service. Maintenance expense and cost of power is far lower than that for other types of cars.

Interesting literature about the Electric Vehicle sent gladly. Write today

Before you buy any car-consider the Electric



ELECTRIC VEHICLE ASSOCIATION OF AMERICA

NEW YORK, 124 W. 42nd St.

Please mention the American Journal of Surgery when writing advertisers.

The roots of EVs go back to the early 1800s. With the first electric car dating to about 1830.

1912 magazine ad

Session 1: Intro

Upcoming Theme?

Getting into an EV and driving it? Piece of cake.

Doing everything that just comes naturally with an ICE vehicle - there will be some speed bumps.

People in the 1920s who switched from EV to ICE had to give up on some EV advantages and learn the new car.

Its time to go back. Give up on gasoline thinking and let the EV run loose.

Session 1: Intro

Charge door is in terrible spot.

Terrible range in the cold.

Constant electrical draw keeping batteries warm.

Terrible interface.

Climate control (pre warming) would work when it wanted to.

Liftgate would drip water/road scum on you.

Can't lift up wipers to scrape the snow/ice off windshield b/c they tuck under the hood for aero.

Charge door wouldn't close due to snow/ice.

Range guessometer... oy.

If you have a bikerack on the hitch, expect sudden/harsh breaking as it thinks you are going to crash into something.

Charge network *sucks*. Chargers down, chargers slow, on tech support to deal with chargers? No thanks....

Sold our ID.4 after less than 2k miles

<u>id4gone</u>



Session 1: Intro

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Some of these items have nothing to do with electric. Some are easily learned adaptations.

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<u>id4gone</u>



Session 1: Intro

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Charge network *sucks*. Chargers down, chargers slow, on tech support to deal with chargers? No thanks....

Some of these items are covered in the owners manual.

Sold our ID.4 after less than 2k miles

<u>id4gone</u>



Session 1: Intro

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If you have a bikerack on the hitch, expect sudden/harsh breaking as it thinks you are going to crash into something. — — — — — —

Charge network sucks. Chargers down, chargers slow, on tech support to deal with chargers? No thanks....

Yep the range thing - and I will show how to get around that next week.

Sold our ID.4 after less than 2k miles

<u>id4gone</u>



Session 1: Intro





The only one that they currently plan to make. That's one vehicle - not one model



BMW i3

I have a BMW i3 (2017)
The Mini-Cooper is built on the same platform.

All cars are basically the same

Session 1: Intro

This is the VW MEB
Platform
All EVs are built on a similar platform and somehow manage to make very different cars.



Session 1: Intro



And sometimes its the exact same platform - all of these are on the VW MEB platform



VW ID.4

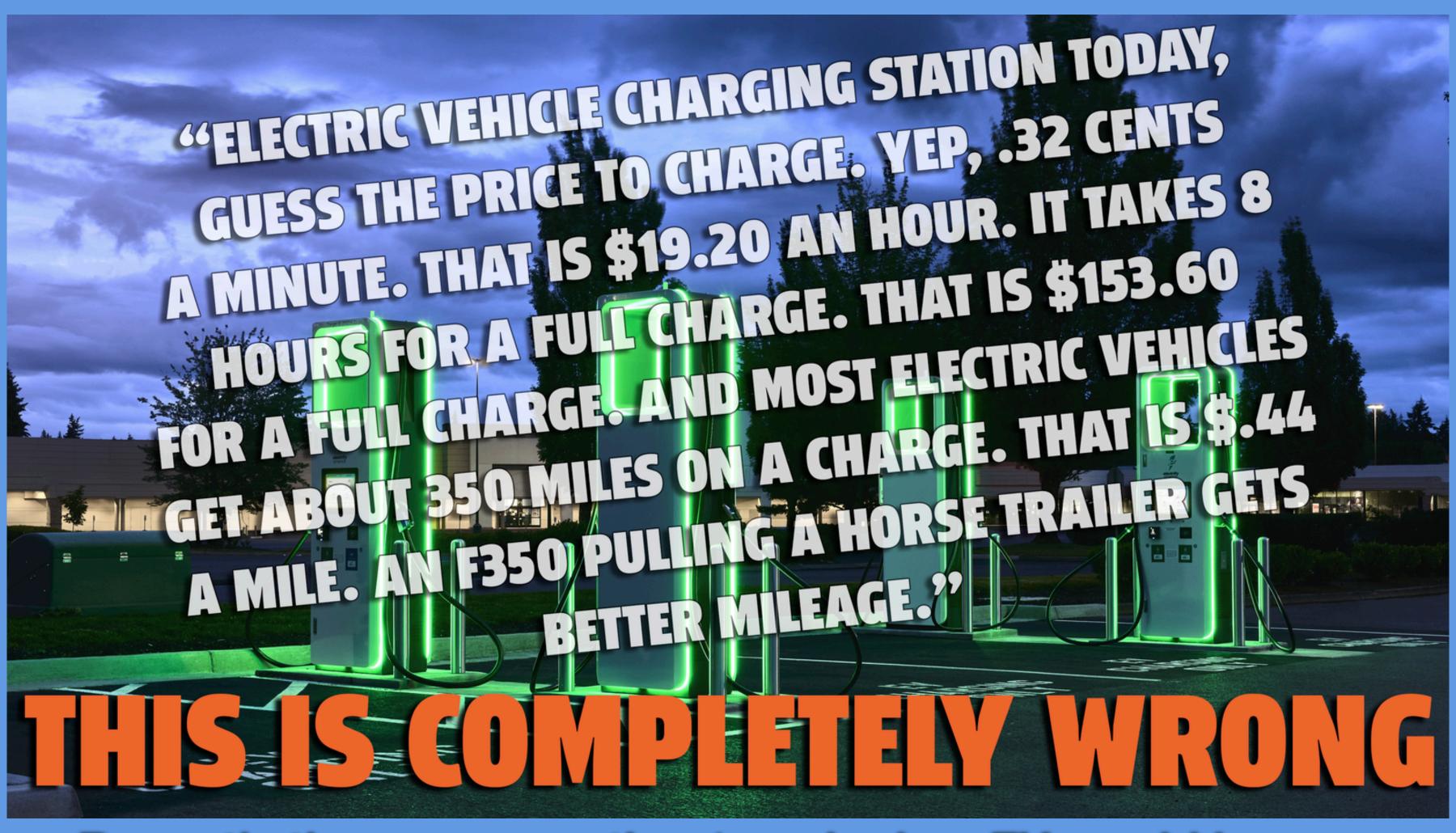
Audi Q4 e-tron



European Ford
Explorer
And another
European Ford
is coming.

A few myths

Session 1: Intro



Recently there was another 'proving' an EV would be the same as \$17 a gallon without subsidies.

A few myths

Session 1: Intro

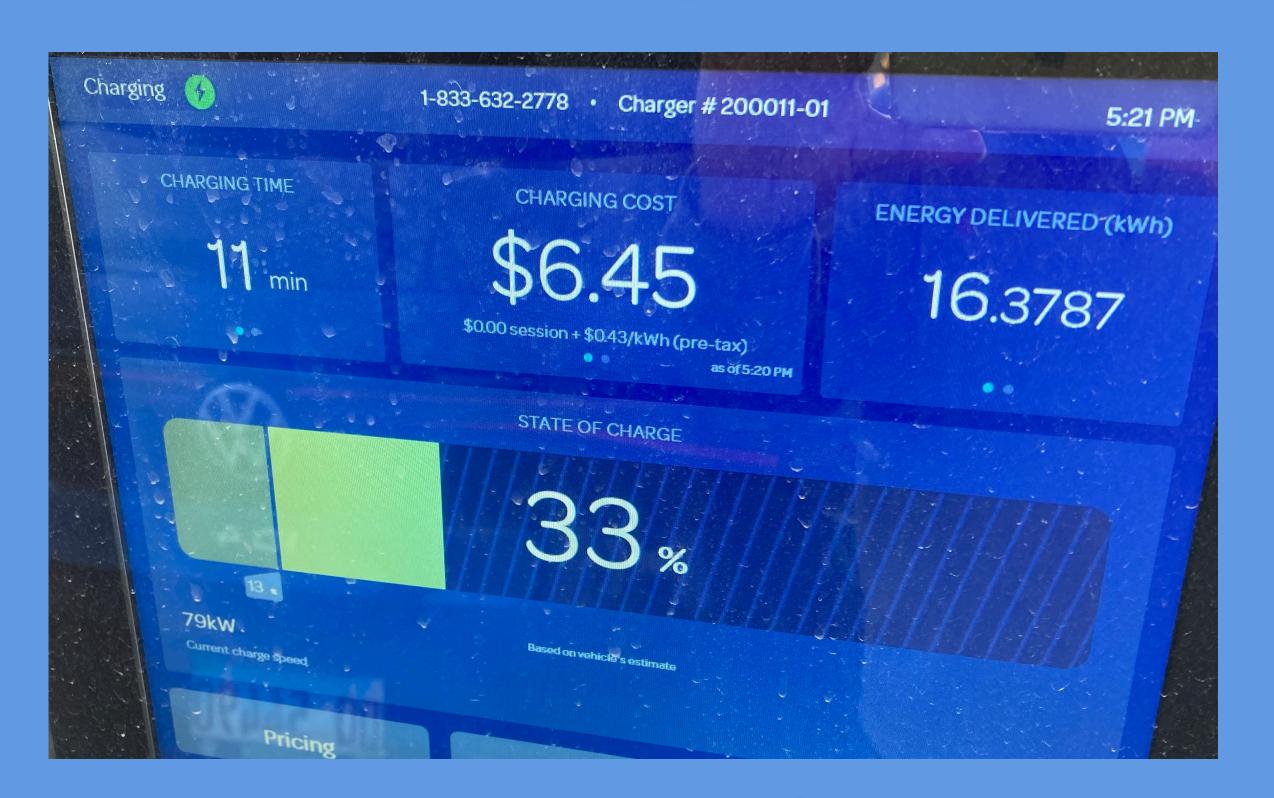
6.6 kW AC
Charging duration:
May 17, 2022, 9:46 AM 10:31 AM

Energy
4.5323 kWh @ 1.13
\$0.25/kWh
9:46:33 AM - 10:31:51
AM

Total \$1.13

ChargePoint Equals about \$.08/mile

At Home I get about \$.03/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.

Session 1: Intro

Study: Electric Vehicles Involved in Fewest Car Fires

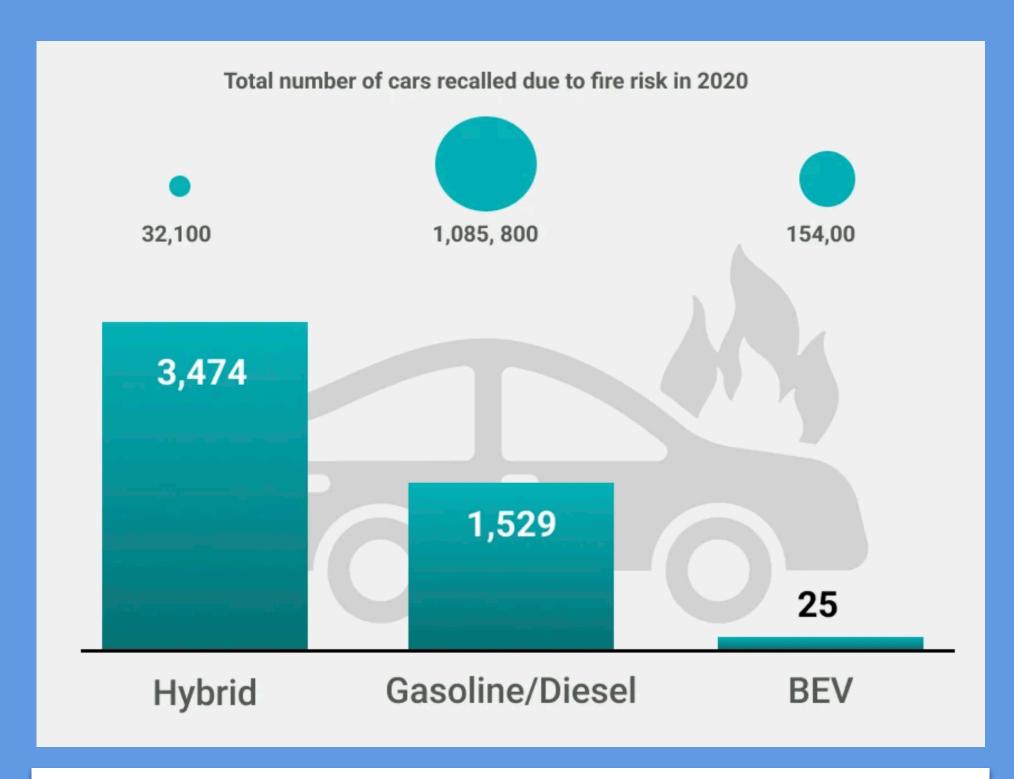
01/28/2022 9:28am



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.

Kelley Blue Book

A few myths



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.

Session 1: Intro

2023 Nissan Ariya Lease Prices Drop As Low As \$199 A Month

The offer is available in select East Coast cities, but the inventory is limited so you should hurry up if you're interested.



A few myths
EVs are expensive.

2023 Nissan Leaf S starts at
MSRP \$28,040

Minus the Federal Tax credit - \$7500.
(Oops rule change)
(Also, IL rebate \$4000 -now gone)
(Maybe)

So the Leaf is \$28,040 (NEW)

Chevy Bolt 1LT \$26,500
This price becomes \$19,000 after fed credit

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

InsideEVs

A lot of things are effecting the EV market (currently a roller coaster). But EV prices will lower in the future.

Session 1: Intro

Electric car price war is coming, says Ford CEO

Fred Lambert



Ford CEO Jim Farley believes that the electric car market is going to soon enter a price war with upcoming \$25,000 models. He added, electric vehicles will be sold 100% online and have nonnegotiable price.

A few myths
EVs are expensive.

Lower priced EVs are out there - just not currently in the US.

Looking Into Electric Cars A few myths

Session 1: Intro



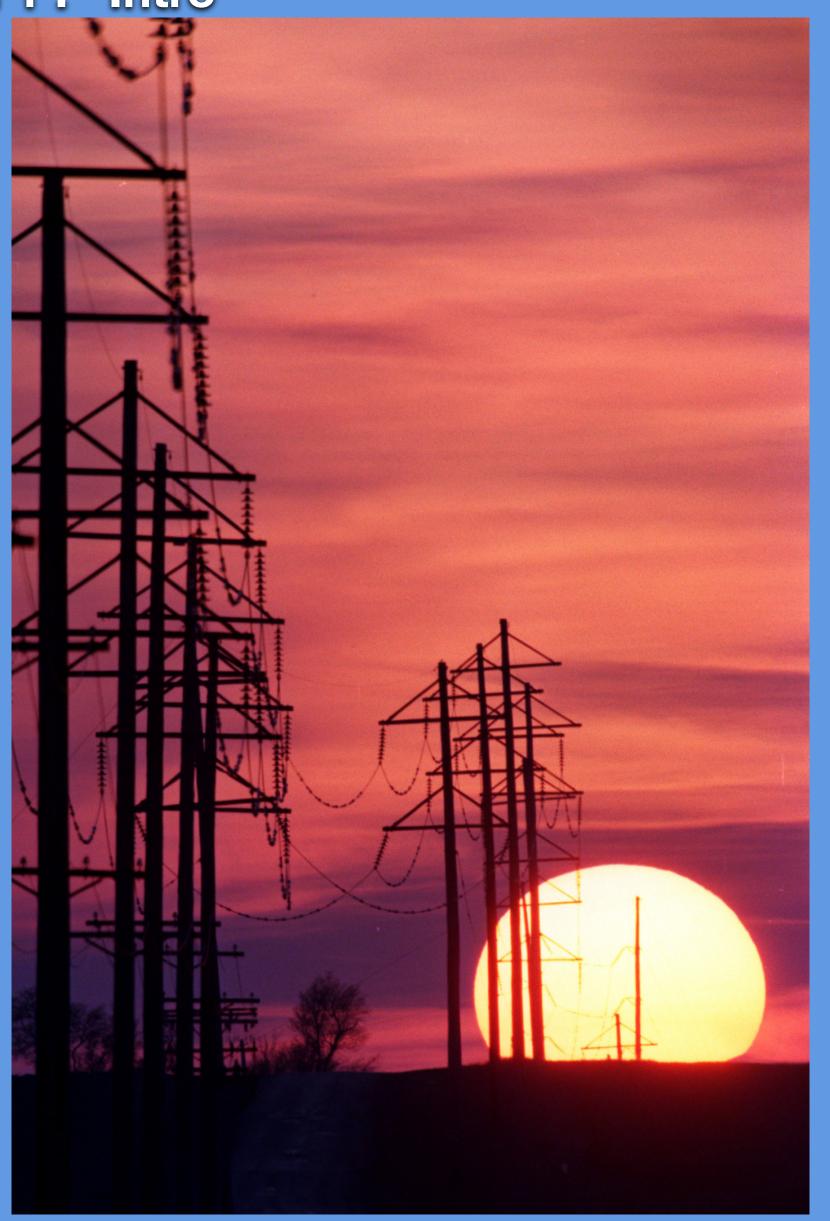
The grid can't handle the load of EV charging.

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

Now with V2X EVs actually help the grid.

Looking Into Electric Cars A few myths

Session 1: Intro



The companies that build and operate the grid want the business. They are building to supply the "electrify everything" movement. I get a time of day discount when I charge at night.

Looking Into Electric Cars A few myths

Session 1: Intro

"The long tail pipe" -EVs powered by coal plants

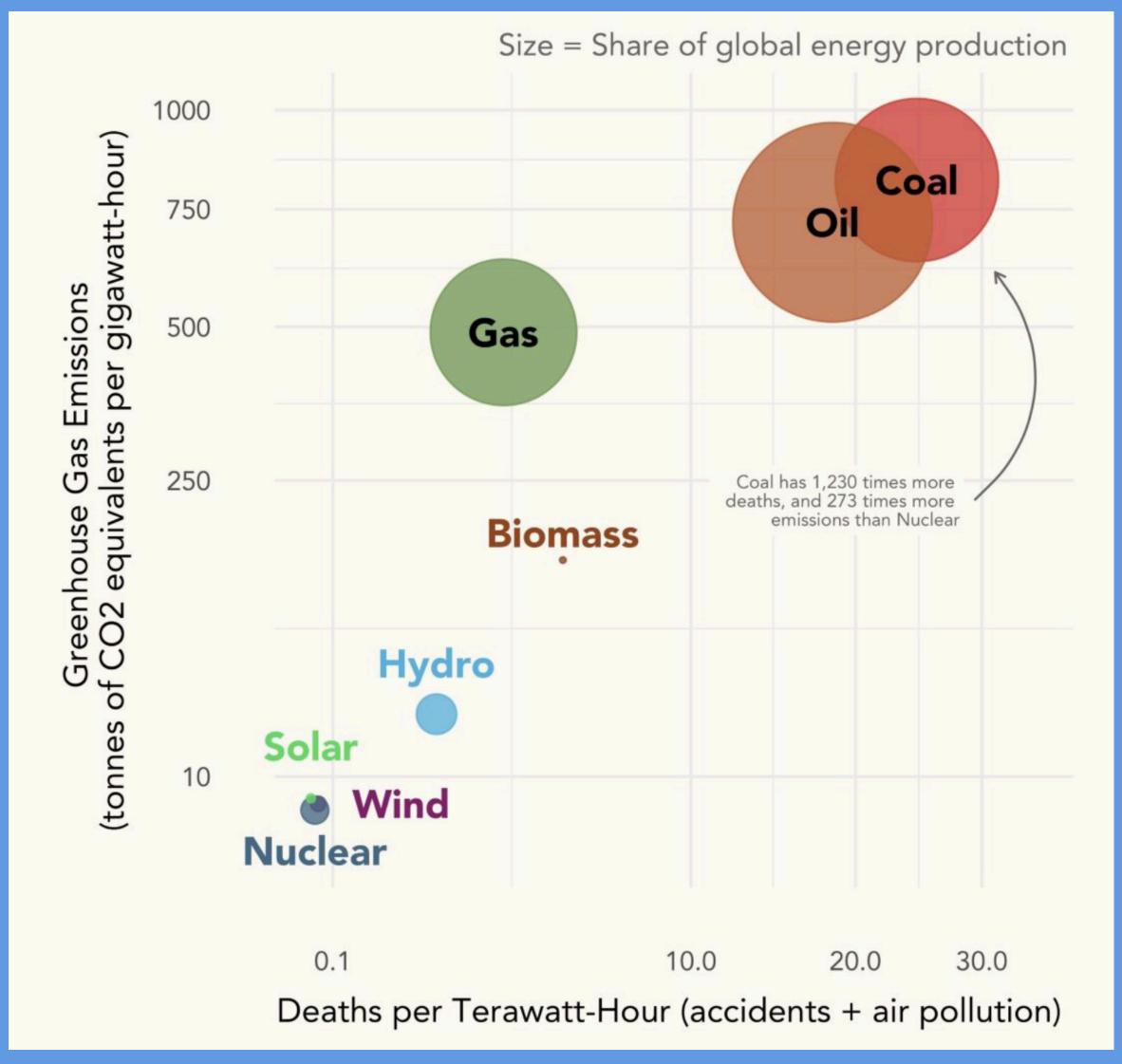
7. Electric vehicles are worse for the environment. EVs are fundamentally more efficient than gas-powered vehicles. While a gas engine only converts around 20% of gasoline's stored energy to power at the wheels, an EV motor converts about 60% to 77% of the energy from the battery. This means that even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

Session 1: Intro



Visual Capitalist

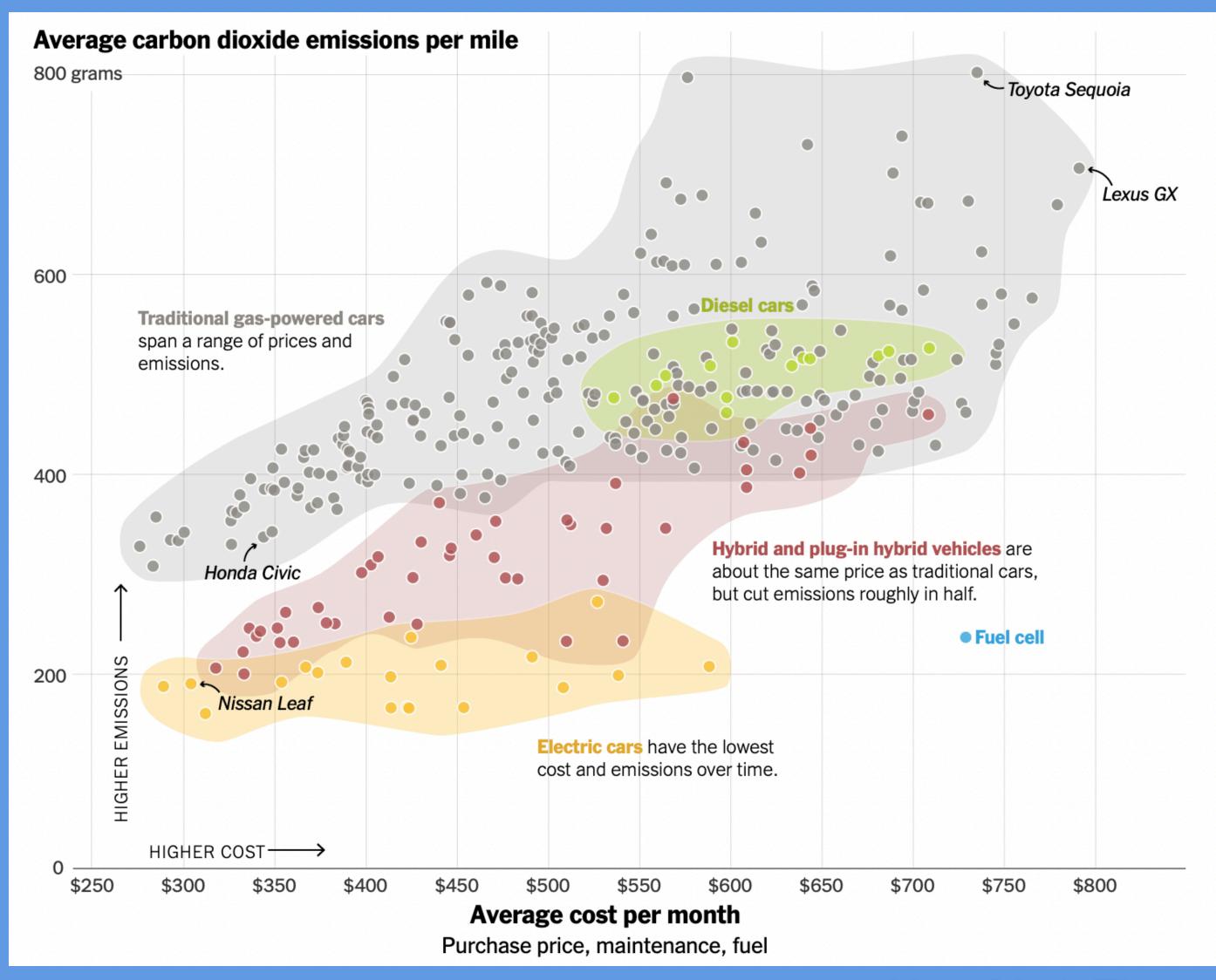
A few myths

Pollution and deaths by various energy sources

But wait - there's More.

A few myths

Session 1: Intro

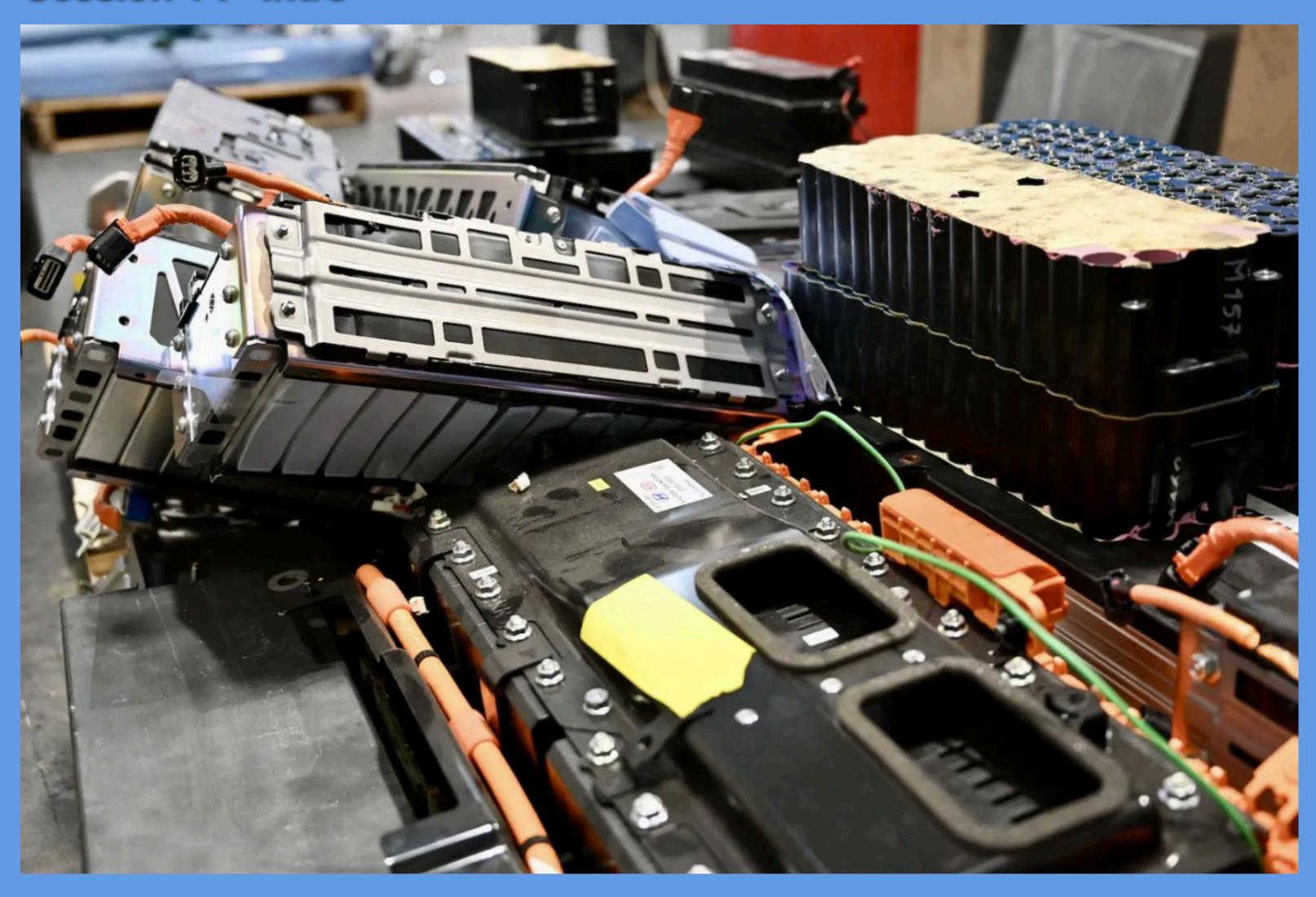


Cost is one reason to like EVs.

New York Times

A few myths

Session 1: Intro



The minerals in the batteries are too valuable to throw away and will be recycled.

A few myths

Session 1: Intro

GMC Hummer EV Pollutes As Much As Small Gasoline-Powered Cars, Says Study

Rhian Hunt • — Mar 9, 2023



GMAuthority

And some are just a little misleading

An apple to oranges comparison that sounds OK . . . until you think about it.

A few myths

Session 1: Intro



A GMC Hummer EV weighs more than 9,000 pounds, Jennifer Homendy said, with a battery that weighs more than 2,900 pounds. The battery alone is around the weight of a Honda Civic.

Tribune

Opinion

A waste of a good battery - if split up it could power 3 nice cars. Equal to 3 VW ID.4 batteries.

Why people love them

Session 1: Intro

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

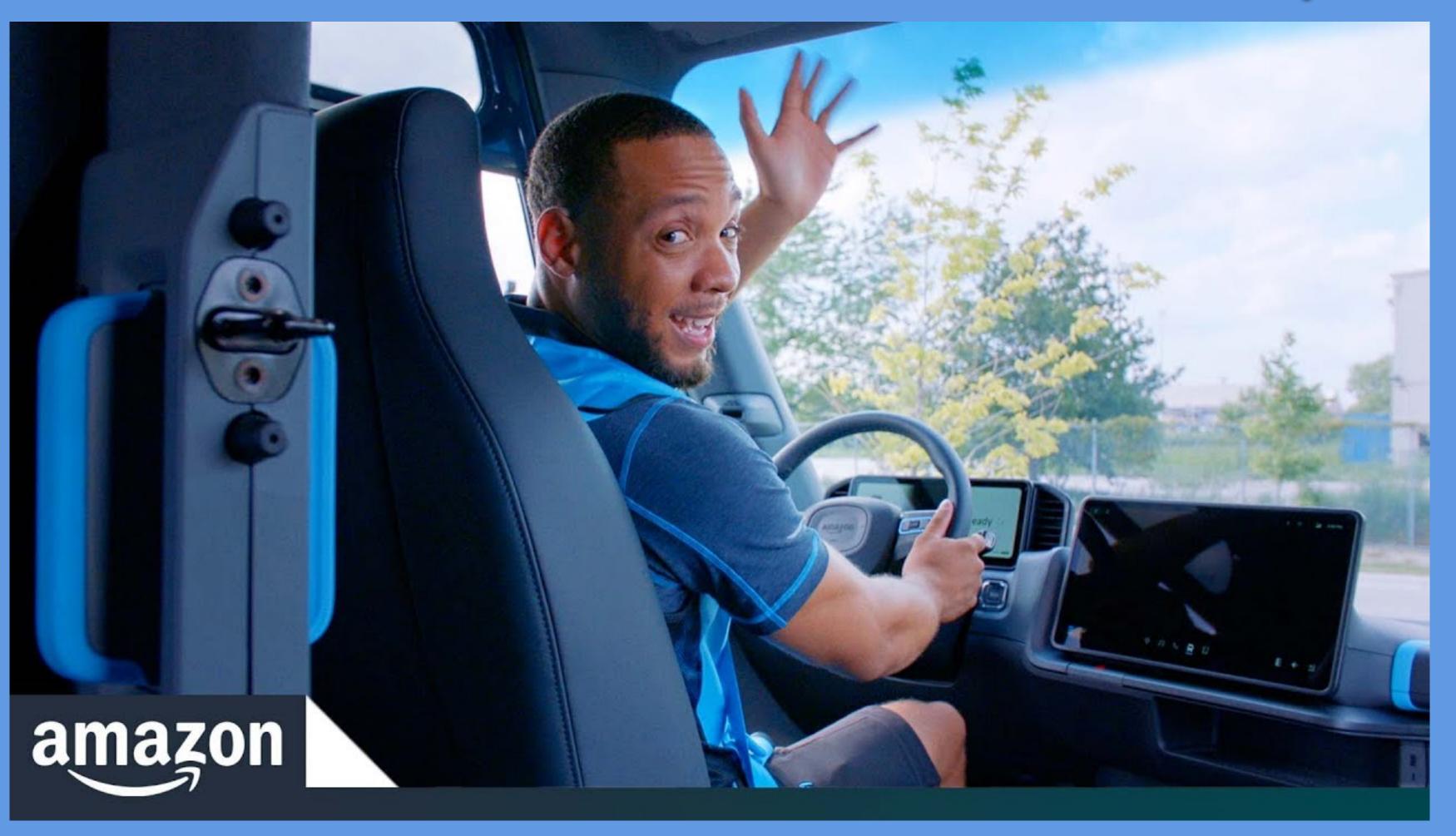
Most of the EV videos ramble on more than I do.
So many of them talk and talk. After 30 minutes to an hour, you realize they said very little.

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.

Looking Into Electric Cars Why people love them

Session 1: Intro

Amazon Loves Their Rivian Delivery Vans (Update EV vans have now delivered over 75 million packages)



Why people love them

Session 1: Intro



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. MPGe is based on the energy of a gallon of gas

Session 1: Intro

Amazon doubles its fleet of Rivian electric delivery vans to 10K

Jennifer Mossalgue



Why people love them



And I saw one in Bradley

Why people love them

Session 1: Intro



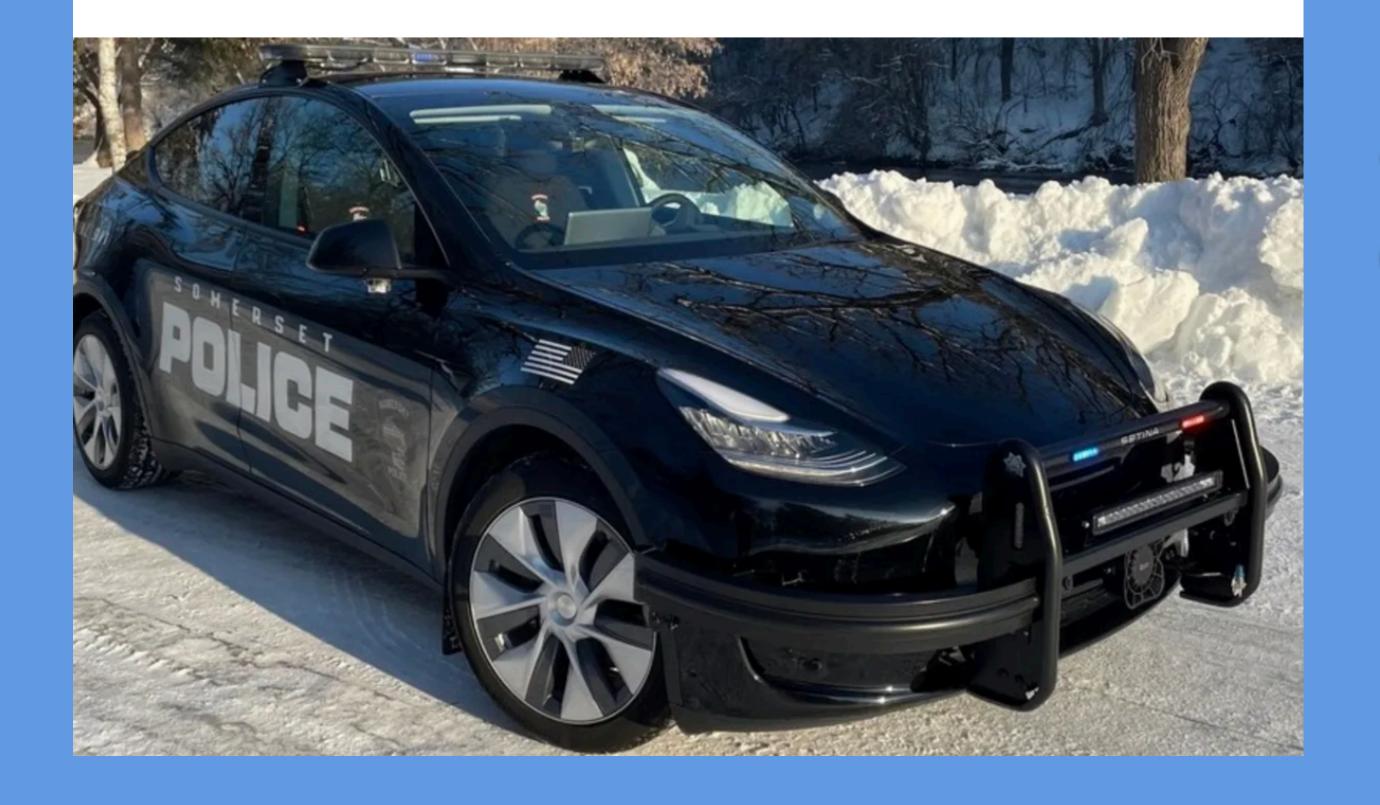
The PO has accepted the money to go EV, but is frequently changing what percentage that is .

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 when electrified.

Session 1: Intro

Police chief explains how Tesla Model Y patrol car will save them \$80,000

Fred Lambert



Why people love them

Police cars like "last mile" delivery vehicles spend long hours in service. The long hours and miles generate large fuel savings. And large savings on maintenance costs and less downtime. Some hybrids are not available as entireproduction is presold to for Police cars.

[UPDATE] Ford Kills Explorer Hybrid So It Can Keep Selling Hybrid Interceptor to Police

Why people love them

Session 1: Intro

"Given that driving an electric vehicle saves the average driver about \$20,000-\$30,000 over 15 years in fuel cost savings alone, I think the only thing holding back consumer demand is a lack of information about this," he said.

WashingtonPost

Mark Z. Jacobson, renewable energy expert and engineering professor at Stanford

Why people love them

Session 1: Intro

"They're unbelievably fast. They're unbelievably quiet. They're just effortless in terms of how they drive," he says.

Consumer Reports on NPR

Why people love them

Session 1: Intro

EVs are better cars than gas

too quiet - Kinda bad - can scare people

too quick - Kinda bad - speed is tempting

Why people love them

Session 1: Intro

Cost of energy - very low especially in town

Cost of maintenance - very low most items are per time interval not mileage. Things like cabin air filter and tire rotation.

Why people love them

Session 1: Intro

It drives better

Always nice and smooth

I like driving mine more than the Mercedes roadster convertible I used to have.

(But sometimes I miss the top down part.)

Love Hate <=> One Pedal Driving

Why people love them

Session 1: Intro

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.

Session 1: Intro

Experts Issue Warning About Carbon

Monoxide Dangers Ahead of Hurricane Ian

Cara Murez Sep 28, 2022 Updated Sep 28, 2022 🔍



Why people love them

All combustion engine exhaust is still dangerous.

Session 1: Intro

40% of US electricity is now emissionsfree

Good news as natural gas, coal, and solar see the biggest changes.

John Timmer - 12/28/2023, 1:12 PM

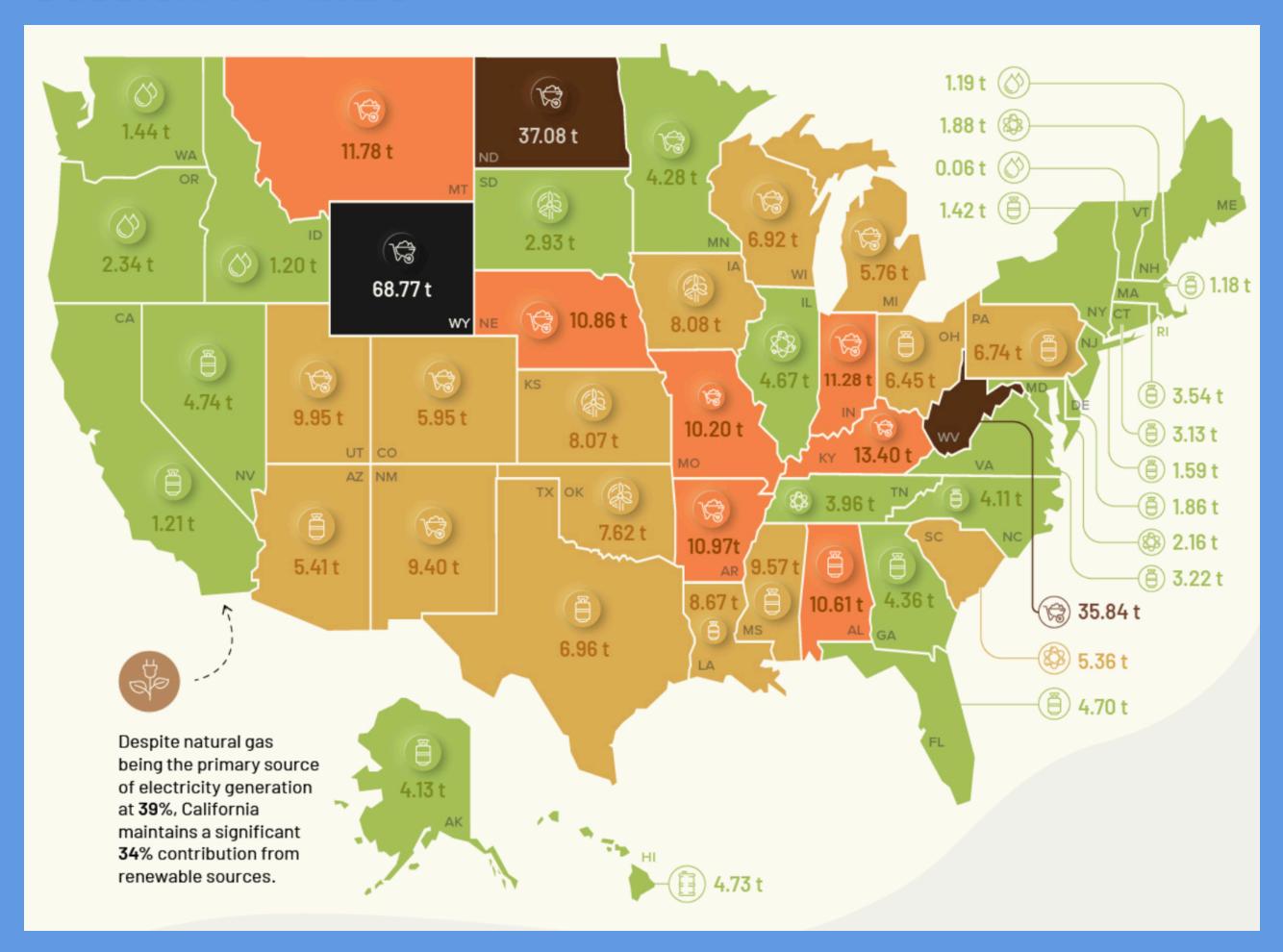


Arstechnica

Why people love them

Source of power for an EV gets cleaner every year.

Session 1: Intro



VisualCapitalist

Why people love them

Illinois is very good for a clean grid for electric cars

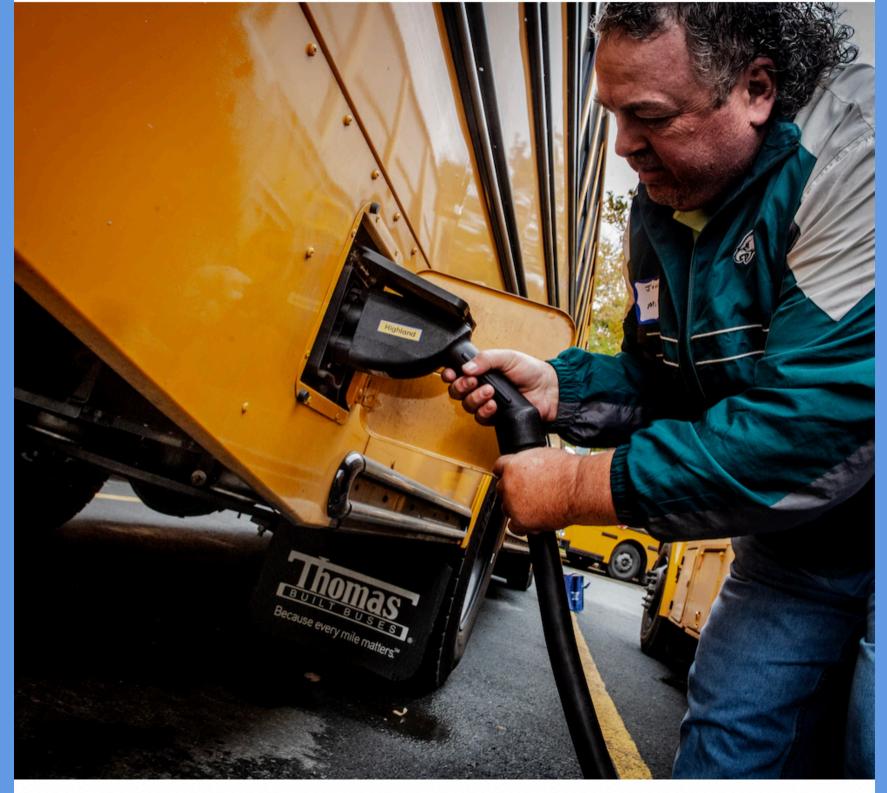
Why people love them

Session 1: Intro

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 including asthma.

Session 1: Intro

Electric cars may reduce severe asthma attacks, improve lung health: study

Brooke Kato



They discovered that for every 20 electrical vehicles per 1,000 people, there was a 3.2% decrease in annual emergency room visits due to asthma-related incidents.

Keck School of Medicine at USC

Session 1: Intro

The End

Session 1: Intro

The End