EDF
ENVIRONMENTAL DEFENSE FUND®
Finding the ways that work

ERM

APRIL 2023

Electric Vehicle Market Update

Manufacturer & Commercial Fleet Electrification Commitments Supporting Electric Mobility in the United States

Contents

Glossary

ACC: Advanced Clean Cars regulation

ACT: Advanced Clean Trucks regulation

ACF: Advanced Clean Fleets regulation

AFDC: Alternative Fuels Data Center

BEV: Battery electric vehicle

CARB: California Air Resources Board

CO_2: Carbon dioxide

COP: Conference of the Parties

DCFC: Direct current fast charging

DOE: Department of Energy

DOT: Department of Transportation

DPA: Defense Production Act

EPA: Environmental Protection Agency

EV: Electric vehicle

EVSE: Electric Vehicle Supply Equipment

FTA: Federal Transit Administration

FY: Fiscal Year

GHG: Greenhouse gas

ICE: Internal combustion engine

IIJA: Infrastructure Investment and Jobs Act

IRA: Inflation Reduction Act

kWh: Kilowatt hour

L2: Level 2 charging

LD ZEV MOU: Light-duty zero-emission vehicle memorandum of understanding

LEV: Low-emission vehicle

LDV: Light-duty vehicle

M/HD: Medium- and heavy-duty (vehicle)

MOU: Memorandum of Understanding

MSRP: Manufacturer's suggested retail price

MY: Model year

NACFE: North American Council for Freight Efficiency

NESCAUM: Northeast States for Coordinated Air Use Management

NOx: Nitrogen oxides

NREL: National Renewable Energy Laboratory

PHEV: Plug-in hybrid electric vehicle

SSB: Solid-state battery

SUV: Sport utility vehicle

TCD: Total Cost of Driving

TCI: Transportation and Climate Initiative

TCO: Total Cost of Ownership

US FHWA: United States Federal Highway Administration

ZET: Zero Emission Truck

ZEV: Zero-emission vehicle

Electric Vehicle Market Update

Lead Authors: Rachel MacIntosh, Harrison Branner, Kayla Escobar, and Sophie Tolomiczenko

The authors wish to acknowledge Dana Lowell and Alissa Huntington, and Grace Van Horn, formerly of M. J. Bradley & Associates and ERM, for their authorship of previous iterations of this report.

This paper summarizes the current status, and projected growth, of the U.S. electric vehicle (EV) industry over the next five to ten years. Key topics addressed include auto manufacturer commitments in light-, medium-, and heavy-duty EV development, announced new EV models, and commercial fleet electrification commitments.

This report was developed by ERM for the Environmental Defense Fund (EDF).

For questions or comments, please contact:

Dave Seamonds
Principal Consultant
ERM
dave.seamonds@erm.com

This report is available at www.erm.com.

Notable Updates

Electric vehicle (EV) market sales and model availability continue to rise:

- By the end of 2022, over 10.3 million light-duty EVs were sold worldwide making every one in seven light-duty vehicles sold an EV.
- In the United States, more than 800,000 light-duty EVs were purchased in 2022, a 65 percent increase from 2021. The first quarter of 2023 saw EV sales reach over 258,000 units, almost a 45 percent year over year increase.
- The number of light-duty electrified models available in the U.S. is projected to reach 197 by the end of 2025, up five percent from the previous EV Market Report's projection.
- Global model availability for medium- and heavy-duty EVs rose from 609 models to 808 models available for purchase, between 2021 until the end of 2022. Additionally, CALSTART estimates that the United States and Canada will experience steady growth from 166 models to 213 models available for purchase, between 2021 and 2023.

Auto manufacturers are continually expanding EV sales targets and climate commitments:

- **Honda** announced its goal of achieving carbon neutrality by 2050. The automaker recently announced the creation of a new operational division that would strengthen its electrification business and became effective April 1, 2023. Honda also announced several partnerships, including a collaboration with General Motors (GM) to co-develop EVs worldwide starting in 2027, and a partnership with Sony to produce battery electric vehicles (BEVs) in North America under the brand Afeela in 2025.
- **Mitsubishi** announced that it expects 100 percent of its global sales to come from EVs by 2035 and will be releasing four new EVs in the same timeframe. Mitsubishi stated that one of the EVs to be released by 2035 will come from its alliance with Nissan and another from its alliance with Renault.
- **Stellantis**' Jeep brand announced plans to release four new EV models in North America and Europe by the end of 2025, with production for one of the models expected to begin in 2024. By 2024, Stellantis' Dodge and Ram brands are expecting to release several new EV models, including the launch of an electric Ram pickup truck.

Demand from Medium- and Heavy-Duty (M/HD) fleet operators for EVs has grown tremendously:

- **USPS** announced that it will purchase an additional 9,250 Ford E-Transit electric delivery vans.
- **Pride Group**, the second largest refuse fleet in the U.S., ordered 200 Freightliner eCascadia Class 8 electric trucks and 50 Freightliner eM2 Class 6-7 electric trucks starting in mid-2023, with the intention of switching its local delivery fleet to 100 percent EVs within the next one to two years.

EV Sales, Model Availability & Manufacturer Commitments

In 2022, worldwide light-duty EV sales reached 10.3 million vehicles based on an analysis by Bloomberg.[1] According to Bloomberg's 2022 Long-Term Electric Vehicle Outlook, global light-duty EV sales are set to grow rapidly in the next few years, rising to 21 million in 2025;[2] and according to an S&P Global Platts' report, global light-duty EV sales are projected to reach 26.8 million in 2030.[3] Additionally, Bloomberg estimates that global on-road light-duty EVs are expected to hit 77 million by 2025 and 229 million by 2030.[4] By the end of 2023, Bloomberg estimates that there should be about 40 million EVs on the road globally, corresponding to roughly three percent of the global vehicle fleet.[5]

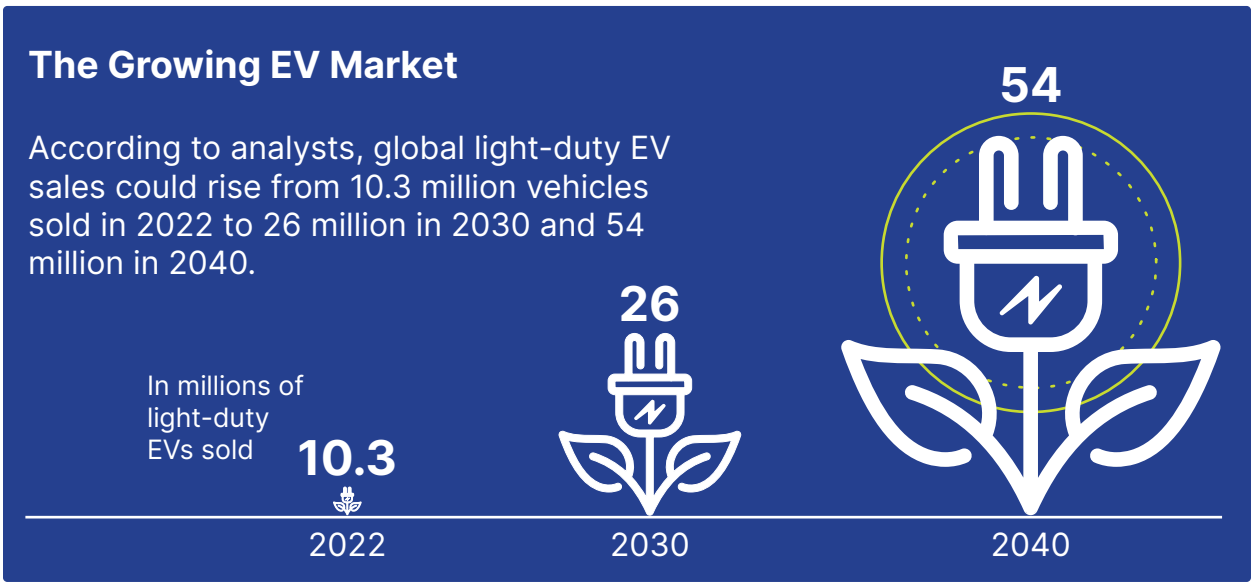
In the medium- and heavy-duty (M/HD) market, global M/HD EVs doubled over 2020 volumes with 14,200 units sold, representing 0.3 percent of all global M/HD vehicle sales in 2021.[6] Although IEA has not released its Global EV Outlook for 2022, it is expected that global M/HD EV volumes and sales further increased in 2022. A study from the North American Council for Freight Efficiency and RMI shows that more than half of the U.S.'s commercial M/HD vehicles and all vans and step vans are immediately electrifiable.[7] This study conservatively estimates that full electrification of the 4.2 million active Class 3-6 vans and steps vans in North America could reduce more than 43 million metric tons of CO_2e emissions annually, the equivalent of nearly five billion gallons of diesel a year.[8]

Light-Duty EV Model Availability

The United States auto industry saw an overall decrease in total new vehicles sold in 2022, but EVs sold continued in an upward trend. In the U.S., more than 800,000 light-duty EVs were purchased in 2022, a 65 percent increase from 2021.[9] Cox Automotive predicts that 2023 will be the first year that the U.S. light-duty market reaches one million EV sales.[10]

In 2022, EV market share was just below six percent at 5.8 percent, up from the 3.2 percent market share seen in 2021.[11] The first quarter of 2023 saw EV sales reach over 258,000 units, almost a 45 percent year over year increase, which accounted for 7.2 percent of all new-vehicle sales in the quarter.[12,13]

EV demand has been growing quickly as consumers head into 2023 and look forward to 2024 and new electrified model offerings. In January and February of 2022, Consumer Reports (CR) surveyed Americans on their thoughts about BEVs and low carbon fuels.[14] The survey found that 71 percent of Americans surveyed expressed some level of interest in buying or leasing a BEV with 14 percent indicating that they would "definitely" buy or lease today, up from four percent in their 2020 survey.[15] Digging



further, the survey found that 33 percent of Americans say that it is the fact that it costs less to charge an EV than it does to refuel an internal combustion enginge (ICE) vehicle, would make them consider purchasing an EV; 31 percent indicated that the lower lifetime costs would affect their decision, and 28 percent cited lower maintenance costs. When asked what posed barriers to EV adoption, 61 percent said charging logistics, 55 percent said vehicle range, and 52 percent said costs associated with buying, owning, and maintaining an EV. Progress is being made on expanding charging infrastructure across the United States, with more than 52,000 public charging stations available as of April 2023.[16] The survey also found that almost half of Americans are unaware of the incentives that are available to them when purchasing an EV.

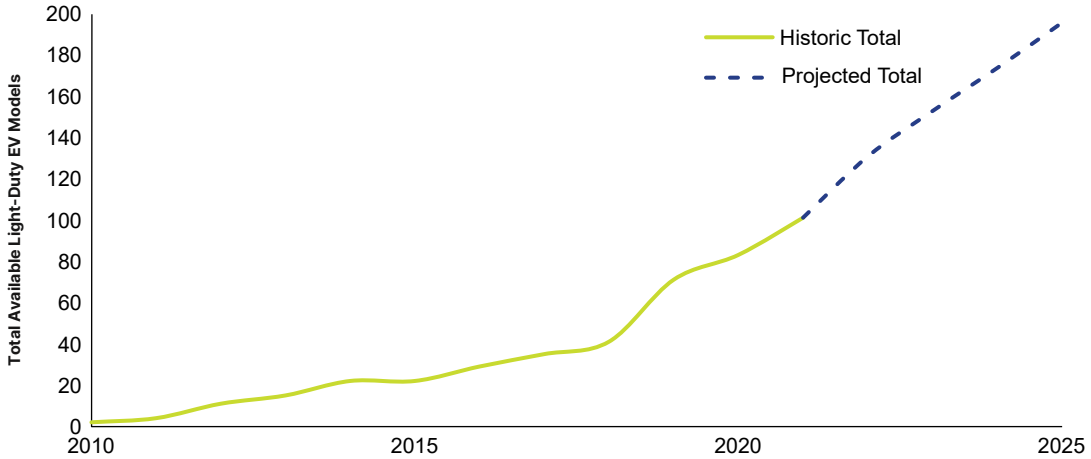
In February 2023, U.S. Bureau of Labor Statistics examined the main factors associated with the increased demand for EVs. Environmental concerns, increased vehicle options, improved battery capacity, and fuel cost savings are the factors that will continue to increase EV demand over the next decade.[17] Many Americans have expressed concern over the environmental impacts associated with owning an ICE vehicle as a top consideration when purchasing an EV. With the median EV's range reaching 234 miles on a single charge in 2022, range anxiety is dwindling as battery technology advances.[18] Additionally, automakers continue to increase the number of EV models available for purchase, providing consumers with a more expansive portfolio to choose from.

Under the Inflation Reduction Act (IRA) EV incentives, there will be five light-duty EV models available with a net cost of under $30,000 by the end of 2023. Additionally, by the end of 2023, there projected to be 15 light-duty EV models available for under $40,000 manufacturer's suggested retail price (MSRP) with a driving range of over 100 miles. In addition to these declining upfront purchase prices, many analyses conclude that EVs will provide substantial consumer savings in avoided fuel and maintenance costs. For instance, ICCT found that when considering IRA incentives for EVs purchased in 2025, consumers could save between $6,600 to $11,000 in the first six-years of ownership in associated fuel and maintenance costs compared to ICE vehicle ownership, with the greatest savings found for pickup trucks and SUVs.[19]

The consumer demand for EVs can be seen through vehicle reservations and deliveries. For example, Hyundai's IONIQ6 sold out pre-orders within 24 hours of its release;[20] Polestar sold over 51,000 EVs and delivered 21,000 EVs in the last quarter of 2022;[21] Ford sold over 60,000 electric vehicles in 2022, a 127 percent increase from 2021;[22] VW has delivered 500,000 ID. EVs worldwide, one year ahead of schedule;[23] BMW delivered over 215,000 EVs worldwide;[24] and Mercedes delivered more than 117,000 EVs worldwide.

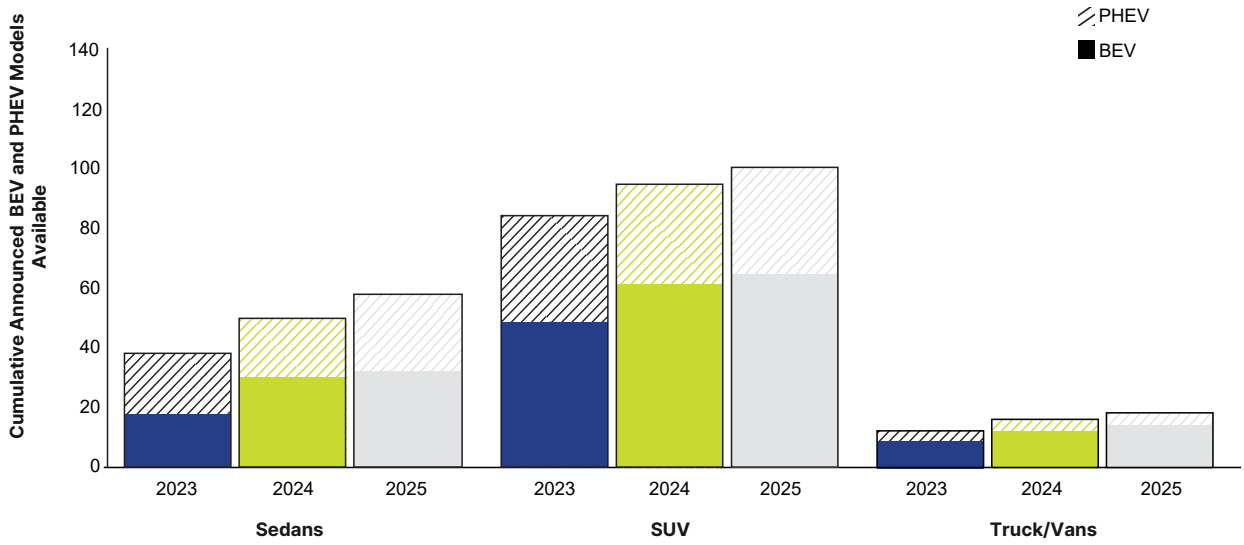
Based on announcements by major auto manufacturers, the number of electrified models available in the U.S. is projected to reach 197 by the end of 2025, with over 58 new models slated to launch in model years 2022-2025.*

Figure 1. Total Light-Duty Vehicle PHEV and BEV U.S. Models Available by Year



* Vehicles included in this figure accounts for confirmed and aspirational electrified model availability targets that are available or will become available in the U.S. with MSRPs below $100,000. The number of available vehicle models will be greater when considering global EV announcements and models that cost more than $100,000. Additionally, a model was only counted once although various battery sizes, ranges, and prices may be available. For example, Ford's F-150 Lightning was counted once but is available in Pro, XLT, Lariat, and Platinum; and for performance range options,the Leaf and Leaf e-Plus were counted as a single vehicle.

Figure 2. Cumulative Announced U.S. LD BEV and PHEV Models by Body Type

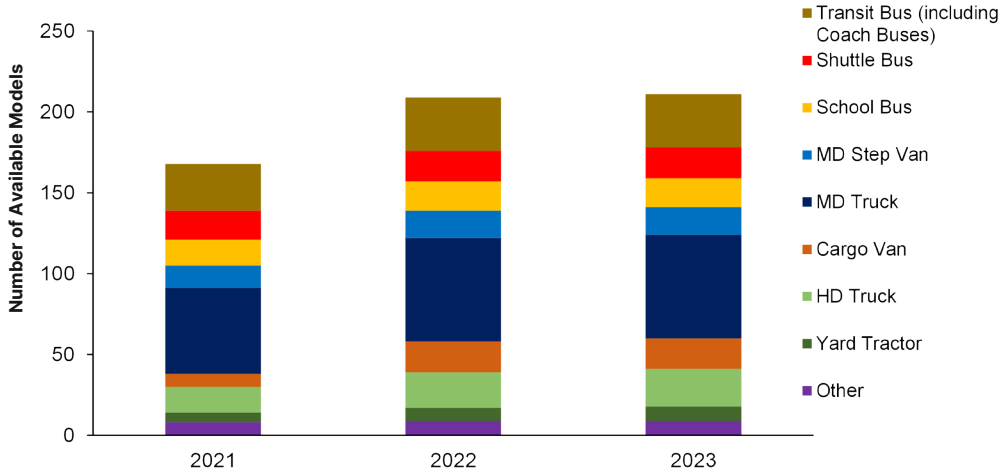


Additionally, the Figure above summarizes projected U.S. BEV and PHEV model availability over the next three model years according to offically released automaker annoucements. This Figure does consider unconfirmed or aspirational electrified model availability targets set by automakers but does not consider models without an expected availability year.

Medium- and Heavy-Duty Electric Vehicle Model Availability

In the medium- and heavy-duty market, model availability is also rapidly increasing. Globally, CALSTART estimated that the number of zero-emission truck (ZET) and bus models available in the market today has grown nearly 33 percent from 2021 until the end of 2022, rising from 609 models to 808 models.[25] The largest growth came from zero-emission cargo van (91 models available, up from 58 models) and heavy-duty truck (107 models available for purchase, up from 57 models) segments, growing 56 percent and 87 percent year over year respectively between 2021 and 2022.[26] Zero-emission medium-duty step van model availability increased from 17 models to 20 over the same timeframe, and zero-emission transit buses increased from 251 models to 285 models available for purchase--the majority of which are available in China.[27] CALSTART's report estimates that the United States and Canada will experience steady growth from 166 models to 213 models available for purchase, between 2021 to 2023 (see Figure below for the U.S. and Canada's cumulative model availability by vehicle type).[28] Additionally, ZET battery ranges are improving and according to manufacturer data, reported by CALSTART, medium-duty ZETs, medium-duty step vans, and cargo vans have median ranges of 173 miles, 150 miles, and 164 miles, respectively.[29]

Figure 3. Cumulative M/HD EV Models Available in the U.S. and Canada



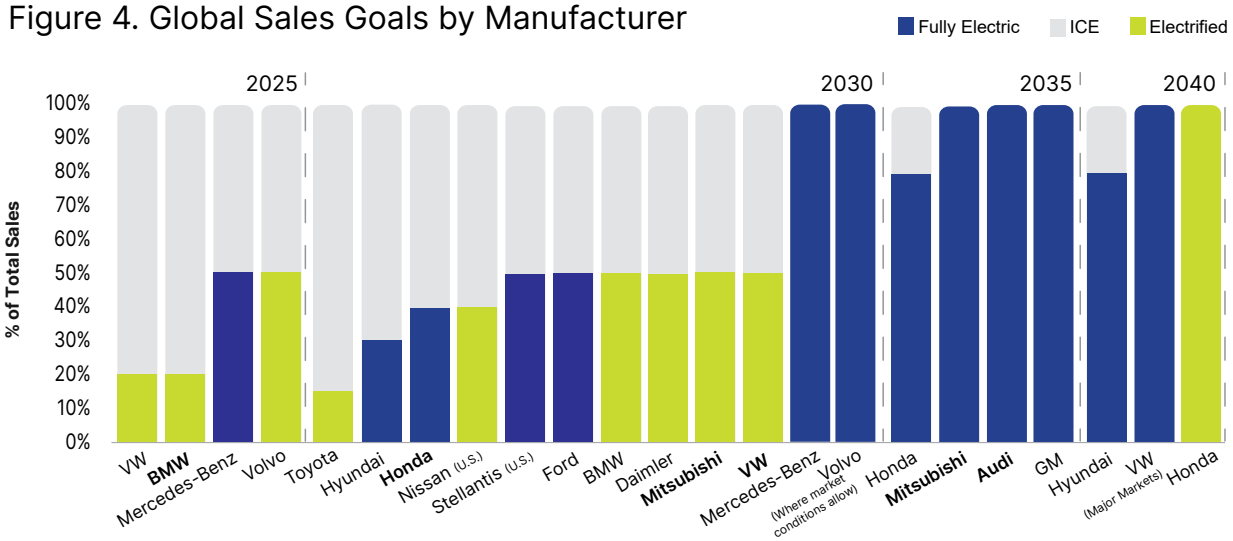
Light-duty Vehicle Manufacturer Commitments

Most light-duty vehicle manufacturers have committed to greatly increasing ZEV sales over the coming years, and many automakers are working toward a full ZEV fleet within the next decade. See below for key manufacturer commitments:

- **Alpha Romeo** announced that it will provide a fully electric fleet by 2027, the first of Stellantis' 14 brands to stop manufacturing of ICE vehicles.[30] The automaker will expand its fleet to encompass five electric models.[31] The automaker announced that it will release its first EV in 2024 as a plug-in hybrid EV (PHEV), and will release its first BEV in 2025.[32]
- **Acura** announced that it will unveil its first two ZEV models in 2024. These models will be Acura's entrance into ZEV production.[33]
- **BMW** announced that it expects BEVs to make up 20 percent of the company's global sales by 2024 and 50 percent of its global sales earlier than its initial 2030 target.[34,35] BMW also expects its MINI and Rolls-Royce brands to be fully electric by the early 2030s.[36] The automaker expects to cumulatively sell over two million BEVs by the end of 2025 and ten million by 2030. This goal will primarily be fulfilled with current offerings available in its fleet as it plans to introduce new models to the market starting in 2025.[37]
- **Buick**, a GM brand, pledged to make all new vehicles electric by 2030. After Cadillac, Buick is GM's second brand with a 2030 timeframe to produce only EVs. Buick's first electric model is its North American Electra EV series and is set for release in 2024.[38]
- **Ford** expects 50 percent of its global vehicle volume, and 100 percent of its European volume, to be fully electric by 2030.[39,40] In March 2022, Ford announced that it will be reorganizing operations into two separate units with one of the two units solely focused on rapid EV growth and accelerating EV production.[41] The automaker created Team Edison, a dedicated global EV organization "focused on bringing to market profitable, exciting [EVs] and ownership experiences." By the end of 2023, Ford expects to become the second highest producer of EVs, behind Tesla.[42] Additionally, Ford set a global target of producing more than two million EVs per year by 2026.[43] Ford also announced that its Lincoln brand will electrify its vehicle lineup by 2030 and expects 50 percent of its global sales volume to be ZEVs by 2025.[44]
- **GM** has a goal to have 30 BEV models by 2025, with 20 models available in North America, and to provide a lineup of electric-only models by 2035.[45] Additionally, GM plans to run its U.S. operations on renewable energy within the next four years and become carbon neutral in its global products and operations by 2040.[46,47] The automaker has highlighted the BEV3 platform and declaring that "our commitment to an all-electric, zero-emissions future is unwavering."[48] Its Factory ZERO renovations will reposition the facility for greater EV production as it aims to reach a capacity of one million electric units annually in North America by 2025.[49]
- **Honda** has a goal of achieving carbon neutrality by 2050 and 100 percent ZEV sales in North America by 2040—with interim sales goals of 40 percent by 2030 and 80 percent by 2035.[50] Honda announced the creation of a new operational division that will strengthen Honda's electrification business. The new division became effective on April 1, 2023.[51] The automaker aims to launch 30 new electric vehicle models, including two SUVs and a mini car, by 2030 and produce more than two million EVs per year.[52] Honda publicized that it will be working with GM to co-develop EVs starting in 2027. Additionally, Honda and Sony announced a collaboration to produce BEVs under the brand Afeela, which are set to go on sale in North America in 2025.[53]
- **Hyundai** has committed to carbon neutrality by 2045.[54] Hyundai is targeting 1.87 million BEVs sold annually by 2030 with the help of 17 new BEV models; 11 for Hyundai and six for Genesis. Additionally, all new Genesis vehicles will be electric starting in 2025, with the goal of being a 100 percent ZEV brand by 2030 and carbon-neutral by 2035.[55]
- **Jaguar Land Rover Limited (part of Tata Motors)** announced that within the next five years, the Land Rover brand will have released six new electric SUVs and by 2025, the Jaguar Brand will have an all-electric lineup. Additionally, the company expects that both Land Rover and Jaguar will have electric variants of all their models by the end of 2030. The two brands aim to achieve net carbon neutrality by 2039 across their supply chain, products, and operations.[56]
- **Kia** aims to sell 1.2 million BEVs worldwide in 2030. Starting in 2023, the automaker will launch at least two BEV models every year for a total of 14 new BEV models by 2027.[57]

- **Mazda** announced that 25 percent of its vehicle lineup will be electric by 2030. The company also announced that five PHEV and three BEV models will be introduced between 2022 and 2025.[58]
- **Mercedes-Benz** announced that all newly launched vehicle platforms will be electric-only from 2025 onward and is preparing for new cars to be electric-only by 2030, where market conditions allow.[59] Additionally, Mercedez-Benz aims to have a carbon-neutral passenger vehicle fleet by 2039. The automaker expects to halve CO_2 emission by 2030.[60] Lastly, Mercedes-Benz announced that it plans to release ten new EV models by the end of 2023.[61]
- **Mitsubishi** announced that it expects 100 percent of its global sales to come from EVs by 2035 and will be releasing four new EV models in the same timeframe. The automaker stated that one of the EV models will come from its alliance with Nissan and another through its alliance with Renault.[62]
- **Nissan** aims to have 23 electrified models available worldwide, including 15 fully electric models, and 40 percent of vehicles sold in the U.S. to be electrified by 2030. The automaker expects to launch its first proprietary solid-state BEV by 2028. Additionally, Nissan has a goal to be carbon-neutral across the life cycle of all its vehicles by 2050.[63]
- **Porsche** set a goal for 50 percent of its sales to be electric in 2025, and 80 percent by 2030.[64] At the end of 2022, Porsche has invested more than six billion euros in electric mobility.[65]
- **Stellantis** aims for 100 percent of sales in Europe and 50 percent of sales in the U.S. to be BEVs by the end of the decade.[66] Additionally, the company plans to offer more than 75 BEV models and reach global annual BEV sales of five million vehicles by 2030. In the North American market, Stellantis has committed to 96 percent of its nameplates (Jeep, Ram, Dodge, Fiat etc.) to have electrified options for all models by 2025, and fully battery-electric options by 2030.[67] The Chrysler brand announced its plans to shift to an all-electric lineup by 2028.[68] The Jeep brand announced plans to release four new EV models in North America and Europe by 2025, with production for one of the new models expected to begin in 2024.[69] In 2024, the Dodge brand announced it will release an EV model and the Ram brand announced that it will launch an electric pickup truck.[70]
- **Subaru** aims to have 40 percent of new global light-duty sales be electric by 2030, with 100 percent of vehicles equipped with electrification technology in the first half of the 2030s.[71] The automaker expects to offer 'several' new BEVs in the U.S. market by 2025.[72]

Figure 4. Global Sales Goals by Manufacturer



Electrified definitions: Fully electric refers to BEVs and Electrified refers to PHEVs. BMW models will have electrified drive trains (BEV or PHEV), Nissan models will either be pure electric models or e-POWER powertrain models and VW will have a 100 percent ZEV fleet.

- **Toyota** aims to sell 3.5 million BEVs, globally, per year by 2030. The company plans to offer around 70 electrified models globally by 2025 and 30 BEV models across the Toyota and Lexus brands by 2030.[73] Toyota announced that its Lexus brand will be 100 percent electric in the U.S. by the end of 2030.[74]

- **Volkswagen (VW)** hopes to produce 26 million EVs over the next decade, an increase from its previous goal of 22 million. VW aims for a U.S. market share of over 55 percent for all-electric vehicles by introducing more than 25 new BEV models by 2030.[75] By 2030, VW will launch around 70 fully electric models. By 2040, nearly all new VW vehicles in major markets will be zero-emission. The entire VW fleet will be carbon neutral by 2050.[76]

- **Volvo** has committed to becoming a fully electric car company by 2030—with an interim goal of reaching 50 percent of global EV car sales and having one million EVs on the road by 2025.[77] The automaker announced that its entire light-duty vehicle lineup for 2023 will only consist of hybrid or EVs. Volvo also announced its goal of achieving carbon neutrality by 2040.[78]

Medium- and Heavy-Duty Vehicle Manufacturer Commitments

Some M/HD vehicle manufacturers have committed to greatly increasing ZEV sales over the coming years, and many automakers are working toward increasing ZEV model availability within the next decade. See below for key manufacturer commitments:

- **Daimler Trucks** has a goal of selling CO_2-neutral vehicles in Europe, Japan, and North America and utilizing CO_2-neutral production at all its plants by 2039. In North America, Daimler's Freightliner division developed electric versions of its popular Cascadia Class 8 tractor, M2 Class 6 medium-duty chassis, and MT50 medium-duty step van. In October 2021, Daimler Trucks North America announced that its Freightliner battery electric Innovation and Customer Experience (CX) Fleets surpassed one million real world miles from fleets operating across the West Coast and Canada. The company deployed more than 40 batteries electric eCascadias and eM2s between its 50 customers across the U.S. and Canada.[79]

- In Europe, seven of the largest truck manufacturers—**Daimler, Scania, MAN, Volvo, DAF, IVECO**, and **Ford** —committed to selling only zero-emitting trucks by 2040, ten years earlier than initially planned.[80]

- In just two years since its launch in 2021, **General Motors' BrightDrop** has secured more than 30 commercial customers across industries like retail, rental, parcel delivery and service-based utilities, including FedEx, Walmart, Hertz, DHL Express and Purolator.[81] Demand for BrightDrop commercial EVs continues to grow, resulting in its 2023 Zevo 600 already sold out. With all its momentum, the company anticipates accelerating production of its electric delivery vans to reach a 50,000 unit annual volume capacity by 2025.[82]

- **Traton SE**, the parent company of Navistar, announced that it has a goal to have half of all trucks sold zero-emitting by 2030.[83]

- **Volvo Trucks** set a global target that 50 percent of all truck sales will be electric by 2030, with higher targets in North America and Europe to reach 70 percent for all new trucks sold to be electric in 2030.[84] In 2021 Volvo Trucks took orders, including letters of intent to buy, for more than 1,100 electric trucks in over 20 countries.[85] In September 2022, Volvo Trucks started producing electric version of its heavy-duty Volvo FH, FM, and FMX trucks.[86] In December 2022, Volvo Trucks announced that it will introduce rigid versions, which are trucks that can handle a wide range of transport assignments with zero tailpipe emissions and less noise, of the Volvo FH, FM, and FMX trucks, with production beginning in the first quarter of 2023.[87]

- **Workhorse** announced a three-year contract manufacturing agreement to assemble vehicles for Tropos Technologies in Union City, Indiana beginning in the fourth quarter of 2022 for its W4 CC and W750 M/HD EV models. Workhorse expects the volume for its U.S. based assembly to reach 2,000 units per year after ramp-up.[88]

- **Tesla** plans to produce 50,000 units annually of the Tesla Semi Class 8 electric truck starting 2024, after a year of production ramp-up, with the first units (36 electric trucks) delivered to Pepsi in December 2022.[89]

Commercial Fleet Electrification Commitments

A few years ago, the commercial fleet EV market in the U.S. was dominated by transit buses. However, the demand from medium- and heavy-duty fleet operators to pursue other electric vehicle options has grown in recent years. In addition, light-duty vehicle manufacturers like Ford, Tesla, and Polestar have begun to partner with light-duty commercial fleet operators to meet the growing demand for these electrified vehicles.

The Environmental Defense Fund, which regularly tracks commercial fleet deployments and commitments, shows that deployments are on the rise as fleets are committing to and deploying EVs at a significant rate (see Table 1. Sample of Fleet Electrification Commitments for greater detail). Companies that operate large fleets are taking note; see major orders updates below. These companies have also called for greater policy commitment, stating that, "as national operators, it is important to us that policy makers work across jurisdictions—local, state, and federal—to align standards, workforce training and resources, systems, funding, and planning."[90] For example, there are 130 companies that are part of the global initiative EV100 have committed to accelerating the EV transition and making electric transport the new normal by 2030.[91] Commitments cover a broad range of vehicles from delivery vans to commuter buses to garbage trucks.

Major Orders Since Last Report Update

- **Zeeba**, a California-based fleet leasing and management provider, signed an agreement to purchase 5,450 EVs from Canoo, with an initial binding commitment of 3,000 units through 2024.[92]
- **Kingbee**, a Utah-based work-ready van rental provider, placed a binding order for 9,300 all-electric last-mile delivery vehicles from Canoo, with an option to increase to 18,600 vehicles.[93]
- **Sanoma County** announced the purchase of ten battery electric transit buses from Proterra, which are scheduled for delivery between July and August 2024, and are in addition to six all-electric buses expected to arrive in June 2023.[94]
- **Randy Marion Automotive Group** pre-ordered 2,000 units of The Shyft Group's Blue Arc electric delivery vans, with first deliveries expected to begin in mid-2023.[95]
- **USPS** announced that it will purchase 9,250 Ford E-Transit electric delivery vans.[96] This order will contribute to USPS' pledge to buy at least 66,000 electric vehicles through 2028.
- **California Department of Transportation** placed an order for 399 Tesla Model 3 electric sedans as it seeks to electrify its entire fleet.[97] With this addition, it will have converted 43 percent of its fleet to all-electric vehicles.
- **Domino's Pizza** announced plans to buy 800 Chevy Bolts for delivery use, with initial 100 vehicles arriving at select franchise stores across the U.S. in November 2022, and an additional 700 arriving over the coming months.[98]
- **Basin Transit Authority**, on behalf of California Association for Coordinated Transportation, awarded the largest state EV bus contract in the U.S. to Endera for 1,000 B-series electric buses, with additional buses to be procured over the five-year contract period.[99]
- **Loomis** announced it will expand its partnership with Xos by purchasing an additional 150 armored EVs, which will be integrated into its fleet in the second half of 2023.[100]
- **New York City** announced it will purchase 925 EVs, including 382 Chevy Bolts, 360 Ford E-Transit vans, 150 Ford F-150 E-Lightning pickup trucks, 25 PHEV street sweepers, and seven Mack LR BEV garbage trucks.[101]
- **Pride Group** ordered 200 Freightliner eCascadia Class 8 electric trucks and 50 Freightliner eM2 Class 6-7 electric trucks to be delivered in mid-2023.[102]

Table 1. Sample of Fleet Electrification Commitments

Bolded entries are new updates since last version.

Sector	Company	Electric Fleet Plans Implementation Progress
Retail	Ikea Group*	2020: Electrify deliveries in Amsterdam, Los Angeles, New York, Paris, and Shanghai (25% global of deliveries) 2025: 100% EV or other zero-emissions solutions for deliveries and services through suppliers **2040: Zero emission M/HDV fleet in OECD markets, China, and India**
	Amazon	2022: 10,000 electric delivery vans (short-term goal) 2030: 100,000 electric delivery vans total (long-term goal)
	Clif Bar & Company*	2030: 100% fleet electrification
	Unilever	2030: 100% fleet electrification (11,000 vehicles) **2040: Zero emission M/HDV fleet in OECD markets, China, and India**
	LG Energy Solutions	2030: 100% fleet electrification (380 vehicles) and install charging at all locations for staff
	Republic Services	**2028: 50% of fleet purchases will be EVs**
	Walmart	2040: Zero emission vehicle fleet, including long-haul (6,000 trucks)
Power	Schneider Electric*	2030: 100% electric fleet (14,000 vehicles)
	Edison Electric Institute (EEI) Member Companies (investor-owned utilities)	2030: More than 70 percent of EEI member companies will collectively electrify more than one-third of their total fleet vehicles, including two-thirds of passenger vehicles in fleets. Examples include: • Xcel Energy: 2023: 100% electric sedan portion of fleet; 2030: 100% electric light-duty fleet; 30% M/HD vehicles • Consumers Energy: 2025: Buy or lease 100% of EVs for fleet • Southern California Edison: 2030: 100% electric passenger car and small-to-midsize SUV, 30% medium-duty vehicles and pickup trucks, 8% heavy-duty trucks, 60% forklifts
	National Grid	2030: 100% electric fleet (5,700 vehicles)
	Public Service Co.	2022: 10% electric fleet minimum 2030: 50% electric fleet 2045: 100% electric fleet

Sector	Company	Electric Fleet Plans Implementation Progress
Transportation	Lyft**	2026: 100% new vehicles for Express Drive (driver rental program) are electric
	King County Metro (WA)	2030: 100% EVs on platform
	Lime*	2030: 100% zero-emissions fleet
	Uber**	2030: 100% conversion of operations fleet
	Alto	2030: 100% of rides take place in EVs in U.S., Canadian, and European cities
	Port Authority of New York and New Jersey	**2025: 50% electrification of light-duty fleet** **2030: 100% electrification of light-duty fleet (1,400 vehicles)** **2035: 50% electrification of medium- and heady-duty fleet**
Delivery	DHL	**2030: 60% electric last-mile delivery fleet (80,000 vehicles)** 2050: Reduce logistics-related emissions to zero
	FedEx	2025: 50% of Express global parcel pickup and delivery (PUD) fleet purchases electric 2030: 100% PUD fleet purchases electric 2040: 100% ZEV PUD fleet
	Geopost/DPDgroup*	**2040: Zero emission M/HDV fleet in OECD markets, China, and India**
	Maersk	2040: Enterprise-wide carbon neutral operations, and **zero emission M/HDV fleet in OECD markets, China, and India**
Biotech	AstraZeneca	2025: 100% fleet electrification (16,000 vehicles)
	Genentech	2030: 100% electrification of sales fleet (1,300 vehicles) and commuter buses
	Biogen	2030: 100% fleet electrification (1,600 vehicles)

Sector	Company	Electric Fleet Plans Implementation Progress
Municipal	New York City, New York	2017: Only purchase PHEVs for non-emergency sedans going forward 2025: Add 2,000 EVs to NYC sedan fleet 2035: 100% Electric School bus fleet 2040: 100% electric MTA bus fleet
	New Jersey	2024: At least 10% of new bus purchases will be zero emission buses 2026: At least 50% of new bus purchases will be zero emissions buses 2032: 100% of new bus purchases will be zero emissions buses
	Los Angeles, California	2028: 100% ZEV vehicle conversions "where technically feasible" (2028: taxi fleet, school buses; 2035: urban delivery vehicles) 2035: 100% electrification of sanitation fleet through LA Department of Sanitation Commitment
	Houston, Texas	2030: 100% EV non-emergency, light-duty municipal fleet
	Chicago, Illinois	2040: 100% electric Chicago Transit Authority (CTA) bus fleet (1,850 buses)
	Montgomery County, Maryland	2033 (approximately 12-year process): Electrify entire school bus fleet for Montgomery County Public School district (1,400 school buses serving over 200 schools)
	Vermont	2025: 40% of new vehicle sales to be electric (43,000 vehicles) 2030: 80% of new vehicle sales to be electric (166,000 vehicles)

*Member companies of EV100, through which 127 committed member companies will electrify over 4.8 million vehicles globally, **additionally IKEA, Unilever, JSW Steel Limited, A.P. Moller - Maersk and GeoPost/DPDgroup are founding members of EV100+, which targets M/HDV for electrification**

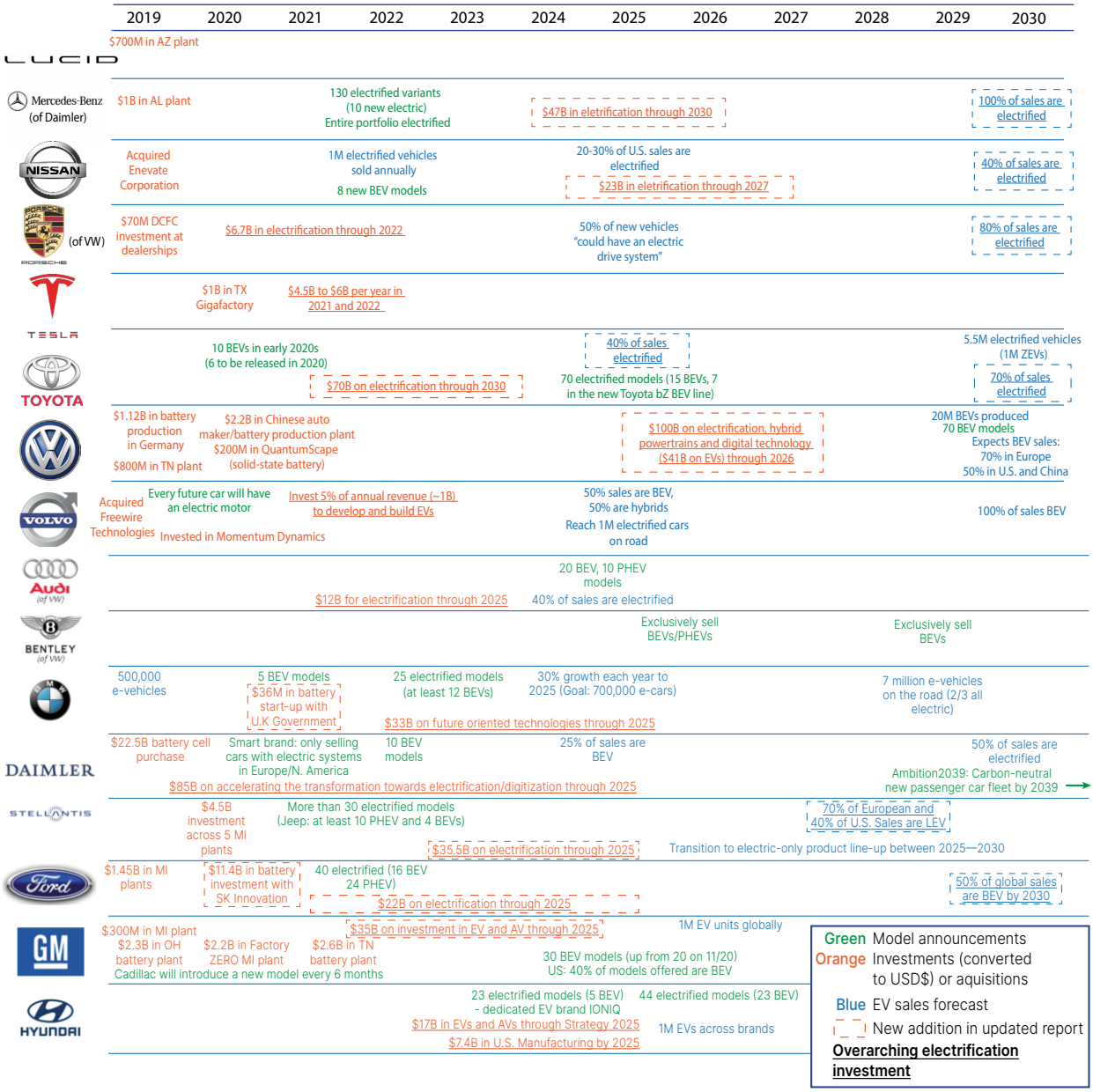
**Drivers for Lyft and Uber are contractors rather than employees, making it more difficult to incentivize or mandate drivers to switch to EVs. Lyft does not intend to remove drivers from platform who do not drive electric or provide financial incentives to drivers for the transition. Instead, much of the plan revolves around exerting pressure on competitors, lawmakers, and automakers. Uber will pay BEV and hybrid drivers an incentive of $1.50 and $0.50 per trip, respectively, and GM and Renault-Nissan will offer discounts to EVs. While Uber has not explicitly stated they will not remove non-electric drivers, they may be in a similar position as Lyft. Uber recently announced it will roll out "Uber Green" in 1,400 North American cities and launch partnerships to expand EV access for its drivers.

Conclusion

Over the next five to ten years, the auto industry, governments, fleets, and individual vehicle owners will transition more and more to zero-emission vehicles. By 2025, it is estimated that there will be approximately 197 BEV and PHEV passenger vehicle models available to U.S. consumers.

2022 ended with over 10.3 million light-duty electric vehicles sold worldwide. In the U.S., 2022 saw the addition of more than 800,000 new light-duty EVs: a 65 percent increase from 2021, and there were over 200 electric models of medium- and heavy-duty vehicles. The first quarter of 2023 was successful for the U.S. EV auto industry where sales reached over 258,000 units, an almost 45 percent year-over-year increase and accounting for 7.2 percent of all new-vehicle sales. As evidenced by the steady upward trend in ZEV sales, electrification is becoming an attractive option to consumers and fleets alike for fuel and maintenance savings, as well as the ability to impact air quality and climate change goals. Major auto manufacturers are listening to consumer preferences and are embracing electrification. This can be seen by the increased number and variety of electrified models offered, as well as commitments to brand electrification and increased sales target.

Appendix A: Manufacturer Commitments For Light-Duty Vehicles



Appendix B: Model Announcements – Light-Duty Vehicles

BEV Announcements

Bolded entries are new updates since last version. The asterick (*) indicates that the model is currently available for purchase. The numbers in the parathesis indicate different model configurations' battery size and mileage ranges. Lastly, the model price indicates MSRP of the most basic model configuration.
Note: Only vehicles with a base price below $100,000 are included in this Appendix.

Manufacturer	Vehicle Type	Model Name	First Model Year	Battery Size (kWh)	Range (mi)	Price
Acura	SUV	ZDX	2024	102	312	$60,000
Atlis Motor Vehicles	Truck/Van	XT	2024	**125 (250)**	300 (400 and 500)	$45,000
Audi	Luxury Sedan	A6 e-tron	2024	**100**	400	**$80,000**
Audi	Luxury SUV	e-tron	2023*	95	226	$70,800
Audi	Luxury SUV	Q4 e-tron	2022*	82 (95)	236 (242 and 265)	$49,800
Audi	**Luxury SUV**	**Q6 e-tron**	**2025**			
Audi	**Luxury Sedan**	**Q8 e-tron**	**2024**			
BMW	Luxury Sedan	i4	2022*	81	301	$56,395
BMW	**Luxury Sedan**	**i5**	**2024**			
BMW	Luxury SUV	iX	2022*	111.5	324	$84,195
Buick	Sedan	Electra	2025		300	$50,000
Cadillac	Luxury SUV	LYRIQ	2024	119	312	$58,590
Canoo	Truck/Van	Lifestyle Vehicle	2023	80	250	$39,950
Canoo	Truck/Van	MPDV1	2023	40 (80)	130 (230)	$33,000
Canoo	Truck/Van	Pickup	2023		200	
Chevrolet	SUV	Blazer	2024		320	$44,995
Chevrolet	Sedan	Bolt	2017*	75	259	$25,600
Chevrolet	SUV	Bolt EUV	2022*	75	247	$27,200
Chevrolet	SUV	Equinox	2024		300	$30,000
Chevrolet	Truck/Van	Silverado	2024		400	$39,900
Dodge	Sedan	eMuscle	2024			$50,000
Fiat	**Sedan**	**500e**	**2024**	**32.3**	**150**	
Fisker	Luxury SUV	Ocean	2023		250	$37,499
Fisker	SUV	Pear	2024		250	$29,990

Manufacturer	Vehicle Type	Model Name	First Model Year	Battery Size (kWh)	Range (mi)	Price
Ford	Truck/Van	F-150 Lightning	2022*	123 (165)	240 (320)	$55,974
Ford	SUV	Mustang Mach-e	2021*	116	310	$45,995
Genesis	Luxury SUV	GV60	2023*	77.4	248	$58,890
Genesis	Luxury SUV	Electrified GV70	2023*	77.4	238	$65,850
Genesis	Luxury Sedan	Electrified G80	2023*	87	282	$79,825
GMC	Truck/Van	Hummer EV Pickup or SUV EV2	2024		250	$84,650
GMC	Truck/Van	Hummer EV Pickup or SUV EV2X	2023		300	$94,650
GMC	**Truck/Van**	**Sierra EV**	**2024**			
Honda	**SUV**	**Prologue**	**2024**			
Hyundai	SUV	Ioniq 5	2022*	77.4	303	$41,450
Hyundai	Sedan	Ioniq 6	2023*	53	361	$45,500
Hyundai	SUV	Kona Electric	2019*	64	258	$34,000
Indi	Hatchback	One	2024	95	300	$45,000
Jaguar	Luxury SUV	I-Pace	Now	86	246	$71,300
Jeep	SUV	Recon	2024			
Jeep	SUV	Wagoneer S	2024		400	
Karma	Luxury Sedan	GSe-6	2021*	110	360	$93,900
Kia	Sedan	EV6	2022*	77.4	232 (206 and 282)	$48,500
Kia	SUV	EV9	2024			
Kia	SUV	Niro EV	2020*	64	253	$39,900
Lexus	Luxury SUV	RZ 450e	2023	71.4	220	$59,650
Lordstown	Truck/Van	Endurance	2023*	69	109	$65,060
Lucid Motors	Luxury Sedan	Air	2022*	120	384 (410, 446 and 516)	$87,400
Mazda	SUV	MX-30 EV	2022	33.5	100	$34,110
Mercedes Benz	Luxury SUV	EQB	2022	70.5	245	$52,750
Mercedes Benz	**Luxury Sedan**	**EQE**	**2023**	**90.6**	**305**	**$74,900**
Mercedes Benz	**Luxury SUV**	**EQE**	**2023**	**90.6**	**350**	**$77,900**
MINI	Sedan	Cooper SE Electric	2023*	32	114	$29,900

Manufacturer	Vehicle Type	Model Name	First Model Year	Battery Size (kWh)	Range (mi)	Price
Mullen	SUV	Mullen Five	2024	95	325	$55,000
Nissan	SUV	Ariya	2023*	65 (90)	216 (304)	$43,190
Nissan	Sedan	Leaf	2017*	40 (60)	149 (212)	$28,040
Polestar	Luxury Sedan	Polestar 2	2021*	77	270	$48,400
Polestar	Luxury SUV	Polestar 3	2024	111	300	$83,900
Porsche	Luxury Sedan	Taycan	2020*	109	246	$86,700
Ram	Truck/Van	1500 REV	2025			
Rivian	Truck/Van	R1T	2022*	144	328	$73,000
Rivian	SUV	R1S	2022*	144	321	$78,000
Subaru	SUV	Solterra	2023*	72	228	$44,995
Tesla	Luxury Sedan	Model 3	2017*	84	358	$46,990
Tesla	Truck/Van	Cybertruck	2024		250	$39,990
Tesla	**Luxury Sedan**	**Model S**	**2017***	**104**	**405**	**$89,990**
Tesla	**Luxury SUV**	**Model X**	**2017***	**104**	**351**	**$99,990**
Tesla	Luxury SUV	Model Y	2020*	84	330	$54,990
Toyota	SUV	bZ4X	2023*	71.4	252	$42,000
Toyota	**SUV**	**bZ3X**	**2024**			
Toyota	**SUV**	**bZ5X**	**2024**			
Toyota	**Truck/Van**	**Tacoma Electric**	**2024**			
Vinfast	SUV	VF8	2023	87.7	292	$49,000
Vinfast	SUV	VF9	2023	123	369	$83,000
Vinfast	**SUV**	**VF6**	**2024**			
Vinfast	**Crossover**	**VF7**	**2024**			
Volkswagen	SUV	ID. 4	2021*	81	275	$38,995
Volkswagen	**SUV**	**ID. 8**	**2023**	**77**	**365**	
Volkswagen	SUV	ID. Buzz	2025	111	270	
Volkswagen	**SUV**	**ID. 7**	**2025**			
Volvo	Luxury SUV	C40 Recharge	2022*	77	226	$55,300
Volvo	Luxury SUV	EX90	2024	111	300	$80,000
Volvo	Luxury SUV	XC40 Recharge	2021*	77	223	$54,645

PHEV Announcements

Manufacturer	Vehicle Type	Model Name	First Model Year	Battery Size (kWh)	Range (mi)	Price
Alpha Romeo	Luxury SUV	Tonale	2024	15.5	30	$44,995
Audi	Luxury SUV	Q5	2017*	17.9	25	$57,400
BMW	Luxury Sedan	330e	2021*	12	22	$44,900
BMW	Luxury Sedan	530e	2018*	12	21	$57,600
BMW	Luxury SUV	X5 xDrive45e	2021*	24	31	$65,700
Chrysler	Truck/Van	Pacifica Hybrid	2017*	16	32	$50,495
Ford	SUV	Escape	2020*	14.4	37	$40,500
Hyundai	SUV	Tucson	2022*	13	33	$37,500
Hyundai	SUV	Santa Fe	2021*	13	31	$42,410
Jeep	SUV	Grand Cherokee 4xe	2022*	17	25	$60,695
Jeep	SUV	Wrangler 4xe	2021*	17	22	$54,735
Karma	Luxury Sedan	GS-6	2023		80	$93,000
Kia	SUV	Niro	2018*	11.1	33	$33,840
Kia	**SUV**	**Sportage**	**2023***	**13.8**	**34**	**$38,690**
Kia	SUV	Sorento	2021*	13.8	32	$49,990
Land Rover	Luxury SUV	Range Rover Sport	2020	13.1	48	$83,000
Lexus	Luxury SUV	NXh+	2022*	18	37	$58,655
Lincoln	Luxury SUV	Corsair Grand Touring	2021*	14.4	28	$53,885
Lincoln	Luxury SUV	Aviator Grand Touring	2020*	13.6	21	$70,190
Mazda	**SUV**	**CX-70**	**2024**			
Mazda	**SUV**	**CX-90**	**2024**	**17.8**		**$47,445**
Mini	SUV	Cooper SE Countryman	2018*	10	17	$41,500
Mitsubishi	SUV	Outlander	2023*	20	38	$39,845
Porsche	Luxury SUV	Cayenne	2019*	14	17	$86,500
Subaru	SUV	Crosstrek	2019*	8.8	17	$36,845
Toyota	Sedan	Prius Prime	2017*	8.8	25	$32,350
Toyota	SUV	RAV4 Prime	2021*	18.1	42	$42,340
Volvo	Luxury Sedan	V60 Recharge	2020*	18.8	42	$70,550
Volvo	Luxury Sedan	S60 Recharge	2019*	18.8	41	$51,250
Volvo	Luxury SUV	XC60 Recharge	2018*	18.8	35	$57,200
Volvo	Luxury Sedan	S90 Recharge	2018*	18.8	38	$70,500
Volvo	Luxury SUV	XC90 Recharge	2017*	10.4	32	$71,900

Unconfirmed or Soft Model Announcements

Manufacturer	Vehicle Type	EV Type	Model Name	Planned Availability
Alpha Motor	Sedan	BEV	Jax Saga Estate Saga Ace Coupe	
	Truck/Van		Wolf +Super Wolf	
Alpha Romeo		BEV and PHEV	Giulia or Stelvio One large flagship model	2025 One large flagship model in 2027
Bentley		BEV		2025
BMW	SUV Sedan	BEV	X15-series	Announced will offer electrified versions, did not confirm specs or other information
BYTON	Sedan	BEV	K-Byte	Unclear due to COVID and unconfirmed for U.S.
Chrysler	Sedan	BEV	Airflow	2025
Dodge	**Sedan**	**BEV**	**Charger Daytona SRT EV**	**2024**
Ford	SUV	BEV	Explorer	2023 **2025**
Honda		BEV	Fit/Jazz	
Honda	SUV	BEV	Prologue	2024
Hyundai	SUV	BEV	Ioniq 7	2024
Jeep	SUV	PHEV	Renegade Compass	Unconfirmed for U.S.
		BEV	Wrangler	2023
Kia	SUV	BEV	Stonic EV9	Unconfirmed for U.S. 2023
Lucid Motors	Luxury SUV	BEV	Project Gravity	2024
Lincoln	**SUV**	**BEV**	**Star**	**2025**
Lotus	**SUV**	**BEV**	**Eletre**	**2025**
Lotus	**Sedan**	**BEV**	**Envya**	**2025**
Mercedes Benz	**SUV**	**BEV**	**EQA**	

Manufacturer	Vehicle Type	EV Type	Model Name	Planned Availability
Mercedes Benz		PHEV	Unconfirmed for U.S.: GLBe A250e	Announced 10 new electric models by 2022
Mercedes Benz		BEV	Unconfirmed for U.S.: EQA (2021)	Announced 10 new electric models by 2022
Mullen	SUV	BEV	Ottava	2024
Polestar	SUV Sedan	BEV	Polestar 4 Polestar 5	2023 2024
Toyota	3 SUVs* (one would be a Subaru collaboration) 2 Trucks/ Vans*1 Sedan*	BEV	Unnamed	Announced June 2019 for 2020-2025 2 SUVs to be announced in 2021
Volvo	SUV	BEV BEV	XC60 XC100	Unconfirmed (2024) Unconfirmed (2024)

*Toyota announced six new vehicles will launch but did not provide further details. These are speculations based on https://www.caranddriver.com/news/a27887943/toyota-ev-rollout-plans/.

Appendix C: Model Announcements – Medium- and Heavy-Duty Vehicles

Medium-Duty Vehicles

Bolded entries are new updates since last version.

Manufacturer	Model	Weight Class	Vehicle Type	Availability	Battery (kWh)	Range (mi)
Arrival	The Arrival Van	Class 2b	Cargo Van	2023	67, 89, 111, 139	112, 149, 180, 211
Atlis Motor Vehicles	XP Platform (Chassis)	Class 2b-3		2023	150, 200, 250	300, 400, 500
Daimler	Mercedes-Benz eSprinter	Class 2b	Cargo Van	2023	113	249
Ford	E-Transit	Class 2b	Cargo Van, Cutaway, Chassis Cab	2023	68	126
General Motors (BrightDrop)	**Zevo 400**	**Class 2b**	**Cargo Van**	**2024**		**250**
General Motors (BrightDrop)	**Zevo 600**	**Class 2b**	**Cargo Van**	**2023**		**250**
Lightning eMotors	**Transit Cargo Van**	**Class 3**	**Cargo Van**	**2023**	**80, 120**	**140, 200**
Rivian	EDV500, EDV700	Class 2b-3	Step Van	2021 (Amazon Only)	135	150
SEA Electric	Ford Transit EV	Class 3	Cargo Van	2023	88	190
Volkswagon	eTransporter	Class 2b-3	Cargo Van	2023	37.3, 74.6	82, 250
Volkswagon	I.D. Buzz Cargo	Class 2b-3	Cargo Van	2024	82	256
Bollinger	**B1**	**Class 3**	**SUV**	**2023**	**120**	**200**
Bollinger	**B2**	**Class 3**	**Pickup Truck**	**2023**	**120**	**200**
CityFreighter	**CF1**	**Class 3**	**Box Truck**	**2024**	**86**	**150**
Utilimaster	Reach EV	Class 3	Step Van		127	105
Utilimaster	Velocity M3	Class 3	Cargo Van		120	75
Zenith	Cab Chassis/ Cutaway Cab	Class 3	Box Truck			10, 100, 135

Manufacturer	Model	Weight Class	Vehicle Type	Availability	Battery (kWh)	Range (mi)
Alpha Mobility	G Series Logistic Truck	Class 4	Box Truck	2023	108, 144	125
Bollinger	**B4**	**Class 4**	**Chassis Cab**	**2024**		**185**
Canoo	MPDV Series	Class 4	Cargo Van	2023	130–230, 90–190	40, 60, 80
Cenntro Automotive	CityPorter	Class 4	Cargo Van	2023	80.6	124
Dana Nordresa	W4	Class 4	Step Van	2023	80, 160	75, 150
Dana Nordresa	T4	Class 4	Step Van	2023	80, 160	75, 150
Greenpower	EV Star Cargo+	Class 4	Box Truck	2023	118	150
Greenpower	EV Star Cargo	Class 4	Cargo Van	2023	118	150
Greenpower	EV Star CC	Class 4	Utility Truck	2023	118	150
Lightning eMotors	E-450 Cutaway	Class 4	Box Truck	2023	120	130
Motiv	Epic E450	Class 4	Step Van/Box Truck	2023	127	105
Phoenix Motors	Zeus 500	Class 4	Step Van	2023	70-150	80, 115, 150
SEA Electric	Isuzu NPR	Class 4	Box Truck/ Utility Truck	2023	100	170
Zeus Electric Chassis	Electric Work Truck	Class 3–6	Utility Truck	2023	175	150
Bollinger	**B5**	**Class 5**	**Chassis Cab**	**2025**		**160**
BYD	6F	Class 5–6	Box Truck	2023	211, 282, 343	130-220
BYD	6R	Class 5–6	Refuse Truck	2023	211	85
BYD	6D	Class 5–6	Step Van	2023	211	130
Daimler	Freightliner MT50e (Chassis)	Class 5–6	Box Truck	2023	226	125
Dana Nordesa	T5	Class 5–6	Box Truck	2023	80, 160	60, 120
Dana Nordesa	T6	Class 5–6	Box Truck	2023	160	120
EVT Motors	Electric Van Cutaway	Class 5–6	Box Truck	2023	106	173
Hino	M5	Class 5–6	Box Truck	2023	138	150
Lightning eMotors	F-59 Cargo Van and Food Truck	Class 5–6	Cargo Van/ Step Van	2023	128, 160, 192	110, 140, 170

Manufacturer	Model	Weight Class	Vehicle Type	Availability	Battery (kWh)	Range (mi)
Lightning eMotors	6500XD Cab Forward Truck	Class 5–6	Box Truck	2023	122, 153, 184	88, 110, 130
Lion Electric	Lion6	Class 5–6	Box Truck	2023	252	180
Motiv	Epic F-59	Class 5–6	Step Van	2023	127	105
Navistar	International Trucks eMV	Class 5–6	Utility Truck	2023	321	250
Peterbilt	220EV	Class 5–6	Box Truck	2023	140–348	200
Roush CleanTech	Ford F-650	Class 5–6	Utility Truck	2023	138	100
SEA Electric	Ford F-59	Class 5–6	Step Van	2023	138	200
SEA Electric	Ford F-650	Class 5–6	Utility Truck	2023	138	200
SEA Electric	Hino 195	Class 5–6	Box Truck	2023	138	200
SEA Electric	Isuzu NRR EV	Class 5–6	Box Truck	2023	138	200
SEA Electric	Isuzu NQR EV	Class 5–6	Box Truck	2023	138	200
XOS	X-Platform (Chassis)	Class 5–6	Step Van	2023		200
Zenith Motors	Electric Step-Van	Class 5–6	Step Van	2023		90
Bollinger	**B6**	**Class 6**	**Chassis Cab**	**2026**		**140**
Peterbilt	220EV	Class 6	Box Truck	2023	141	100
Kenworth	K270E	Class 6	Box Truck	2023	141, 282	100, 200
Daimler	Freightliner eM2	Class 6-7	Box Truck	2023	194, 291	230
Hino	**L6 and L7**	**Class 6–7**	**Tractor Trailer**	**2023**		
International	**eMV**	**Class 7**	**Box Truck**	**2023**	**210**	**135**
Kenworth	**K370E**	**Class 7**	**Box Truck**	**2023**	**141, 282**	**100, 200**
Peterbilt	**220EV**	**Class 7**	**Box Truck**	**2023**	**282**	**200**
Battle Motors	**LET2**	**Class 6-8**	**Chassis Cab**	**2023**	**240, 330, 630**	**160**
Battle Motors	**LNT**	**Class 6-8**	**Chassis Cab**	**2023**	**210, 240, 450**	**183**

Heavy-Duty Vehicles

Manufacturer	Model	Weight Class	Availability	Battery (kWh)	Range (mi)
BYD	8R Refuse	Class 7-8 Rigid	2023	281	75
Dennis Eagle	eCollect	Class 7-8 Rigid	2023	300	
Einride	Pod	Class 7-8 Rigid	2022/2023		112
Kenworth	K370E	Class 7-8 Rigid	2021	282	100, 200
Lion Electric	Lion8 Tandem	Class 7-8 Rigid	2023	336	170
Lion Electric	Lion8 Refuse	Class 7-8 Rigid	2023	336	130
Lion Electric	Lion8 Bucket	Class 7-8 Rigid	2023	336	170
Nikola	Refuse	Class 7-8 Rigid	2023		150
Peterbilt	520EV (Refuse)	Class 7-8 Rigid	2021	396	80
SEA Electric	Ford F-750	Class 7-8 Rigid	2021	138	200
SEA Electric	Isuzu FTR	Class 7-8 Rigid	2023	138	200
SEA Electric	Refuse	Class 7-8 Rigid	2023	138, 220	200, 170, 150, 125
Volvo	VNR Electric Straight Truck	Class 7-8 Rigid	2023	375	230, 190
Volvo Group	Mack Trucks LR Electric	Class 7-8 Rigid	2023	376	100
BYD	8TT	Class 7-8 Tractor	2023	422	175
Daimler	Freightliner eCascadia	Class 7-8 Tractor	2022	438	220
Hino	XL Series	Class 7-8 Tractor	2024		
Kenworth	T680E	Class 7-8 Tractor	2023	396	150
Lion Electric	Lion8 Tractor	Class 7-8 Tractor	2023	706	221
Nikola	Tre	Class 7-8 Tractor	2023	733	330
Peterbilt	579EV	Class 7-8 Tractor	2023	400	150
Tesla	Semi	Class 7-8 Tractor	2024		300 or 500
Volvo	VNR Electric	Class 7-8 Tractor	2023	375, 565	175, 275
Global	**M3EV M4EV**	**Street Sweeper**	**2023**	**210**	
Autocar	**ACTT Terminal Tractor**	**Terminal Tractor**	**2023**	**210**	
Kalmer Ottawa	Ottawa T2E Electric Terminal Tractor	Terminal Tractor	2023	152, 182	
Lonestar	Lonestar SV Reman Electric Terminal Tractor	Terminal Tractor	2023		
Orange EV	T-Series	Terminal Tractor	2023	80, 100, 160, 180	
Terberg Tractors	YT202-EV	Terminal Tractor	2023	222	

Buses

Manufacturer	Model	Category	Availability	Battery (kWh)	Range (mi)
BYD	Coach Bus C6M - 23'/C8M - 35'/C9M - 40'/ C10M - 45'	Coach	2023	141, 313, 446, 446	141, 149, 186, 172
Lightning eMotors	Coach Power train Retrofit	Coach	2023	640	195
Motor Coach Industries (NFI Group)	J4500e CHARGE	Coach	2021	544	230
Motor Coach Industries (NFI Group)	D45 CRTE LE CHARGE	Coach	2021	389, 544	170, 230
Van Hool	CX45E	Coach	2023	676	260
Blue Bird	All American RE Electric	School	2023	155	120
Blue Bird	Micro Bird G5 Electric Activity	School	2023	88	100
Blue Bird	Vision Electric Activity	School	2023	155	120
Collins Bus Corp.	**Type A Electric School Bus (DE516)**	**School**	**2023**	**127**	**105**
BYD	Type D School Bus	School	2022	150	155
Daimler	The Saf-T-Liner® eC2 Jouley	School	2021	220	135
Greenpower	The BEAST	School	2021	193.5	150
Lion Electric	LionA	School	2021	80, 160	75, 150
Lion Electric	LionC	School	2021	210	100, 125, 155
Lion Electric	LionD	School	2021	210	100, 125, 155
Motiv	Epic F59	School	2021	127	105
Navistar	IC Bus CE Series Electric	School	2021	105-315	70-200
Phoenix Motors	Zeus 600 School Bus	School	2021	70, 105, 140	80, 115, 150
Thomas Built Buses	**Saf-T-Liner C2 Jouley**	**School**	**2023**	**226**	**138**
Greenpower	EV Star	Shuttle	2021	118	150
Greenpower	EV Star+	Shuttle	2021	118	150
Greenpower	AV Star	Shuttle	2021	118	150

Manufacturer	Model	Category	Availability	Battery (kWh)	Range (mi)
Hometown Manufacturing	**Villager**	**Transit**	**2023**	**226**	**120-200**
Lightning eMotors	Transit Passenger Van	Shuttle	2021	86, 105	140, 170
Lightning eMotors	E-450 Shuttle	Shuttle	2021	86, 129	80, 120
Lightning eMotors	F-550	Shuttle	2021	122	100
Lion Electric	LionM	Shuttle	2021	160	75, 150
Motiv	Epic E450	Shuttle	2021	127	105
Optimal EV	S1LF	Shuttle	2021	113	200
Phoenix Motors	Zeus 400 Shuttle Bus	Shuttle	2021	70, 105, 140	80, 115, 150
SEA Electric	E4B Commuter Bus	Shuttle	2021	88	186
Zenith Motors	Electric Shuttle	Shuttle	2021	62.5	90,110
Arrival	The Arrival Bus	Transit	2023	310.8	124-254
COBUS Industries	**e.COBUS 2700/2700 S/ 3000**	**Transit**	**2023**		
BYD	Transit Bus K7 - 30'/K9 -S 35'/K9 - 40'/K11 - 60'	Transit	2021	215, 266, 352, 446	137, 145/215, 156, 220
BYD	Double Decker C8MS - 35'/ C8MS - 45'	Transit	2021	113, 446	170, 230
Gillig	Battery Electric Bus (40')	Transit	2021	148-444	150, 210
Greenpower	EV 250 (30')	Transit	2021	210	175
Greenpower	EV 350 (40')	Transit	2021	430	200
Greenpower	EV 550 (45' Double Decker)	Transit	2021	478	175
Hyundai	Battery Elec City	Transit	2021	256	130
Lightning eMotors	Zero Emission Repower	Transit	2023	560	225
MCI	**D45 CRT Charge/ LE Charge**	**Transit**	**2023**	**389, 520**	**225**
Nova Bus	**LFSe, LFSe+**	**Transit**	**2023**	**564**	
Proterra	ZX5 35' and 40'	Transit	2023	492, 738	240, 340

Endnotes

1 McKerracher, Colin. “Electric Vehicles Look Poised for Slower Sales Growth This Year.” Bloomberg. 12 Jan 2023. https://www.bloomberg.com/news/articles/2023-01-12/electric-vehicles-look-poised-for-slower-sales-growth-this-year?leadSource=uverify%20wall.

2 Henze, Veronika. “Net-Zero Road Transport By 2050 Still Possible, As Electric Vehicles Set to Quintuple By 2025.” BloombergNEF. 1 Jun 2022. https://about.bnefcom/blog/net-zero-road-transport-by-2050-still-possible-as-electric-vehicles-set-to-quintuple-by-2025/.

3 S&P Global. “Global light duty EV sales to rise to 26.8 mil by 2030: Platts Analytics.” S&P Global Commodity Insights. 16 Feb 2022. https://www.spglobal.com/commodity-insights/en/market-insights/latest-news/energy-transition/021622-global-light-duty-ev-sales-to-rise-to-268-mil-by-2030-platts-analytics.

4 Henze, Veronika. “Net-Zero Road Transport By 2050 Still Possible, As Electric Vehicles Set to Quintuple By 2025.” BloombergNEF.

5 McKerracher, Colin. “Electric Vehicles Look Poised for Slower Sales Growth This Year.” Bloomberg Hyperdrive. 12 Jan 2023. https://www.bloomberg.com/news/articles/2023-01-12/electric-vehicles-look-poised-for-slower-sales-growth-this-year.

6 Bibra et al. 35

7 Long, Emily and Denise Rondini. “More than Half of American Commercial Vehicles Are Electrifiable Today.” RMI. 12 April 2022. https://rmi.org/press-release/more-than-half-of-american-commercial-vehicles-are-electrifiable-today/.

8 Wheeler, Jennifer, “Electric Trucks Have Arrived: The Use Case for Vans and Step Vans.” North American Council for Freight Efficiency. 12 Apr 2022. https://nacfe.org/wp-content/uploads/edd/2022/04/Vans-and-Step-Vans-Report-Executive-Summary-FINAL.pdf

9 Shahan, Zachary. “US Electric Car Sales Increased 65% in 2022.” CleanTechnica. 25 Feb 2023. https://cleantechnica.com/2023/02/25/us-electric-car-sales-increased-65-in-2022/.

10 Cox Automotive. “In a Down Market, EV Sales Soar to New Record.” 13 Jan 2023. https://www.coxautoinc.com/market-insights/in-a-down-market-ev-sales-soar-to-new-record/.

11 Cox Automotive. “In a Down Market, EV Sales Soar to New Record.”

12 Cox Automotive. “Another Record Broken: Q1 Electric Vehicle Sales Surpass 250,000, as EV Market Share in the U.S. Jumps to 7.2% of Total Sales,” 12 Apr 2023. https://www.coxautoinc.com/market-insights/q1-2023-ev-sales/.

13 Kelly Blue Book. “Electric Vehicle Sales Report Q1 2023.” Cox Automotive. 12 Apr 2023. https://www.coxautoinc.com/wp-content/uploads/2023/04/Kelley-Blue-Book-EV-Sales-and-Data-Report-for-Q1-2023.pdf.

14 Warren, Dr. Quinta. “More Americans Would “Definitely” Get Electric Vehicles, Consumer Reports Survey Shows.” Consumer Reports Advocacy. 7 Jul 2022. https://advocacy.consumerreports.org/press_release/more-americans-would-definitely-get-electric-vehicles/

15 Harto, Chris. “Electric Vehicle Ownership Costs: Today’s Electric Vehicles Offer Big Savings for Consumers.” Consumer Reports Advocacy. Oct 2020. https://advocacy.consumerreports.org/wp-content/uploads/2020/10/EV-Ownership-Cost-Final-Report-1.pdf.

16 Alternative Fuels Data Center. “Electric Vehicle Charging Station Locations.” Department of Energy Office of Energy Efficiency & Renewable Energy. Accessed on 11 Apr 2023. https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC.

17 Colato, Javier and Ice, Lindsey. “Charging into the future: the transition to electric vehicles.” U.S. Bureau of Labor Statistics Beyond the Numbers. Feb 2023. https://www.bls.gov/opub/btn/volume-12/charging-into-the-future-the-transition-to-electric-vehicles.htm.

18 MacIntosh, Rachel; Tolomiczenko, Sophie; and Van Horn, Grace. “Electric Vehicle Market Update.” ERM for the Environmental Defense Fund. Sept 2022. https://www.erm.com/electric-vehicle-market-update/.

19 Slowik, Peter; Isenstadt, Aaron; Pierce, Logan; and Searle Stephanie. “Assessment Of Light-Duty Electric Vehicle Costs and Consumer Benefits in The United States in the 2022–2035 Time Frame.” International Council on Clean Transportation. Oct 2022. https://theicct.org/wp-content/uploads/2022/10/ev-cost-benefits-2035-oct22.pdf.

20 Johnson, Peter. “Hyundai’s IONIQ6, the ‘new standard in dynamic EV driving,’ sells out in under 24 hours.” Electrek. 15 Nov 2022. https://electrek.co/2022/11/15/hyundai-ioniq6-ev-first-edition-sells-out-within-24-hours/.

21 Kane, Mark. “Polestar Confirms Sales Of Roughly 51,500 Electric Cars In 2022.” InsideEVs. 10 Jan 2023. https://insideevs.com/news/630198/polestar-sales-51500-electric-cars-2022/.

22 Kane, Mark. “US: Ford Tripled BEV Sales In December, Doubled In 2022.” InsideEVs. 7 Jan 2023.

23 Mihalasco, Dan. “Volkswagen Delivers 500,000 ID. EVs One Year Ahead Of Schedule.” InsideEVs. 14 Nov 2022. https://insideevs.com/news/621604/volkswagen-delivers-500000-id-evs-one-year-ahead-schedule/.

24 Randall, Chris. “BMW delivered over 200,000 electric cars in 2022.” Electrive.com. 10 Jan 2023. https://www.electrive.com/2023/01/10/bmw-delivered-over-200000-electric-cars-in-2022/.

25 MacDonnell, Own et al. “Zero-Emission Truck and Bus Market Update.” CALSTART. Oct 2022. https://globaldrivetozero.org/site/wp-content/uploads/2022/10/ZE_Truck-Bus_update.pdf.

26 MacDonnell, Own et al. “Zero-Emission Truck and Bus Market Update.” CALSTART.

27 MacDonnell, Own et al. “Zero-Emission Truck and Bus Market Update.” CALSTART.

28 MacDonnell, Own et al. “Zero-Emission Truck and Bus Market Update.” CALSTART.

29 CALSTART. “Drive to Zero’s Zero-Emission Technology Inventory Data Explorer.” Version 1.0. Dec 2022. Available online at: https://globaldrivetozero.org/zeti-data-explorer/.

30 Seabaugh, Christian. “Alfa Romeo Locked Into Going All-Electric and Stellantis Will Catch Up.” Motortrend. 8 Feb 2022. https://www.motortrend.com/news/alfa-romeo-ev-plans-2027/

31 Priddle, Alisa. “Alfa Romeo Commits to Reimagines Giulia and Stelvio EVs to Lead U.S. Lineup.” Motortrend. 6 May 2022. https://www.motortrend.com/news/alfa-romeo-stelvio-giulia-ev-2028/

32 Priddle, Alisa. “Alfa Romeo Commits to Reimagines Giulia and Stelvio EVs to Lead U.S. Lineup.” Motortrend. 6 May 2022. https://www.motortrend.com/news/alfa-romeo-stelvio-giulia-ev-2028/

33 Jonhson, Peter. “Acura’s first electric vehicle, a GM-based SUV, is out for testing ahead of 2024 debut.” Electrek. 20 Dec 2022. https://electrek.co/2022/12/20/acuras-first-electric-vehicle-out-for-testing-ahead-of-debut-images/.

34 Reuters and Bloomberg. “BMW expects to hit 50% all-electric sales target ‘well ahead’ of 2030.” Automotive News Europe. 15 Mar 2023. https://europe.autonews.

com/automakers/after-doubling-sales-full-electric-bmw-and-mini-cars-last-year-automaker-expects-demand?utm_source=daily&utm_medium=email&utm_campaign=20230315&utm_content=hero-headline.
35 Morten-Borgmann, Max. "Transformation and responsibility: BMW Group steps up technological change for sustainable future." BMW Group. 16 March 2022. https://www.press.bmwgroup.com/global/article/detail/T0374213EN/transformation-and-responsibility:-bmw-group-steps-up-technological-change-for-sustainable-future.
36 Alkousaa, Riham and Carey, Nick. "BMW expects at least half of sales to be electric cars by 2030." Reuters. 17 Mar. 2021. BMW expects at least half of sales to be electric cars by 2030 | Reuters.
37 Randall, Chris. "BMW aims to sell over 2 million electric vehicles by the end of 2025." Electrive.16 Mar 2022. https://www.electrive.com/2022/03/16/bmw-aims-to-sell-over-2-million-bevs-by-the-end-of-2025/.
38 Bond, Camille. "GM's Buick rebrands as all-electric, sets 2030 deadline." E&E News EnergyWire. 2 June 2022. https://subscriber.politicopro.com/article/eenews/2022/06/02/gms-buick-rebrands-as-all-electric-sets-2030-deadline-00036333.
39 Shahan, Zachary. "Ford To Be 100% Electric by 2030!...In Europe." CleanTechnica, 17 Feb. 2021, https://cleantechnica.com/2021/02/17/ford-to-be-100-electric-by-2030-in-europe/.
40 Boudette, Neal. "Ford Splits Into Electric and Gas Divisions to Speed Up Transition." The New York Times. 2 Mar 2022. https://www.nytimes.com/2022/03/02/business/economy/ford-model-e.html.
41 Ford. "Ford Accelerating Transformation: Forming Distinct Auto Units to Scale EVs, Strengthen Operations, Unlock Value." 2 March 2022. https://media.ford.com/content/fordmedia/fna/us/en/news/2022/03/02/ford-accelerating-transformation.html.
42 Martinez, Michael. "Ford's goal: Build 2 million EVs globally by 2026." Automotive News. 1 July 2022. https://www.autonews.com/manufacturing/fords-goal-build-2-million-evs-globally-2026.
43 Michael, Martinez. "Ford's goal: Build 2 million globally by 2026."
44 Preston, Ben and Bartlett, Jeff. "Automakers Are Adding Electric Vehicles to Their Lineups. Here's
What's Coming." Consumer Reports. 10 Mar 2023. https://www.consumerreports.org/cars/hybrids-evs/why-electric-cars-may-soon-flood-the-us-market-a9006292675/#4.
45 Preston, Ben and Jeff Bartlett. "Automakers Are Adding Electric Vehicles to Their Lineups. Here's What's Coming." Consumer Reports. 7 June 2022. https://www.consumerreports.org/hybrids-evs/why-electric-cars-may-soon-flood-the-us-market-a9006292675/.
46 Ferris, David. "General Motors: EVs are coming, but gas cars are staying." EnergyWire, 7 Oct. 2021, https://subscriber.politicopro.com/article/eenews/2021/10/07/general-motors-evs-are-coming-but-gas-cars-are-staying-281690.
47 General Motors. "General Motors, the Largest U.S. Automaker, Plans to be Carbon Neutral by 2040." General Motors Newsroom. Jan 2021. https://news.gm.com/newsroom.detail.html/Pages/news/us/en/2021/jan/0128-carbon.html.
48 General Motors. "2019 Outlook: General Motors Strengthens Core Business and Future Mobility." 11 Jan. 2019, https://media.gm.com/content/dam/Media/gmcom/investor/2019/jan/Press-Release-1-11-19.pdf ; General Motors. "GM's Path to an All-Electric, Zero Emissions Future." GM Corporate Newsroom, 7 Mar. 2018, https://media.gm.com/media/us/en/gm/home.detail.html/content/Pages/news/us/en/2018/mar/0307-barra-speech.html.
49 Reuters. "GM signs agreements with suppliers, on course to reach 1 million EV capacity by 2025." Automotive News. 26 July 2022. https://www.autonews.com/automakers-suppliers/gm-signs-agreements-suppliers-course-reach-1-million-ev-capacity-2025.
50 Honda. "Honda Targets 100% EV Sales in North America by 2040, Makes New Commitments to Advances in Environmental and Safety Technology." American Honda Motor Co., Inc. 23 April 2021. https://hondanews.com/en-US/releases/release-32797eaea7316f1bed4bfcd27919f703-honda-targets-100-ev-sales-in-north-america-by-2040-makes-new-commitments-to-advances-in-environmental-and-safety-technology.
51 Reuters. "Honda to create division to speed up electrification development." Automotive News Europe. 24 Jan 2023. https://europe.autonews.com/automakers/honda-create-division-speed-electrification-development.
52 Toh. "Honda joins electric car race with $40 billion investment."
53 Preston and Bartlett. "Automakers Are Adding Electric Vehicles to Their Lineups. Here's What's Coming." Consumer Reports.
54 Hyundai Motor Company. "Hyundai Motor Presents Carbon Neutral Commitment at IAA Mobility 2021." 6 Sept. 2021. Hyundai Motor Presents Carbon Neutral Commitment at IAA Mobility 2021.
55 Preston, Ben and Jeff Bartlett. "Automakers Are Adding Electric Vehicles to Their Lineups. Here's What's Coming."
56 Preston and Bartlett. "Automakers Are Adding Electric Vehicles to Their Lineups. Here's What's Coming." Consumer Reports.
57 Randall, Chris. "Kia aims to sell 1.2 million EVs in 2030." Electrive. 3 March 2022. https://www.electrive.com/2022/03/03/kia-aims-to-sell-1-2-million-bevs-in-2030/.
58 Mazda. "Mazda Announces New Technology and Product Policy towards 2030 Based on Sustainable Zoom-Zoom 2030." 17 Jun 2023. Mazda Newsroom. https://newsroom.mazda.com/en/publicity/release/2021/202106/210617a.html.
59 Mercedes-Benz. "Mercedes-Benz prepares to go all-electric." Mercedes-Benz Group Media. 22 July 2021. https://group-media.mercedes-benz.com/marsMediaSite/en/instance/ko/Mercedes-Benz-prepares-to-go-all-electric.xhtml?oid=50834319.
60 "Mercedes-Benz to halve CO2 emissions by 2030." Reuters. 11 Apr 2022. https://www.reuters.com/business/sustainable-business/mercedes-benz-halve-co2-emissions-by-2030-2022-04-11/
61 Preston and Bartlett. "Automakers Are Adding Electric Vehicles to Their Lineups. Here's What's Coming." Consumer Reports.
62 Johnson, Peter. "Mitsubishi will be a 'mainly BEV' brand by 2035 with 4 EVs, including an electric pickup." Electrek. 10 Mar 2023. https://electrek.co/2023/03/10/mitsubishi-going-electric-by-2035-with-4-new-evs-including-a-truck/.
63 Preston, Ben and Jeff Bartlett. "Automakers Are Adding Electric Vehicles to Their Lineups. Here's What's Coming."
64 Lambert, Fred. "Porsche sets goal for 80% of sales to be electric by 2030." Electrek. 18 March 2022. https://electrek.co/2022/03/18/porsche-sets-goal-80-sales-electric-by-2030/.
65 Porsche. "The next generation of the Porsche Macan will be electric." 26 Feb. 2019, https://newsroom.porsche.com/fallback/en/2019/products/porsche-macan-next-generation-elektric-leipzig-17067.html.
66 Stellantis. "Accelerating the Drive to Electrification." Stellantis. https://www.stellantis.com/en/technology/electrification.
67 Noble, Breana. "Nearly all Stellantis nameplates will have electrified option by 2025." The Detroit News. 15 Apr. 2021. Nearly all Stellantis nameplates will have electrified option by 2025 (detroitnews.com).
68 Klyayman, Ben. "Stellantis' Chrysler brand to go all electric by 2028 – executive." Reuters. 5 Jan. 2021. https://www.reuters.com/technology/stellantis-chrysler-brand-go-all-electric-by-2028-executive-2022-01-05/.
69 Johnson, Peter. "Jeep says it will launch 4 all-electric SUVs by 2025, including Wagoneer and 'Wrangler' EVs." Electrek. 8 Sept 2022. https://electrek.co/2022/09/08/jeep-says-will-launch-4-ev-suvs-2025/.

70 Preston and Bartlett. “Automakers Are Adding Electric Vehicles to Their Lineups. Here’s What’s Coming.” Consumer Reports.
71 Bloomberg. “Subaru to spend $1.9B on battery capacity, EV line.”
72 Greimel, Hans. “Subaru envisions U.S. lineup of ‘several’ EVs by 2025; operating profits soar.” Automotive News. 8 Feb 2023. https://www.autonews.com/manufacturing/subaru-unveils-ambitious-ev-plans-profits-soar.
73 Toyota. “The Future is Now: Toyota Launches All-New bZ4X SUV Battery-Electric Vehicle.” Toyota Newsroom. 12 April 2022. https://pressroom.toyota.com/the-future-is-now-toyota-launches-all-new-bz4x-suv-battery-electric-vehicle/.
74 Greimel, Hans. “Subaru envisions U.S. lineup of ‘several’ EVs by 2025; operating profits soar.” Automotive News. 8 Feb 2023. https://www.autonews.com/manufacturing/subaru-unveils-ambitious-ev-plans-profits-soar.
75 Randall, Chris. “VW to introduce 25 EVs in the US by 2030.” Electrive.com. 22 Mar 2022. https://www.electrive.com/2022/03/22/vw-to-introduce-25-evs-in-the-us-by-2030/
76 Reuters. “VW to end sales of combustion engine in Europe by 2035.” 23 Jun. 2021. https://www.reuters.com/business/sustainable-business/vw-end-sales-combustion-engines-europe-by-2035-2021-06-26/.
77 Volvo Car USA Newsroom. “Volvo Cars to be fully electric by 2030.” Volvo. 2 Mar 2021. https://www.media.volvocars.com/us/en-us/media/pressreleases/277409/volvo-cars-to-be-fully-electric-by-2030#:~:text=Volvo%20Cars%20is%20committed%20to,internal%20combustion%20engine%2C%20including%20hybrids.
78 Volvo Car USA. “Volvo Car USA announces 2023 lineup will be only hybrid or electric, and Google-equipped.” Volvo Car USA Newsroom. 4 May 2022. https://www.media.volvocars.com/us/en-us/media/pressreleases/298780/volvo-car-usa-announces-2023-lineup-will-be-only-hybrid-or-electric-and-google-equipped
79 “One Million Real-World Electric Miles: Freightliner’s Battery Electric Customer Fleets Reach Important Milestone.” Daimler Truck North America. 5 Oct 2021. https://northamerica.daimlertruck.com/PressDetail/one-million-real-world-electric-miles-freightliner-s-2021-10-05
80 Edelstein, Stephen. “Truckmakers commit to 2040 diesel phaseout in Europe, CO_2-neutral manufacturing in the US.” Green Car Reports, 15 Dec. 2020, https://www.greencarreports.com/news/1130647_truckmakers-commit-to-2040-diesel-phaseout-in-europe-co2-neutral-manufacturing-in-the-us.
81 Roberts, Daniel and Maria Violette. “Order Update: Your BrightDrop EV is on the Way.” Brightdrop. 3 April 2023. https://www.gobrightdrop.com/newsroom/first-canadian-built-zevos-shipped.
82 Roberts, Daniel and Maria Violette. “Order Update: Your BrightDrop EV is on the Way.” Brightdrop. 3 April 2023. https://www.gobrightdrop.com/newsroom/first-canadian-built-zevos-shipped.
“Subaru to spend $1.9B on battery capacity, EV line.” Bloomberg. 13 May 2022. https://subscriber.politicopro.com/article/eenews/2022/05/13/subaru-to-spend-1-9b-on-battery-capacity-ev-line-00032210.
83 De Lombaerde, Geert. “Traton boosting its trucking electrification investments.” Fleet Owner. 16 Mar 2022. https://www.fleetowner.com/emissions-efficiency/article/21236316/traton-adding-to-electrification-investments
84 Volvo Trucks. “Record order from Maersk for Volvo electric trucks.” Volvo Trucks. 29 March 2022. https://www.volvotrucks.com/en-en/news-stories/press-releases/2022/mar/volvo-trucks-receives-record-order-for-electric-trucks-from-maersk.html.
85 Volvo Trucks. “Sales start for Volvo’s heavy-duty electric trucks.” Volvo Trucks. 2 May 2022. https://www.volvotrucks.com/en-en/news-stories/press-releases/2022/may/sales-start-for-volvos-heavy-duty-electric-trucks.html.
86 Volvo Trucks.” Break-through: Volvo Trucks starts series production of heavy electric trucks.” Volvo Trucks. 14 Sep 2022. https://www.volvotrucks.com/en-en/news-stories/press-releases/2022/sep/volvo-trucks-starts-series-production-of-heavy-electric-trucks.html
87 “Volvo launches more electric trucks” Volvo Trucks. 12 Dec 2022. https://www.volvotrucks.com/en-en/news-stories/press-releases/2022/dec/volvo-launches-more-electric-trucks.html
88 Workhorse. “ Workhorse Group Reports Fourth Quarter and Full Year 2022 Results.” Workhorse Group Inc. 1 Mar 2023. https://ir.workhorse.com/news-events/press-releases/detail/208/workhorse-group-reports-fourth-quarter-and-full-year-2022.
89 Kane, Mark. “Elon Musk: Tesla Semi Production Target Is 50,000 Units In 2024.” insideevs. 20 Oct 2022. https://insideevs.com/news/617631/tesla-semi-production-target-50000-2024/.
90 Luke McCollum, VP Supply Chain Sustainability, Walmart and Roberta Barbieri, VP Global Sustainability, PepsiCo. “Here’s How Policy Can Design a Reliable and Resilient Zero Emissions Future for Transportation Fleets”. 14 December 2021. https://www.linkedin.com/pulse/heres-how-policy-can-design-reliable-resilient-zero-emissions-cortes/?published=t.
91 The Climate Group. “EV100 members.” https://www.theclimategroup.org/ev100-members.
92 Canoo. “ Zeeba Signs Binding Agreement to Purchase 3,000 Canoo Electric Vehicles.” Canoo. 11 Oct 2022. https://www.press.canoo.com/press-release/zeeba.
93 Canoo. “Kingbee Places Binding Order for 9,300 Canoo Electric Vehicles.” Canoo. 17 Oct 2022. https://www.press.canoo.com/press-release/kingbee.
94 County of Sanoma. “Sanoma County announces purchase of ten all-electric buses bolstering shift to zero-emission transit fleet.” County of Sanoma. 31 Jan 2023. https://sonomacounty.ca.gov/sonoma-county-announces-purchase-of-ten-all-electric-buses-bolstering-shift-to-zero-emission-transit-fleet.
95 Doll, Scooter. “The Shyft Group receives first pre-order for 2,000 units of its Blue Arc electric delivery vans.” electrek. 14 September 2022. https://electrek.co/2022/09/14/the-shyft-group-receives-first-pre-order-for-2000-units-of-its-blue-arc-electric-delivery-vans/.
96 Mihalascu, Dan. “USPS To Purchase 9,250 Ford E-Transit Electric Delivery Vans.” insideevs. 1 Mar 2023. https://insideevs.com/news/655022/usps-purchase-9250-ford-etransit-electric-delivery-vans/.
97 Mihalascu, Dan. “Caltrans Orders 399 Tesla Model 3s As It Seeks To Electrify Fleet.” insideevs. 5 Dec 2022. https://insideevs.com/news/625127/caltrans-orders-399-tesla-model-3s-as-it-seeks-to-electrify-fleet/.
98 Thomas, Ian. “Domino’s is building a fleet of GM Chevy Bolt EVs for the future of pizza delivery.“ CNBC. 26 Nov 2022. https://www.cnbc.com/2022/11/26/why-your-next-dominos-pizza-delivery-may-arrive-in-a-chevy-bolt-ev.html.
99 Lewis, Michelle. “An Ohio company just landed the largest state EV bus contract ever.” Electrek. 7 Feb 2023. https://electrek.co/2023/02/07/an-ohio-company-just-landed-the-largest-state-ev-bus-contract-ever/.
100 Johnson, Peter. ”150 armored electric vehicles hitting US streets for the future of secure cash delivery.” electrek. 1 Feb 2023. https://electrek.co/2023/02/01/150-armored-electric-vehicles-hitting-us-streets-for-cash-handling/.
101 Lewis, Michelle. ”New York City is buying 925 EVs – here’s what’s included.” electrek. 4 Jan 2023. https://electrek.co/2023/01/04/new-york-city-is-buying-925-evs-heres-whats-included/.
102 Kane, Mark. ”Pride Group Orders 250 eCascadia And eM2 Electric Trucks.” insideevs. 5 Sep 2022. https://insideevs.com/news/608168/pride-orders-ecascadia-em2-electric-trucks/.

Electric Vehicle Market Update