

Electric Vehicles and market developments

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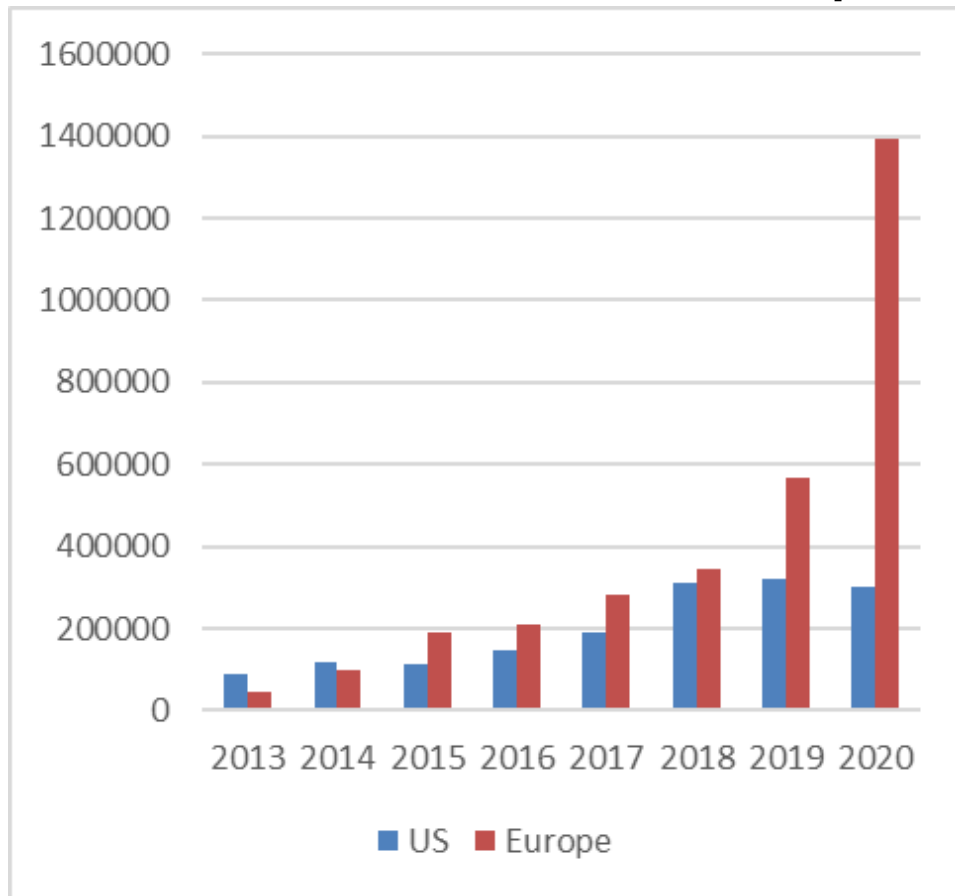


Basic facts about EVs

- EVs get over 100 MPGe so they use only a quarter of the energy compared to average internal combustion engine vehicles
- Cheaper to drive and maintain
- No local emissions – much lower overall emissions
- Can be powered with renewable energy
- EVs are more powerful and provide smoother ride
- 85% of charging happens at home
- EVs always start in cold weather and heat up much faster
- In 2020 average range of EVs sold in the US was over 250 miles
- Only 5% of vehicle trips people take in the US are over 30 miles

EV market developments

EV sales in US vs Europe



Some market trends by numbers:

2020 US light duty sales **down 14.4%**

2020 Tesla US sales **up 20%**

Tesla market share of US EV sales **79%**

Tesla market share in MN 2019 **0.9%**

Tesla market share in MN 2020 **1.1%**

EV market share in Europe 2019 **3.3%**

EV market share in Europe 2020 **10.2%**

EV market share in Norway 2020 **75%**

EV market share in Germany Jan 2020 **22%**

European auto industry expects that EV market share in Europe 2025 is **40%**

Industry perspectives:

- By the end of 2025 General Motors will offer 30 all-electric models globally and 40 percent of the company's U.S. models offered will be battery electric vehicles. GM has also pledged to eliminate tailpipe emissions from new light-duty vehicles by 2035.
- Ford Europe says 100 percent of its passenger vehicles will be zero-emissions capable by 2026 and by 2030 all electric.
- Norway is planning to phase out sales of all new fossil-fuel vehicles by 2025.
- Jaguar is switching to all electric by 2025.
- Volvo CEO Hakan Samuelsson: "I would be surprised if we wouldn't deliver only electric cars from 2030."

Deborah Wahl, Chief Marketing Officer, GM: "There are moments in history when everything changes. Inflection points. We believe such a point is upon us for the mass adoption of electric vehicles."

Automotive News 1/18/2020

Manufacturer			Range										Charging speed (miles/hr)			Performance				
Make	Model	Photo	Seating	EV Type	FWD/RWD/AWD	Base MSRP	Federal tax credit	Price after federal tax credit	Battery size (kWh)	Electric Range (miles)	Total Range (miles)	Charging rates (kW) L2/DCFC	Level 1 120V	Level 2 240V	DCFC 400+V	MPGe/MPG	Top Spd (mph)	0-60 mph (sec)	Towing capacity (lbs)	Crash Ratings: IIHS/NHTSA
Audi	e-tron		5	BEV	AWD	\$74,800	\$7,500	\$67,300	95	204	204	11/130	3	24	228	74	155	5.5	4000	Top Safety Pick + / Not rated
Audi	Q5 e		5	PHEV	AWD	\$52,900	\$6,712	\$46,188	14.1	20	390	7.4	2	14	N/A	65/27	130	5	4400	Good/ Not rated
Audi	A8L PHEV		5	PHEV	AWD	\$94,000	\$6,795	\$87,205	14.1	17	420	7.4	2	12	N/A	54/23	130	4.9	0	Not Rated
BMW	i3		4	BEV	RWD	\$44,450	\$7,500	\$36,950	42	153	153 (200)	7.4/50	4	27	147	124 (39)	93	6.9-7.2	0	Good-Acceptable/ Not rated
BMW	i8		4	PHEV	AWD	\$147,500	\$3,793	\$143,707	7.2	15	330	3.3	3	7	N/A	76/28	155	4.2	0	Not rated/ Not rated
BMW	X3 xDri																			Top Safety Pick + / Not rated
BMW	53i																			Top Safety Pick + / Not rated
BMW	745e		5	PHEV	AWD	\$95,550	\$5,836	\$89,714	12	16	290	3.7	2	6	N/A	56/22	155	4.9	0	Not rated / Not rated
Chevrolet	Bolt EV		5	BEV	FWD	\$36,620	\$1,875	\$34,745	66	259	259	7.2/50	4	25	140	118	98	6.5	0	Top Safety Pick / 5 star
Chrysler	Pacifica Hybrid (PHEV)		7	PHEV	FWD	\$39,995	\$7,500	\$32,495	16	33	570	6.6	3	16	N/A	84/32	107	7.8	0	Top Safety Pick / 5 star
Ford	Fusion Energi		5	PHEV	FWD	\$35,000	\$4,609	\$30,391	9	26	610	3.3	3	9	N/A	97/42	85	8.5	0	Good/ 5 star
Honda	Clarity PHEV		5	PHEV	FWD	\$33,400	\$7,500	\$25,900	17	48	340	6.6	4	22	N/A	110/42	110	8.8	0	Not rated/ Not rated
Jaguar	I-PACE		5	BEV	AWD	\$69,850	\$7,500	\$62,350	90	246	246	7.0/85	3	16	153	76	124	4.5	0	Not rated
Kia	Niro PHEV		5	PHEV	FWD	\$28,500	\$4,543	\$23,957	8.9	26	560	3.3	4	10	N/A	105/46	107	9	0	Top Safety Pick + / 4 star

www.EVInfoList.com

This table is updated by Jukka Kukkonen, Shift 2 Electric.

Photos and information sources: Manufacturers' websites and www.fueleconomy.gov

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EVs coming to the US market 2021

Crossovers and SUVs

Sedans



Polestar 2



Audi e-tron GT



Lucid Air



Mercedes EQS



Volkswagen ID.4



Nissan Ariya



BMW iX



Hyundai Tucson PHEV



Ford Mustang Mach-E



Chevrolet EUV



Audi Q4 e-tron



Kia Sorento PHEV



Volvo XC40 Recharge



Hyundai Ioniq 5



Ford Escape PHEV



Jeep Wrangler 4xe



Rivian R1S

Pickup trucks



GMC Hummer EV



Rivian R1T



Tesla Cybertruck



Ford F-150 Electric