



It's Electric?

Adoption of Electric and Alternative Fuel Vehicles

OFFICE OF LEGISLATIVE RESEARCH AND GENERAL COUNSEL

Transportation Interim Committee

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Vehicle Registrations by Fuel Type

Electric and hybrid vehicles comprise a small proportion of total standard passenger and light truck registrations...

Fuel Type	2015		2016		2017		2018		2019		2020		2021	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Electric	1,016	0.1%	1,519	0.1%	2,368	0.1%	3,454	0.2%	5,401	0.2%	7,886	0.3%	10,569	0.4%
All Hybrid	25,732	1.2%	29,505	1.4%	33,861	1.5%	38,349	1.7%	42,768	1.8%	47,709	1.9%	51,873	2.0%
All SP/LT Vehicles	2,097,878		2,168,581		2,242,918		2,329,549		2,435,169		2,512,711		2,539,729	

Source: Utah State Tax Commission, "On Highway Registrations by County, Vehicle Type and Fuel Type," 2015-2021, accessed: <https://tax.utah.gov/econstats/mv/registrations>



Registration Growth by Fuel Type

But, the # of registered electric and hybrid vehicles has increased rapidly since 2015.

Fuel Type	% Growth (15-21)
Electric	940.3%
All Hybrid	101.6%
All SP/LT Vehicles	21.1%

New Vehicle Sales

New passenger vehicle and light truck sales align with registration trends...

Fuel Type	2017		2018		2019		2020		% Growth (17-20)
	# Sold	% Total	# Sold	% Total	# Sold	% Total	# Sold	% Total	
Gasoline	115,374	86.07%	113,062	84.3%	112,469	85.14%	97,339	84.07%	-15.6%
Diesel	14,545	10.85%	15,814	11.8%	13,843	10.48%	11,582	10.00%	-20.4%
Hybrid	3,022	2.25%	2,858	2.1%	3,512	2.66%	4,170	3.60%	+38.0%
Electric	611	0.46%	1,753	1.3%	1,843	1.40%	2,227	1.92%	+264.5%
Plug-in Hybrid	483	0.36%	658	0.5%	393	0.30%	454	0.39%	-6.0%

Source: Utah State Tax Commission, "New Passenger and Light Truck Dealer Sales by Fuel Type," 2017-2020, accessed: <https://tax.utah.gov/econstats/mv/new-vehicle-sales>



National Sales Picture

Nationally, plug-in hybrid and all electric vehicles show similar sales growth, with hybrids lagging...

But, hybrid sales grew by 3635.1% between 2000 and 2007 and have fluctuated since.

Year	Hybrid		Plug-in Hybrid		All Electric		# LVs Sold*
	# Sold*	%	# Sold*	%	# Sold*	%	
2011	266.5	2.1%	7.7	0.1%	10.1	0.1%	12,542
2012	434.6	3.1%	38.6	0.3%	14.6	0.1%	14,220
2013	495.5	3.2%	49	0.3%	48.1	0.3%	15,279
2014	452.2	2.8%	55.4	0.3%	63.5	0.4%	16,192
2015	384.4	2.2%	43	0.3%	71.1	0.4%	17,095
2016	346.9	2.0%	72.9	0.4%	86.7	0.5%	17,169
2017	362.9	2.2%	91.1	0.5%	104.4	0.6%	16,818
2018	343.2	2.0%	122.8	0.7%	238.8	1.4%	16,913
% Sales Growth (11-18)	28.8%		1494.8%		2264.4%		34.9%

*Number sold in thousands

Source: Oak Ridge National Laboratory, *Transportation Energy Data Book: Edition 38*, "Table 6.2: Hybrid and Plug-In Vehicle Sales, 1999-2018," January 2020, https://tedb.ornl.gov/wp-content/uploads/2021/02/Edition38_Full_Doc.pdf



Future Projection

Studies project increased adoption of electric and hybrid vehicles:

- [UDOT-commissioned study](#) from 2015 modeled 3 scenarios for hybrid and EV adoption in Utah by 2040:
 1. Current market share: 5% of all vehicles
 2. Moderate adoption: 57%
 3. Aggressive adoption: 75%
- [Deloitte's 2020 EV forecast](#) projects battery electric vehicles and plug-in hybrid vehicles to have 27% US market share by 2030 with growth slowing thereafter
- [BloombergNEF's *Electric Vehicle Outlook 2020*](#) expects global passenger EV sales to increase from 1.7 million in 2020 to 54 million by 2040 and comprise 10% of passenger vehicle sales by 2025, 28% by 2030 and 58% by 2040

What factors are driving these trends and projections?

Consumer

- [2020 Consumer Reports survey](#) found 71% of US drivers would consider buying EV in the future and about 1/3 interested in an EV for their next vehicle. Similarly, [2018 AAA survey](#) found that 20% of Americans will likely purchase an electric vehicle with their next purchase, up from 15% in 2017.
- [2020 AAA survey](#) of current EV owners found that 96% would buy or lease another EV; but, [recent study of CA drivers](#) found that about 1 in 5 would not.

Industry

- [GM plans](#) to stop selling light-duty vehicles with gas or diesel engines by 2035, spending \$27 billion to launch 30 EV models by 2025
- [Ford plans](#) to invest \$22 billion in electrification through 2025
- [VW plans](#) for all electric vehicles to exceed 50 percent of US sales by 2030
- [Bloomberg reports](#) EVs are approaching internal combustion engine vehicles in terms of cost.

Regulatory

- [CA executive order](#) requires new passenger vehicle sales to be zero-emission by 2035; [MA announced a similar plan](#), also with a 2035 timeframe; [WA is proposing plan](#) to stop sale of vehicles with gasoline engines by 2030.
- [UK plans](#) to ban sale of cars and vans with gasoline and diesel engines by 2030; [Canada has 2040 target](#) for zero-emissions vehicles; [Japan announced](#) plans to end sale of gasoline-only vehicles by 2035; [China is exploring](#) similar policies.



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