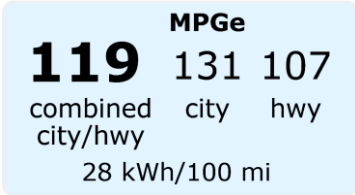


Understanding Efficiency

Energy



EVs are far more efficient than traditional vehicles. They convert over 77% of the energy from electricity to power the wheels. In contrast, only 12% to 30% of the energy from gasoline gets converted to power the wheels.

MPGe is a value provided by the EPA to make efficiency comparisons easier. It represents the MPG equivalent for an EV.

Measurement

Electricity efficiency is measured in a variety of ways.

mi/kWh (miles per kilowatt-hour) is the most common, since it resembles the familiar MPG (miles per gallon) where higher represents better efficiency.

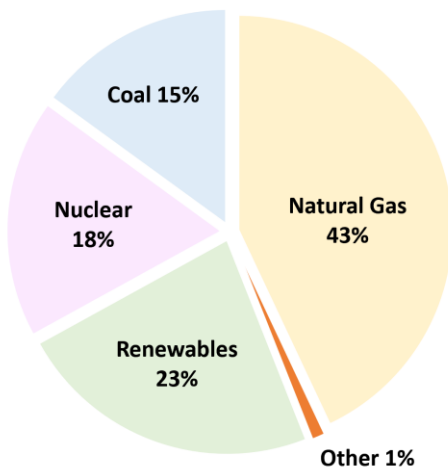
kWh/100mi (kilowatt-hour per 100 miles) is the more informative efficiency measure, since it enables simple recognition of electricity quantity consumed.

Wh/mi (watt-hour per mile) is the preferred format for conveying the same information as kWh/100mi.

mi/kWh	kWh/100mi	Wh/mi	mi/kWh	kWh/100mi	Wh/mi
5.0	20.0	200	3.5	28.6	286
4.9	20.4	204	3.4	29.4	294
4.8	20.8	208	3.3	30.3	303
4.7	21.3	213	3.2	31.3	313
4.6	21.7	217	3.1	32.3	323
4.5	22.2	222	3.0	33.3	333
4.4	22.7	227	2.9	34.5	345
4.3	23.3	233	2.8	35.7	357
4.2	23.8	238	2.7	37.0	370
4.1	24.4	244	2.6	38.5	385
4.0	25.0	250	2.5	40.0	400
3.9	25.6	256	2.4	41.7	417
3.8	26.3	263	2.3	43.5	435
3.7	27.0	270	2.2	45.5	455
3.6	27.8	278	2.1	47.6	476

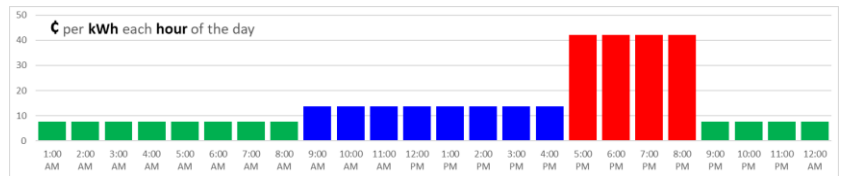
Sources

Electricity Sources - United States 2024



A commonly overlooked aspect of EV efficiency is how the ratio of sources come into play. Electricity generators using fossil fuels are most efficient operating at a constant rate. A result of this is excess capacity during overnight hours. Providers offer discounted rates to EV owners to take advantage of electricity that would otherwise be wasted.

This electricity pricing example illustrates the time of day when demand is high and when discounts are available.



Driving

Efficiency is also dependent upon EV driving. Choices you make regarding speed and heater settings will have a major impact. Watch gauges as you drive to learn how your actions make a difference. Awareness is key. And don't forget, things like tire-pressure and battery-temperature can be an influence too.

