

IQ EV Charger case study

Charging up with the California sun



Driver details

- Jay, an Enphase employee, lives in Saratoga, California, and has an Enphase Energy System at home. He added an IQ EV Charger to save money by charging his EV at home using solar energy.
- He drives an average of 40 miles per day with an average efficiency of 4.4 miles per kWh, and primarily charges his EV at home during the day with excess solar.
- His home utility plan charges at an off-peak rate of \$0.38/kWh from June to September and \$0.33/kWh from October to May.

IQ EV Charger savings and benefits¹

- The IQ EV Charger may pay for itself in 1-2 years.
- Over \$5,600 can be saved on energy costs over 5 years by smart charging with excess solar at optimal times.
- Actual savings may be higher when additional state and utility rebates and incentives are applied to IQ EV Charger purchase and installation costs.
- Energy costs can be further reduced by always utilizing the Self-Consumption profile in the Enphase App when charging.

Jay’s estimated costs and savings over time²

ANNUAL ENERGY USE FOR CHARGING THE VEHICLE	ANNUAL COST OF CHARGING AT HOME WITH OTHER EV CHARGERS AND NO SOLAR	ANNUAL COST OF CHARGING AT HOME WITH IQ EV CHARGER AND ENPHASE SOLAR	PROJECTED ANNUAL SAVINGS WITH IQ EV CHARGER AND ENPHASE SOLAR
3,318 kWh	\$1,150	\$119	\$1,031
EV CHARGER AND INSTALLATION COST AFTER 30% FEDERAL TAX CREDIT	5-YEAR COST OF CHARGING AT HOME WITH OTHER EV CHARGERS AND NO SOLAR	5-YEAR COST OF CHARGING AT HOME WITH IQ EV CHARGER AND ENPHASE SOLAR	PROJECTED SAVINGS OVER 5 YEARS WITH IQ EV CHARGER AND ENPHASE SOLAR
\$1,225	\$6,280	\$597	\$5,684

Assumptions:

- Customer owned an Enphase Energy System before buying the IQ EV Charger, so the cost of the system is not included here.
- Calculation for home charging using an IQ EV Charger and Enphase Energy System is based on actual usage data from April 2024 to July 2024.

Learn more at:
enphase.com/ev-chargers/home

¹As of September 2024, assuming all variables shown below remain constant over the next 5 years. Actual results may vary.
²See financial modeling on page 2 for more information.

Financial modeling

Buying and installing an IQ EV Charger involves fixed product and installation costs. Typically, EV charging involves variable energy costs when charging from the grid versus charging using solar energy. To understand the value of an IQ EV Charger, it is important to calculate the total energy required for EV charging and then evaluate the charging options available to meet the energy requirement.

Energy calculation for EV

Metric	Value
Miles driven per day	40
Miles driven per year	14,600
Vehicle efficiency	4.4 miles/kWh
Total energy required in a year	3,318 kWh

Fixed costs

Metric	Value
Average cost of IQ 40 or IQ 50 EV Charger	\$750
Cost of installation	\$1,000
Total fixed cost after the 30% federal tax credit	\$1,225

Variable costs

Options for EV charging	Cost per kWh	Total variable cost for 1 year	Total variable cost for 5 years
Home charging with any other EV charger	\$0.35/kWh	\$1,150	\$6,280
Home charging with IQ EV Charger and Enphase solar	\$0.04/kWh*	\$119	\$597

*When only solar energy is used for EV charging, the variable cost is \$0. Usage data from April 2024 to July 2024 was analyzed from the Enphase App. The variable cost of EV charging was calculated using data from the Session History section.

Customer usage data

Metric	Value
Total cost of EV charging from April to July	\$46.30
Total energy consumed for EV charging from April to July	1,287 kWh
Cost per kWh	\$0.04/kWh