

Solar Panels Savings

How much do solar panels save in 2020?

In addition to reducing your carbon footprint, residential solar panels help you save money on your utility bill.

Local rebates and incentives can make solar panel installation easier and strengthen return on investment. However, since energy usage and costs vary around our country, and even from home to home:

- Statistics on how much solar energy will save an average house is almost meaningless (although for those looking for solar savings stats, see the table below)
- Calculating how much money solar panels will save you requires knowledge of your power usage, local electricity rates, estimated solar production and any federal, state and local solar incentives (such as the [26% federal solar tax credit](#)) that affects the upfront cost of a solar system where you live.

A solar savings calculator will compute how many solar panels you need to power your home, it will tell you how much they will cost, and show your solar payback period including both monthly and lifetime solar savings.

Your return on investment is shown alongside local rebates and the federal tax credit. It was originally developed with funding from the Department of Energy.

How much do solar panels save the average home?

The average annual electricity consumption for a U.S. residential utility customer is 10,972 kilowatt-hours (kWh) per year, or an average of 914 kWh per month.

Multiply that by the national average electricity rate as of June 2020 (\$0.13 per kWh) and you'll find that the typical American family has electricity bills totaling \$1,450 a year.

This means that if enough solar panels were to be installed to cover the average electricity usage across the country, average solar panel system savings for any home in America in 2020 would be about \$1,450 per year.

However, what we all really want to know is:

- How much are the solar savings per month?
- How much do these energy cost savings add up to over a 25-year period?

In the table below, we list these figures for a typical home in each state.

Source: [Solar Reviews](#)

Are solar power savings real? And what is avoided cost?

When we talk about solar savings, we are talking about avoided energy costs. That's the amount you would have spent on utility electricity had you not installed a solar power system on your home to provide the same power.

And yes, these energy bill savings are very real. Because it's highly likely you will continue to need to consume electricity at your home, solar savings are considered a very bankable investment return.

The first step to working out solar savings is to understand how much electricity you use now, how much that costs you, and how much electricity you are likely to use in the future.

Here is a list of the average savings that are likely to be achieved by an average US homeowner in each of the top 50 solar cities in America, given they installed a 6kW solar power system on their home (the typical size of a residential solar energy system in 2020).

Average monthly and lifetime solar savings by state and city

City	State	SPR cost	Annual production of a 6 kW system	Average monthly savings Year 1	25-year bill savings	Top-rated solar companies in US major cities
New York	New York	0.19	6882	\$108.97	\$47,548	See List
Los Angeles	California	0.19	9066	\$143.55	\$62,638	See List
Chicago	Illinois	0.13	6474	\$70.14	\$30,604	See List
Houston	Texas	0.11	7770	\$71.23	\$31,080	See List
Phoenix	Arizona	0.13	9366	\$101.47	\$44,276	See List
Philadelphia	Pennsylvania	0.14	7140	\$83.30	\$36,349	See List
San Antonio	Texas	0.11	8094	\$79.24	\$32,376	See List
San Diego	California	0.19	9024	\$142.88	\$62,348	See List
Dallas	Texas	0.11	8220	\$75.35	\$32,880	See List

San Jose	California	0.19	8435	\$133.55	\$58,278	See List
Austin	Texas	0.11	8154	\$74.75	\$32,616	See List
Jacksonville	Florida	0.12	7416	\$74.16	\$32,361	See List
San Francisco	California	0.19	8922	\$141.27	\$61,643	See List
Columbus	Ohio	0.13	6750	\$73.13	\$31,909	See List
Indianapolis	Indiana	0.12	7068	\$70.68	\$30,842	See List
Fort Worth	Texas	0.11	8544	\$78.32	\$34,176	See List
Charlotte	North Carolina	0.11	7962	\$72.99	\$31,848	See List
Seattle	Washington	0.10	5664	\$47.20	\$20,596	See List
Denver	Colorado	0.12	8682	\$86.82	\$37,885	See List
El Paso	Texas	0.11	9660	\$88.55	\$38,640	See List
Washington	District of Columbia	0.13	7620	\$82.55	\$36,022	See List
Boston	Massachusetts	0.22	6768	\$124.08	\$54,144	See List
Detroit	Michigan	0.15	7020	\$87.75	\$38,291	See List
Nashville	Tennessee	0.11	7686	\$70.46	\$30,774	See List
Memphis	Tennessee	0.11	7716	\$70.73	\$30,864	See List
Portland	Oregon	0.11	6078	\$55.72	\$24,312	See List
Oklahoma City	Oklahoma	0.10	8430	\$70.25	\$30,655	See List
Las Vegas	Nevada	0.12	9672	\$96.72	\$42,205	See List
Louisville	Kentucky	0.11	7386	\$67.71	\$29,544	See List
Baltimore	Maryland	0.13	7632	\$82.68	\$36,079	See List
Milwaukee	Wisconsin	0.14	6576	\$76.72	\$33,478	See List
Albuquerque	New Mexico	0.13	9528	\$103.22	\$45,041	See List
Tucson	Arizona	0.13	9498	\$102.90	\$44,900	See List

Fresno	California	0.19	8694	\$137.66	\$60,068	See List
Sacramento	California	0.19	8538	\$135.19	\$58,990	See List
Mesa	Arizona	0.13	9540	\$103.35	\$45,098	See List
Kansas City	Missouri	0.11	8004	\$73.37	\$32,016	See List
Atlanta	Georgia	0.12	7770	\$77.70	\$33,095	See List
Long Beach	California	0.19	9012	\$142.69	\$62,265	See List
Colorado Springs	Colorado	0.12	9270	\$92.70	\$40,451	See List
Raleigh	North Carolina	0.11	8130	\$74.53	\$32,520	See List
Miami	Florida	0.12	8040	\$80.40	\$35,084	See List
Virginia Beach	Virginia	0.12	8052	\$80.52	\$35,136	See List
Omaha	Nebraska	0.11	8172	\$74.91	\$32,688	See List
Oakland	California	0.19	8646	\$136.90	\$59,736	See List
Minneapolis	Minnesota	0.13	7788	\$84.37	\$36,816	See List
Tulsa	Oklahoma	0.10	8172	\$68.10	\$29,716	See List
Arlington	Texas	0.11	8136	\$74.58	\$32,544	See List
New Orleans	Louisiana	0.10	7278	\$60.65	\$26,465	See List
Wichita	Kansas	0.13	8388	\$90.87	\$39,652	See List

Note:

- The “Cost of utility company power” in the table above reflects an average of existing rate plans from the largest utility in each state.
- Forecast solar production of a 6kW system assumes installation at an optimal tilt and azimuth, with typical insolation conditions based on the data from the [National Renewable Energy Laboratory](#) and no external shading.
- 25-year savings forecast includes an expected inflation in the cost of utility power of 3% per year.
- The solar system is purchased in cash and owned, so the full value of avoided utility payments is held by the homeowner (as opposed to a [solar lease](#)).