

Solar panels have been improving in collection efficiency and decreasing in cost making them more affordable for homeowners. Although Sitka may not be ideal for solar energy, tax credits for solar panels and battery storage systems may make residential solar or solar + battery storage installations worth considering locally.

## Considerations Before Investing

- The Department of Energy estimates that only about half of US homes are appropriate for solar panels.
- South-facing roofs are generally best, but the age of the existing roof also must be taken into account.
- Cloud cover common in Sitka and tree canopy decrease efficiency.
- Solar energy is greatest in Sitka from April to September.
- Battery storage is required to take advantage of the energy generated around the clock.
- The Sitka Electric Dept. does not currently purchase solar electricity from homeowners (i.e., give a credit for unused solar electricity or “net metering”). This will have implications for solar panel cost benefits.
- Tax credit requirements for the *Residential Clean Energy Property Credit* covering solar panels and battery storage are complex and influence when you purchase, install, and claim the tax credits. In a given year, the tax credit cannot exceed the total taxes owed. However, unused credit may be carried forward to future years.

**LEARN MORE:** <https://www.canarymedia.com/articles/guides-and-how-tos/ask-these-10-questions-if-you-want-to-get-rooftop-solar> and <https://www.energy.gov/eere/solar/homeowners-guide-going-solar>

## Federal Solar and Battery Storage Tax Credits

- From 2023-2032, the *Residential Clean Energy Property Credit* includes a tax credit for solar electricity and solar hot water heating projects up to 30% of the cost. In 2033 and 2034, the credit rate decreases.
- There are no personal income or solar equipment expense caps for the Residential Clean Energy Property Credits.
- The solar credit includes the cost of the solar panels; contractor labor cost; permitting, inspection, and developer fees; and system equipment such as wiring and inverters.
- The Residential Clean Energy Property Credit includes tax credits for battery storage up to 30% of the cost. The battery storage must have a capacity rating of 3 kilowatt-hours or greater.
- Similar tax credits are available for fuel cell, small wind energy, and geothermal heat pump property expenditures up to 30% of the cost.
- If not covered by the credits listed above, the Energy Efficient Home Improvement Credit may be available for electric panel upgrades up to 30% of cost, up to \$600.

**LEARN MORE:** <https://www.energy.gov/eere/solar/homeowners-guide-federal-tax-credit-solar-photovoltaics>

## Solar Installations in Sitka

- Several Sitka island residents have off-grid solar installations. Several in-town residents have installations, as well. Contacting these homeowners and the Electric Department may help those considering solar panels.
- The 2021-2022 technical assistance project conducted by the National Renewable Energy Laboratory with the Sitka Electric Department explored potential multiple near- and long-term renewable energy options to support our changing electricity needs. They included hydropower, wind, solar, geothermal, tidal, and wave options. The final report considered solar on a few municipal building rooftops as part of utility-scale solar generation and did not include floating solar panels on Blue or Green Lakes.

**LEARN MORE:** 2021 Sitka Energy Initiative Partnership Project (ETIPP) Renewable Final Report [https://www.cityofsitka.com/media/Sustainability%20Commission/Library/Sitka%20ETIPP%20renewables%20report\\_Final\\_041423.pdf](https://www.cityofsitka.com/media/Sustainability%20Commission/Library/Sitka%20ETIPP%20renewables%20report_Final_041423.pdf)