

**RESOURCE**

Cash, Loan, Lease, and PPA Solar Economics

The same solar system produces four different financial outcomes depending on how you pay for it. None of the four is universally correct; each trades ownership, upfront cost, and total savings against each other differently, and the right choice depends on your own cash position and how long you plan to stay in the home.

Cash: the highest total savings, the highest upfront cost

Paying cash means you keep every dollar of avoided electric bill and every incentive dollar, with no interest or lease markup eating into either. It also means the entire installed cost leaves your account on day one. The [solar cash versus loan engine](#) quantifies exactly how much that upfront commitment is worth in avoided finance charges.

Loan: ownership without the full upfront cost

A solar loan lets you keep ownership, and the tax credit and incentives that come with it, while spreading the cost over time. You pay interest for that flexibility, which reduces your total lifetime savings compared to cash but usually still leaves you meaningfully ahead of doing nothing. The [solar financing payment engine](#) shows the actual monthly payment against your avoided electric bill.

Lease: no ownership, no upfront cost, a smaller savings share

A lease means a third party owns the system and you pay a fixed or escalating monthly fee for the electricity it produces, typically set below your utility rate. You do not qualify for the tax credit, since you do not own the equipment, and your total savings are generally smaller than cash or loan ownership over the system's life. The [solar loan versus lease engine](#) lays out that gap in dollar terms.

PPA: paying for output, not equipment

A power purchase agreement is structurally similar to a lease but you pay per kWh produced rather than a flat monthly fee, so your payment varies with actual production and often with a contracted annual escalation rate. It shares the lease's tradeoffs: no ownership, no tax credit, generally lower total savings than financing your own system. The [solar lease versus PPA engine](#) compares the two directly using your expected production and rate escalation assumptions.

What stays constant across all four

The system's physical output does not change based on how you pay for it. What changes is who captures the value of that output: you, in full, under cash or loan ownership; a financing company, in part, under lease or PPA. The [solar lifetime savings engine](#) lets you run the same production assumptions across financing modes to isolate that effect specifically.

A quick way to choose a starting point

If you can pay cash without straining your finances and expect to stay in the home past the system's simple payback, cash usually wins on total savings. If you would rather preserve liquidity but still want ownership and the tax credit, a loan is the natural middle path. If you want the lowest possible commitment and do not plan to stay long enough to recover an upfront investment, a lease or PPA trades savings for simplicity, a real tradeoff, not a free upgrade.