

Commercial Solar Investment Analysis

232.3 kW System

(Your Company) Houston, TX

Prepared by KW Solar



Energy Summary

Metric	Value
Annual site consumption ¹	1,086,371 kWh
Annual PV production (PVWatts estimate) ²	316,732 kWh
PV energy self-consumed on-site ³	286,612 kWh
Share of PV production self-consumed ⁴	90.5%
Share of site consumption offset by PV ⁵	26.4%

Estimated Bill Savings

Metric	Value
Avoided cost per kWh from PV system ⁶	\$0.1289 / kWh
Year 1 estimated bill savings ⁷	\$36,931

System Cost & Incentive Breakdown

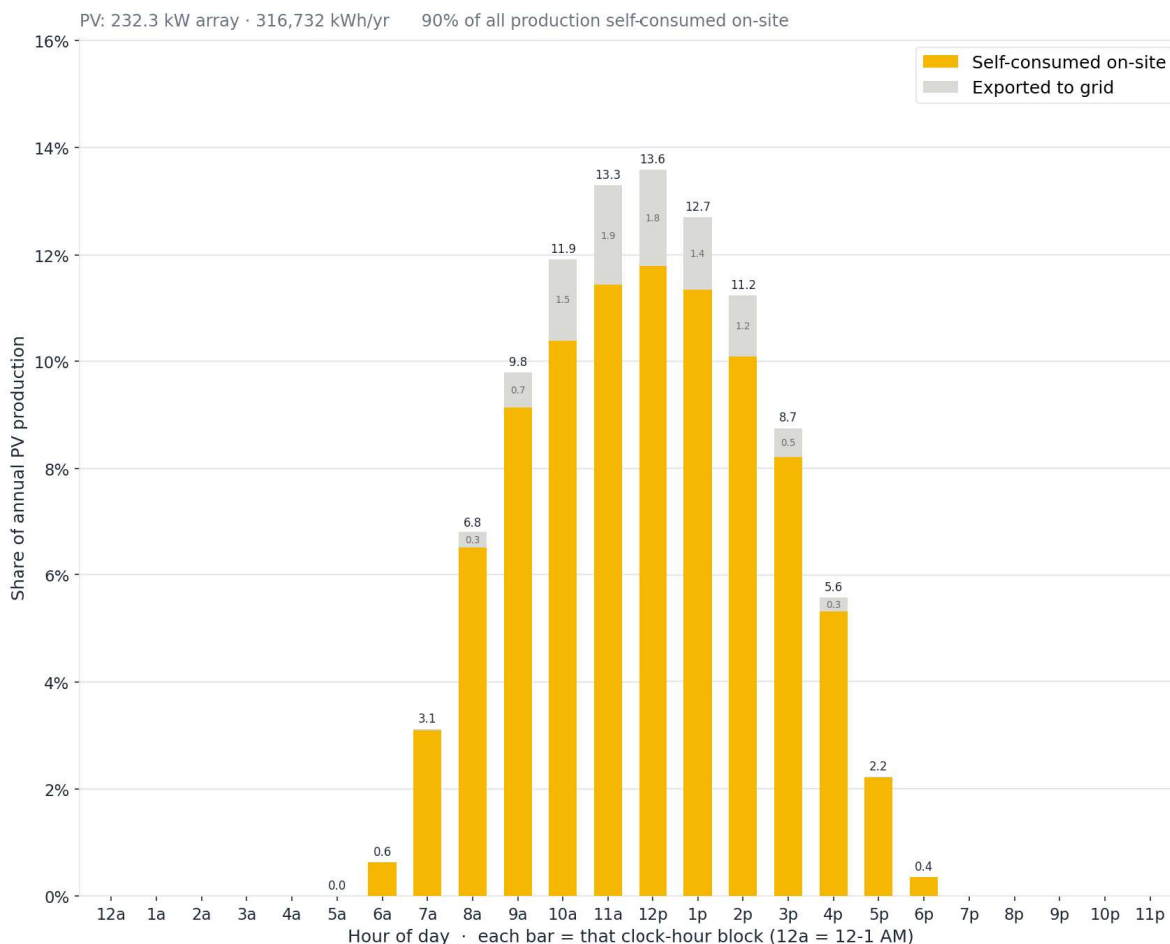
Line Item	Amount
232.3 kW System Total Cost ⁸	\$534,480
Less: Tax credits (50% — 30% ITC + 10% domestic content + 10% energy community) ⁹	(\$267,240)
Cost after tax credits	\$267,240
Less: Year-1 depreciation tax savings (75% basis x 40% tax rate) ¹⁰	(\$160,344)
Cost after depreciation	\$106,896
Less: CenterPoint rebate — production (annual kWh x \$0.03) ¹¹	(\$9,502)
Less: CenterPoint rebate — demand reduction (kW x 0.36 x \$200) ¹²	(\$16,727)
NET SYSTEM COST	\$80,667

Payback

Net system cost	\$80,667
Year 1 bill savings	\$36,931
Simple payback period¹³	2.2 years

Where Your Solar Production Goes: Self-Consumed vs. Exported

Each bar below is one hour of the day, sized to that hour's share of the array's total annual production. The gold portion is energy used on-site the moment it's generated — the gray portion is energy that outpaced the building's demand at that moment and was exported to the grid instead. The bigger the gold share of each bar, the more of that hour's solar production is directly offsetting your bill.



THE TAKEAWAY

Roughly 90% of everything the system produces gets used on-site the moment it's generated — offsetting about 26% of the building's total annual electricity use. The remaining production, mostly around midday when output is highest, is exported back to the grid.

The 25-Year Energy Investment

Why Paying Once Beats Paying Every Month

Every year without solar, this site pays for the same block of electricity all over again — and that price only moves in one direction. Going solar flips that model: instead of renting power year after year, you pay once, up front, and the system does the rest for the life of its warranty.

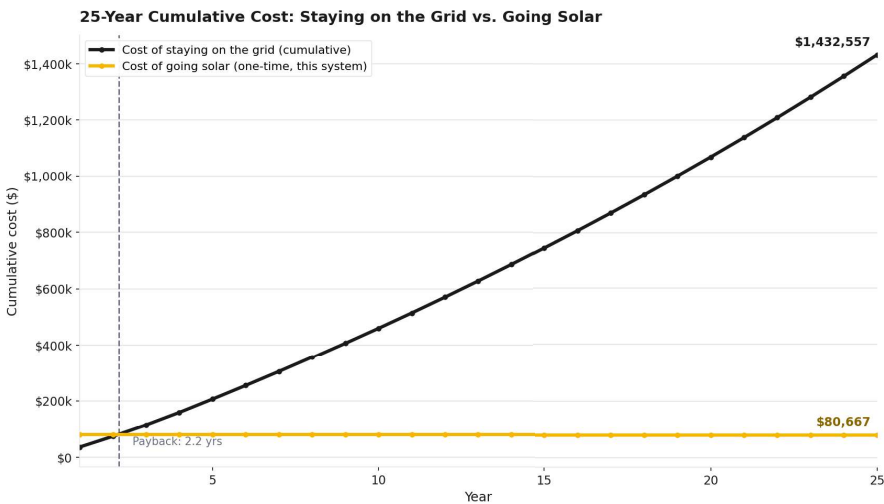
You're Prepaying 2.2 Years of Energy — Then Getting 22.8 More For Free

This system's \$80,667 net cost pays for itself in 2.2 years through the bill savings on page 2. The panels and microinverter system carry a 25-year manufacturer warranty*, so once that payback period passes, your company is looking at roughly 22.8 more years of not having to pay for the portion of energy this system provides — not a new purchase, just the one you already made continuing to pay off.

What Happens If You Don't Go Solar?

To put that investment in context, we modeled what your company would give up every year by not going solar — starting from this system's own \$36,931 in projected Year 1 bill savings (the same figure in the Payback box above), escalated using a published utility rate forecast** across the system's full 25-year warranted life, and reduced year by year to reflect the panels' own warranted output decline*.

Cost of going solar (one-time)	Cost of staying on the grid (25 yrs)	Multiple
\$80,667	\$1,432,557	17.8x



* Degradation: modeled on the Silfab SIL-440 QD panel's published linear performance guarantee — $\geq 98\%$ of nameplate output at the end of year 1, $\geq 90.8\%$ at the end of year 25 (30-year linear guarantee) — applied proportionally to this system's projected Year 1 bill savings each year.

** Escalation: Years 1–5 follow CenterPoint's own forecasted YoY rate change per TEPRI's "ERCOT Electricity Affordability Outlook" (Dec. 2025), used as a general proxy since TEPRI publishes no separate commercial-rate forecast. Years 6–25 assume a flat 2.74%/yr — the realized 25-year average annual increase in Texas electricity prices, 1999–2024, per U.S. Energy Information Administration data (7.60¢/kWh in 1999 to 14.94¢/kWh in 2024). This is a historical average, not a projection, and is lower than both the U.S. national 25-year average (2.85%/yr, EIA) and recent commercial-specific trends (a 5.9% compound annual growth rate for commercial electricity rates 2020–2025, per Arcadia's Commercial Electricity Rate Report) — so if anything, this may still be a conservative estimate. Illustrative projection only; not a guarantee of future rates or savings.

Definitions & Methodology

No.	Metric	Definition
1	Annual site consumption	Total site electricity consumption for the year. Sourced from the customer's utility bills or 15-minute interval data pulled from Smart Meter Texas.
2	Annual PV production (PVWatts estimate)	Total electricity the proposed PV system is expected to generate over a year, modeled using NREL's PVWatts calculator for the system's size, location, and orientation.
3	PV energy self-consumed on-site	The estimated portion of annual PV production that is consumed on-site rather than exported to the grid. Calculated by comparing hourly consumption data for the site against the estimated hourly production of the proposed PV system — sourced from NREL's PVWatts calculator — across every hour of the year.
4	Share of PV production self-consumed	Self-consumed PV energy divided by total annual PV production. This represents the percentage of PV energy produced that's self-consumed on-site over the course of the year.
5	Share of site consumption offset by PV	Self-consumed PV energy divided by total annual site consumption.
6	Avoided cost per kWh from PV system	The blended value of one self-consumed kWh — the per-kWh energy and usage-based bill savings (incl. taxes) plus an estimate of monthly demand-charge savings from solar reducing peak billing demand, spread across annual self-consumed kWh. Demand savings are estimated by comparing each month's actual peak 15-minute demand against modeled solar output at that hour.
7	Year 1 estimated bill savings	Self-consumed PV energy (kWh) multiplied by the avoided cost per kWh.
8	System Total Cost	The total cost of the system before rebates and incentives.
9	Tax credits (50%)	Combined federal incentives: 30% Investment Tax Credit (ITC), 10% domestic content bonus, and 10% energy community bonus, applied as a dollar-for-dollar credit against total system cost.
10	Year-1 depreciation tax savings	75% of the system's original cost is treated as year-1 depreciable basis; tax savings equal that basis multiplied by the customer's corporate tax rate (40% here).
11	CenterPoint rebate — production	Annual PV production (kWh) multiplied by CenterPoint's \$0.03/kWh production incentive rate.
12	CenterPoint rebate — demand reduction	System size (kW) multiplied by 0.36, then multiplied by CenterPoint's \$200/kW demand-reduction incentive rate.
13	Simple payback period	Net system cost divided by year 1 estimated bill savings.