

Pearl Certification Discounted Cash Flow Details

Overview

The values presented here are calculated using the Income-Based Approach where our algorithm looks at the total future benefits that the homeowner will receive from the photovoltaic system over its useful life, and calculates what the value of those future benefits is right now.

The useful life of the photovoltaic system is determined by the length of the power production warranty. A system will likely continue to operate after the warranty has expired and in that sense the value presented here is a conservative estimate of the potential value of the system.

System Information

Ownership Type	Owned
Total System Size (kW)	3.96
Discounted Cash Flow Range	\$7,850 - \$9,700
Discounted Cash Flow	\$8,775

Rates and Costs

Utility Provider	Consumers Energy
Electricity Rate	0.14 \$/kWh
Discount Rate	6.78%
Electricity Escalation Rate	-
Operations & Maintenance Costs	\$11.50 per kW per year

Solar Panel Array

Installed Date	Jan. 1, 2021
Manufacturer	Panasonic Corporation of North America
Model Number	
Array Size (kW)	3.96
Tilt	25
Azimuth	177
Panel efficiency rating	20.63%
Array Type	Roof Mounted - Fixed
Reported Installation Cost	None
Panel warranty (years)	25

Inverter

Inverter Type	Micro-Inverter
Age Of Inverter	2 years
Warranty (years)	25
Manufacturer	Panasonic
Model Number	-

Power Production Warranty

Warranty (years)	None
Power at the end of the warranty	None



Total Discounted Cash Flow

Year	Low	Expected	High
2023	\$7,849.66	\$8,774.61	\$9,699.55
2024	\$7,342.91	\$8,207.40	\$9,071.88
2025	\$6,857.91	\$7,664.62	\$8,471.31
2026	\$6,393.73	\$7,145.22	\$7,896.70
2027	\$5,949.50	\$6,648.21	\$7,346.92
2028	\$5,524.37	\$6,172.65	\$6,820.92
2029	\$5,117.52	\$5,717.61	\$6,317.68
2030	\$4,728.20	\$5,282.22	\$5,836.23
2031	\$4,355.65	\$4,865.64	\$5,375.63
2032	\$3,999.15	\$4,467.08	\$4,935.00
2033	\$3,658.03	\$4,085.76	\$4,513.47
2034	\$3,331.64	\$3,720.94	\$4,110.23
2035	\$3,019.34	\$3,371.92	\$3,724.49
2036	\$2,720.53	\$3,038.02	\$3,355.50
2037	\$2,434.64	\$2,718.60	\$3,002.54
2038	\$2,161.12	\$2,413.02	\$2,664.91
2039	\$1,899.43	\$2,120.71	\$2,341.97
2040	\$1,649.08	\$1,841.08	\$2,033.07
2041	\$1,409.57	\$1,573.59	\$1,737.61
2042	\$1,180.44	\$1,317.73	\$1,455.01
2043	\$961.24	\$1,072.98	\$1,184.72
2044	\$751.56	\$838.88	\$926.20
2045	\$550.97	\$614.96	\$678.94
2046	\$359.10	\$400.79	\$442.46
2047	\$175.56	\$195.93	\$216.30

Source Details:

1) Electricity Rate: This calculation applies an average dollar per kWh rate for electricity. The average \$/kWh rate is sourced on a per utility basis from the Energy Information Administration's (EIA) forms EIA-861 - schedules 4A & 4D and EIA-861S.

2) Discount Rate: As a default, this calculation uses the weekly published 30 year mortgage rate from Freddie Mac

3) Electricity Escalation Rate: This calculation pulls in the specific state's average percentage electricity rate increase over the past 30 years, and applies this rate as a constant year-over-year increase to the electricity rate

4) Operation and Maintenance Costs: This calculation assumes an O&M cost of \$11.50 per kW per year. The \$11.50 rate is sourced from the two system benchmark studies from NREL, one from 2018 and the other from 2020.

For further details on the methodology used in these calculations please visit:

https://resources.pearlcertification.com/en_US/appraiser-resources/methodology-for-calculator