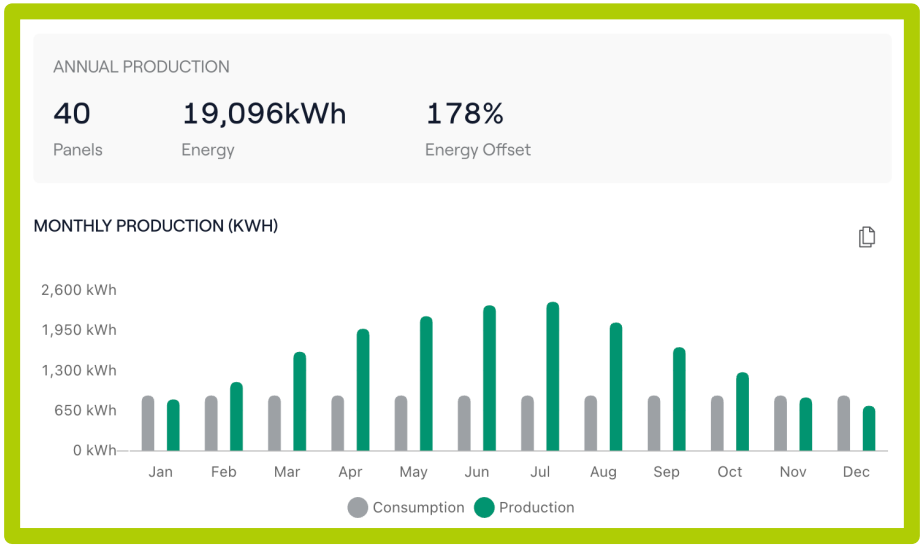
Shading Analysis Methodology

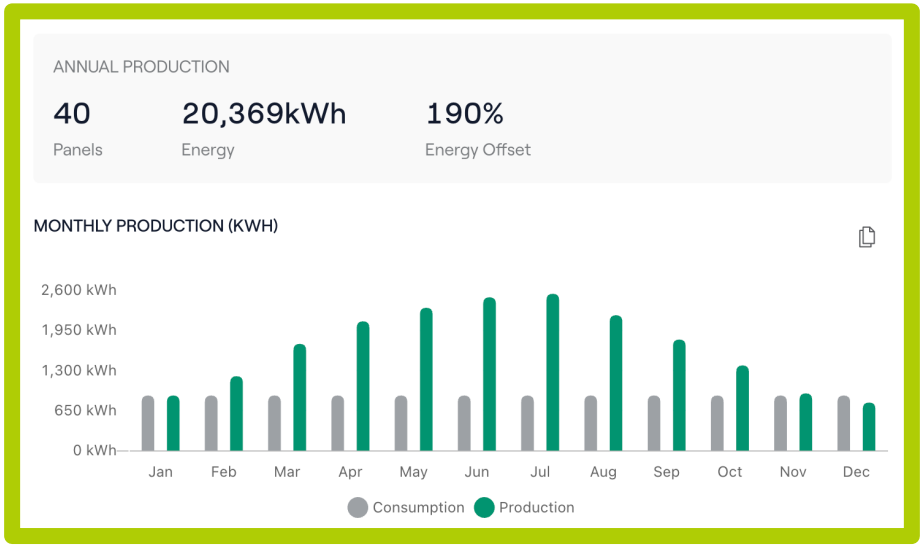
Honeydew Energy Advisors received the building designs for the residential property located at... It inputted this design into the Aurora shading analysis software to determine the efficacy of a proposed solar system. Aurora is a commonly used and respected shading analysis software within the solar industry.

Aurora data estimates that shading from the new construction will decrease solar production by 5%. The system owner reported a current annual production of 20,369 kWh per year. Therefore, the array is expected to produce 1,273 fewer kWhs per year, ceteris paribus.

Pre-Construction

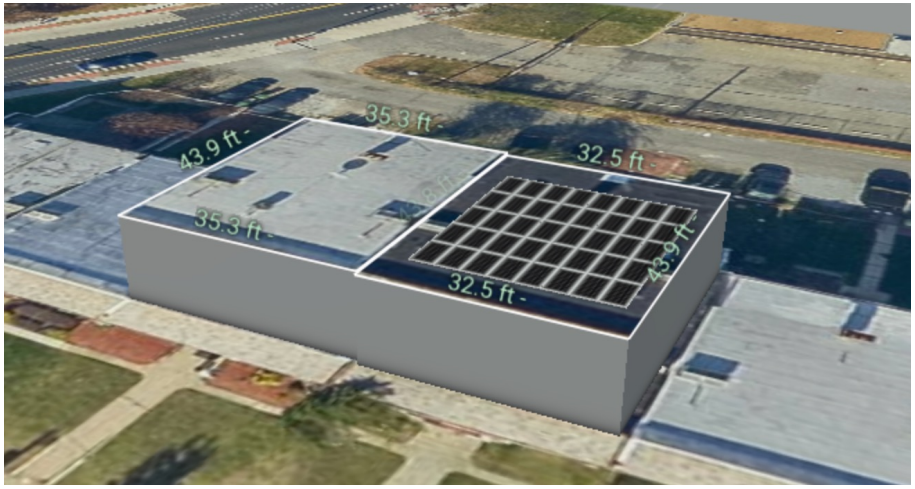


Post-Construction



Pre/Post Construction Model

Pre-Construction



Summary

Array	Panel Count	Azimuth (deg.)	Pitch (deg.)	Annual TOF (%)	Annual Solar Access (%)	Annual TSRF (%)
1	40	-	0	85	100	85
Weighted average by panel count	-	-	-	-	100	85

Monthly solar access (%) across arrays

Array	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	100	100	100	100	100	100	100	100	100	100	100	100

Post-Construction

Summary

Array	Panel Count	Azimuth (deg.)	Pitch (deg.)	Annual TOF (%)	Annual Solar Access (%)	Annual TSRF (%)
1	40	-	0	85	95	81
Weighted average by panel count	-	-	-	-	94.9	80.7

Monthly solar access (%) across arrays

Array	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	94	93	94	95	95	96	96	96	95	93	94	94

Financial Analysis Methodology

Assumptions

The financial analysis was conducted using Honeydew's proprietary District of Columbia financial model. All numbers are presented in the tables are real dollars not adjusted for present value and using the following assumptions:

3.0%	Electric Inflation
0.50%	Panel Degradation/YR
85%	SREC:ACP Ratio

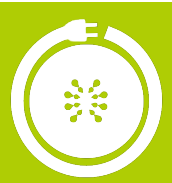
Solar Renewable Energy Credit (SREC) prices are based on a 85% of the Alternative Compliance Payments that undergird demand for SRECs. It also factors in a discount paid to an SREC aggregator, which is needed for all residential scale solar energy systems in DC. This analysis does not consider income tax paid on SREC income from system owner.

Summary

16.2	System Size (kW)
20,369	Pre-Construction Production (kWh)
19,096	Post-Construction Production (kWh)
$0.12	Current Rate ($/kWh)
$227	1 Year Savings Difference
$5,317	20 Year Savings Difference

If we assume a 3% general inflation rate, the total nominal value on the 20 years of marginal cash flow is equal to **$5,317.**

Estimated Electric Savings



Pre-Construction

Year	Estimated Solar Production (kWh)	Estimated Electric Offset Rate	Estimated Energy Savings	Estimated SREC Cash Flow
0				
1	20,369	$0.1200	$2,444	$1,192
2	20,267	$0.1236	$2,505	$1,186
3	20,166	$0.1273	$2,567	$1,180
4	20,065	$0.1311	$2,631	$1,174
5	19,965	$0.1351	$2,696	$1,168
6	19,865	$0.1391	$2,763	$1,162
7	19,766	$0.1433	$2,832	$1,156
8	19,667	$0.1476	$2,903	$1,151
9	19,568	$0.1520	$2,975	$1,145
10	19,471	$0.1566	$3,049	$1,139
11	19,373	$0.1613	$3,124	$1,133
12	19,276	$0.1661	$3,202	$1,128
13	19,180	$0.1711	$3,282	$1,122
14	19,084	$0.1762	$3,363	$1,116
15	18,989	$0.1815	$3,447	$1,111
16	18,894	$0.1870	$3,532	$1,105
17	18,799	$0.1926	$3,620	$1,100
18	18,705	$0.1983	$3,710	$1,094
19	18,612	$0.2043	$3,802	$1,089
20	18,519	$0.2104	$3,897	$1,083
TOTAL			$62,344	$22,733

Post-Construction

Year	Estimated Solar Production (kWh)	Estimated Electric Offset Rate	Estimated Energy Savings	Estimated SREC Cash Flow
0				
1	19,096	$0.1200	$2,292	$1,117
2	19,001	$0.1236	$2,348	$1,112
3	18,906	$0.1273	$2,407	$1,106
4	18,811	$0.1311	$2,467	$1,100
5	18,717	$0.1351	$2,528	$1,095
6	18,623	$0.1391	$2,591	$1,089
7	18,530	$0.1433	$2,655	$1,084
8	18,438	$0.1476	$2,721	$1,079
9	18,345	$0.1520	$2,789	$1,073
10	18,254	$0.1566	$2,858	$1,068
11	18,162	$0.1613	$2,929	$1,063
12	18,072	$0.1661	$3,002	$1,057
13	17,981	$0.1711	$3,076	$1,052
14	17,891	$0.1762	$3,153	$1,047
15	17,802	$0.1815	$3,231	$1,041
16	17,713	$0.1870	$3,312	$1,036
17	17,624	$0.1926	$3,394	$1,031
18	17,536	$0.1983	$3,478	$1,026
19	17,448	$0.2043	$3,565	$1,021
20	17,361	$0.2104	$3,653	$1,016
TOTAL			$58,448	$21,312