Kartik_design NewLeaf BioFuel, 2285 Newton Ave. San Diego, CA 92113.

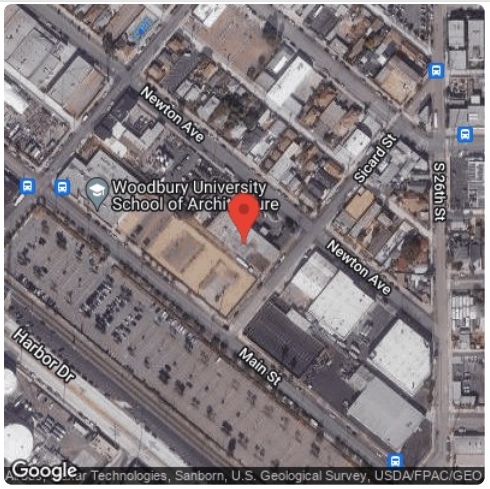
Report

Project Name	NewLeaf BioFuel
Project Address	2285 Newton Ave. San Diego, CA 92113.
Prepared By	Vipul Gore vipulgore@grid-scape.com

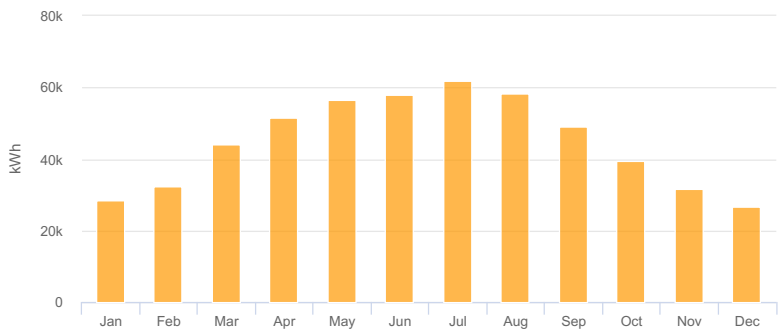
System Metrics

Design	Kartik_design
Module DC Nameplate	339.3 kW
Inverter AC Nameplate	288.7 kW Load Ratio: 1.18
Annual Production	538.4 MWh
Performance Ratio	81.5%
kWh/kWp	1,586.7
Weather Dataset	TMY, SAN DIEGO LINDBERGH FIELD, NSRDB (tmy3, l)
Simulator Version	5059dd9741-c5e0721255-7687e1d04d-81a823811a

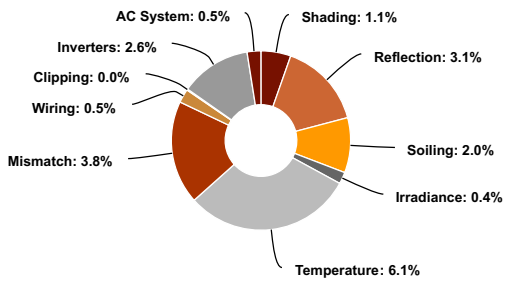
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,877.7	
	POA Irradiance	1,946.6	3.7%
	Shaded Irradiance	1,925.4	-1.1%
	Irradiance after Reflection	1,865.3	-3.1%
	Irradiance after Soiling	1,828.0	-2.0%
	Total Collector Irradiance	**1,828.0**	**0.0%**
Energy (kWh)	Nameplate	620,751.9	
	Output at Irradiance Levels	618,110.4	-0.4%
	Output at Cell Temperature Derate	580,185.7	-6.1%
	Output After Mismatch	558,375.4	-3.8%
	Optimal DC Output	555,592.0	-0.5%
	Constrained DC Output	555,377.4	0.0%
	Inverter Output	541,083.3	-2.6%
	Energy to Grid	**538,377.9**	**-0.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp		19.2 °C
	Avg. Operating Cell Temp		32.4 °C
Simulation Metrics			
	Operating Hours		4643
	Solved Hours		4643

Condition Set

Description	Condition Set 1											
Weather Dataset	TMY, SAN DIEGO LINDBERGH FIELD, NSRDB (tmy3, l)											
Solar Angle Location	Meteo Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Sandia Model											
Temperature Model Parameters	Rack Type	a	b	Temperature Delta								
	Fixed Tilt	-3.56	-0.075	3°C								
	Flush Mount	-2.81	-0.0455	0°C								
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	2	2	2	2	2	2	2	2	2	2	2	2
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	0.50%											
Module Characterizations	Module	Uploaded By	Characterization									
	CS3W-450MS (Canadian Solar)	Folsom Labs	Spec Sheet Characterization, PAN									
Component Characterizations	Device	Uploaded By	Characterization									
	Sunny Tripower 24000TL-US (SMA)	Folsom Labs	Modified CEC									

Components

Component	Name	Count
Inverters	Sunny Tripower 24000TL-US (SMA)	12 (288.7 kW)
Strings	10 AWG (Copper)	58 (9,143.1 ft)
Module	Canadian Solar, CS3W-450MS (450W)	754 (339.3 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	4-19	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Landscape (Horizontal)	10°	219.37529°	1.0 ft	1x1	140	140	63.0 kW
Field Segment 7	Fixed Tilt	Landscape (Horizontal)	10°	129.6235°	1.0 ft	1x1	33	33	14.9 kW
Field Segment 6 (copy)	Fixed Tilt	Landscape (Horizontal)	10°	128.40009°	1.0 ft	1x1	35	35	15.8 kW
Field Segment 4	Fixed Tilt	Landscape (Horizontal)	10°	218.97285°	1.0 ft	1x1	196	196	88.2 kW
Field Segment 5	Flush Mount	Landscape (Horizontal)	10°	39.705856°	0.0 ft	1x1	44	44	19.8 kW
Field Segment 6	Flush Mount	Landscape (Horizontal)	10°	218.97285°	0.0 ft	1x1	55	55	24.8 kW
Field Segment 7	Flush Mount	Landscape (Horizontal)	10°	39.43234°	0.0 ft	1x1	88	88	39.6 kW
Field Segment 8	Flush Mount	Landscape (Horizontal)	10°	219.2918°	0.0 ft	1x1	121	121	54.5 kW
Field Segment 9	Fixed Tilt	Landscape (Horizontal)	10°	219.2918°	1.0 ft	1x1	42	42	18.9 kW

Detailed Layout