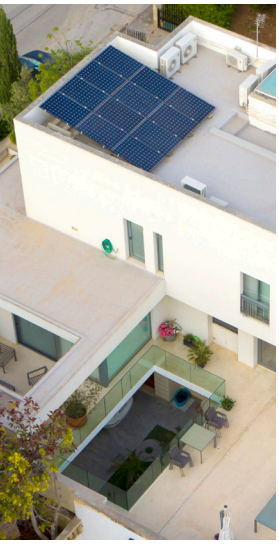
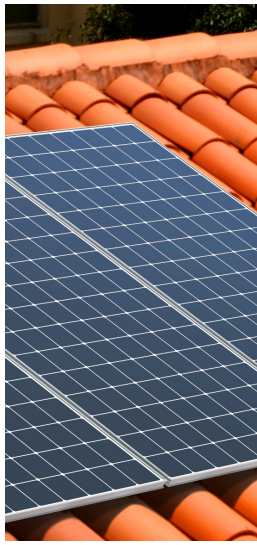
2019 Sustainability Metrics







SUNPOWER

2019 Sustainability Metrics

Over the past century, the global economy's "take, make and dispose" model has tested the limits of our planet's resources. At SunPower, it's our responsibility as good corporate citizens and advocates for a clean energy future to share the steps we are taking to reduce our environmental footprint and build a brighter future for all.

Transparency and data-driven programs are central to these efforts. By collecting and sharing our EHS and sustainability data, our intent is to track our progress and identify ways we can continuously improve our sustainability performance.

GLOBAL IMPACT

In addition to reducing our environmental footprint, it's important to consider the environmental benefits of our products. By generating electricity from solar instead of fossil fuels, we can avoid releasing CO_2 into the Earth's atmosphere. To date, the clean power generated by SunPower products is equivalent to taking nearly 14 million cars off the road for a year.[1]

Impact	2019
Cumulative terrawatt-hours of electricity generated	91.4
Tons of CO_2 avoided annually	10,500,006
Tons of CO_2 avoided cumulatively	54,100,086

Global Manufacturing Sites

SITE SUSTAINABILITY METRICS 2019

The following reflects key sustainability data for our global solar cell fabrication facilities ("Fabs") and solar module construction sites ("ModCo's"). Consistent with prior year reporting, this data excludes the small volume of panels created at our research facility in California, USA. This report also does not include data on facilities that produce product for SunPower as part of a joint venture. For the first time this year, we are reporting data from our recently acquired Oregon ModCo; we have separated the Oregon data in an Addendum to this report to support easier benchmarking.

CARBON FOOTPRINT

Emissions	2019
Scope 1 GHG Emissions (metric tons)	234
Scope 2 GHG Emissions (metric tons)	202,355
Scope 3 GHG Emissions (metric tons)*	599
Total GHG Emissions (metric tons CO_2)	203,187
Total GHG Emissions (metric tons CO_2) per MW	159.64
Energy Usage	**2019**
Total energy use (MWh)	312,462
MWh used per MW produced	245
% of Energy from Onsite Renewables	0.7%

**Scope 3 includes shuttle commute and air travel emissions for Fab 3 and Fab 4.*

WATER

Water Use	2019				
Total Water Use (US Gallons)	1,352,602,889				
Total Water Use (US Gallons) per MW	1,062,690				
Wastewater Discharge Volume	**2019**				
Total Discharge Volume (m^3)	5,242,091				
Normalized Discharge Volume (m^3/MW)	4,119				
2019 Wastewater Discharge Quality Indicators	**Fab 4**	**France ModCo**	**Fab 3**	**SPMX**	**SPMX2**
Chemical Oxygen Demand (mg/L)	34.33	NR	37.92	ND	109.5
Biological Oxygen Demand (mg/L)	12.67	NR	11.75	31.67	<5.0000
Total Suspended Solids (mg/L)	6.50	NR	20.58	<16	<10.0000
2019 Waste Water Heavy Metals (mg/L)	**Fab 4**	**France ModCo**	**Fab 3**	**SPMX**	**SPMX2**
Arsenic	<0.008	NR	0.0425	<0.004	<0.0200
Barium	0.0008	NR	0.423333	ND	ND
Cadmium	<0.001	NR	0.005	<0.1	<0.0400
Chromium, hexavalent	<0.002	NR	0.043333	<0.35	<0.1000
Copper	0.1	NR	0.454167	<0.1	<0.4000
Lead	<0.005	NR	0.043333	<0.2	<0.1000
Mercury	<0.0002	NR	0.001667	<0.001	<0.0005
Nickel	<0.003	NR	0.09	0.14	<0.4000
Selenium	<0.01	NR	0.009167	ND	ND
Silver	no data	NR	0.04	ND	ND
Tin	no data	NR	0.14	ND	ND
Zinc	0.04	NR	0.84	<0.1	0.546

Data is provided for all locations with process wastewater discharges. There were no indicators above regulatory limits.

WASTE

Waste Generation	2019
Total solid waste generated (metric tons)	6,674
Total solid waste recycled (metric tons)	5,449
Percent solid waste recycled (%)	82%
Tons of solid waste generated per MW	5.2
Total hazardous waste generated (metric tons)	8,783
Total hazardous waste recycled (metric tons)	6,752
Percent hazardous waste recycled (%)	77%
Total hazardous waste generated per MW (metric tons/MW)	6.9

Visit **global.sunpower.com/sustainability** for more information.

Addenum: SunPower Oregon, USA

HILLSBORO, OREGON ("SPMOR") SITE SUSTAINABILITY METRICS 2019

SunPower acquired a solar module manufacturing facility in Hillsboro, Oregon in late 2018. As a new addition to SunPower manufacturing, this facility continues to develop its capabilities on sustainability initiatives. We are choosing to report this site separately from our corporate data for ease of comparison to prior years by our customers.

CARBON FOOTPRINT

Emissions	2019
Scope 1 GHG Emissions (metric tons)	2
Scope 2 GHG Emissions (metric tons)	6,958
Scope 3 GHG Emissions (metric tons)	No Data
Total GHG Emissions (metric tons CO2)	6,960
Total GHG Emissions (metric tons CO2 per MW)	45.20
Energy Use	**2019**
Total energy use (MWh)	12,719
MWh used per MW produced	83
% of Energy from Onsite Renewables	0%

WATER

Water Use	2019
Total Water Use (gal)	776,930
Total Water Use (gal/MW)	5,045

**No Wastewater heavy metals content or chemical oxygen demand data available*

WASTE

Waste Generation	2019
Total solid waste generated (metric tons)	977
Total solid waste recycled (metric tons)	533
Percent solid waste recycled (%)	55%
Tons of solid waste generated per MW	6.3
Total hazardous waste generated (metric tons)	0.02
Total hazardous waste recycled (metric tons)	-
Percent hazardous waste recycled (%)	0%
Total hazardous waste generated per MW (metric tons/MW)	0.0001

Visit **global.sunpower.com/sustainability** for more information.

1 Based on estimated 91,400,000MWh converted to equivalent greenhouse gas emissions offsets, according to the EPA's Greenhouse Gas Equivalencies Calculator.