

Sustainability Metrics

At SunPower, it is our responsibility as a good corporate citizen to share with our stakeholders, customers and communities the steps we are taking to reduce our environmental footprint. Data-driven programs and transparency are part of our culture. By collecting and sharing our EHS data, our intent is to track our progress and identify ways we can continuously improve our sustainability performance. We're continually looking for ways to improve so beginning in 2014, we've added the following metrics and invite stakeholders to work with us to improve further.

Wastewater Discharge Volume		
	2013	2014
Total Discharge Volume (m ³)	6,942,615	7,654,632
Discharge Volume (m ³) / MW	5,528	6,750

2013 Wastewater Discharge Quality Indicators				
	Fab 2*	Modco**	Fab 3*	Mexicali
Chemical Oxygen Demand (mg/l)	41	15	123.2	NR
Biological Oxygen Demand (mg/l)	12	1	28.3	63.8
Total Suspended Solids (mg/l)	16.7	4	25.7	12

2014 Wastewater Discharge Quality Indicators				
	Fab 2*	Modco**	Fab 3*	Mexicali
Chemical Oxygen Demand (mg/l)	65	34	103.8	NR
Biological Oxygen Demand (mg/l)	19	2	20.2	12.3
Total Suspended Solids (mg/l)	24	8	17.3	3.33

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

* = Monthly sampling values were averaged. ** = Sampling points were averaged.

Sustainability Metrics

2014 Waste Water Heavy Metals (mg/l)				
	Fab 2*	Modco**	Fab 3*	Mexicali
Arsenic	<0.01	NR	0.001	<0.001
Barium	NR	NR	0.066	NR
Cadmium	<0.006	NR	0.004	<0.001
Chromium, hexavalent	0.003	NR	0.001	<0.010
Copper	0.359	NR	0.323	<0.004
Lead	<0.05	NR	0.031	<0.001
Mercury	0.0001	NR	0.000	<0.001
Nickel	NR	NR	0.016	<0.003
Selenium	NR	NR	0.001	NR
Silver	NR	NR	0.022	NR
Tin	NR	NR	0.114	NR
Zinc	0.032	NR	0.01	<0.014

* = Monthly sampling values were averaged. ** = Sampling points were averaged.

Sustainability Metrics

In our most recent Sustainability Report, we reported the following EHS metrics for 2011-2013. For further explanation on trends, please [download](#) our report.

2013 Air Emissions			2014 Air Emissions	
	Tons emitted	Tons / MW	Tons emitted	Tons / MW
NOx	106.23	0.094	99.71	0.079
PM	179.99	0.159	182.52	0.145
SOx	1.05	0.001	0.50	0.0004
VOC	0.85	0.001	0.85	0.001

Environmental Management		
	2013	2014
ISO 14001 certified manufacturing facilities (#)	9	8
LEED Certifications (#)	3	4

* Note that Fab 3 is not part of SPWR IMS certification, but was certified in 2013. In 2014, certifications were discontinued at Lyon and S. Africa

Our Operations		
Energy Use		
	2013	2014
Total energy (MWh)	430,290	456,521
MWh per MW	379	363



Water Use		
	2013	2014
Total water use (US gallons)	1,938,075,010	2,035,493,986
Total water use (US gallons) per MW	1,709,061	1,645,508



SPMM experienced 3 water pipe leaks in Q3 & Q4 '14 and SPTT installed a humidifier.

Sustainability Metrics



Waste Generation		
	2013	2014
Total solid waste generated (metric tons)	5,899	7,124
Total solid waste recycled (metric tons)	4,660	6,288
Percent solid waste recycled (%)	79%	88%
Tons of solid waste generated per MW	5.2	5.8
Total hazardous waste generated (metric tons)	10,167	8,781
Total hazardous Waste recycled (metric tons)	5,377	5,822
Percent hazardous waste recycled (%)	53%	66%
Total hazardous waste generated per MW (metric tons / MW)	9.0	7.1

Sustainability Metrics

In 2014 SunPower migrated their corporate carbon footprint from SAP Carbon Impact to the Enablon greenhouse gas information management system and in the transition updated reference factors used in the calculation of emissions per the GHG Corporate Protocol Standards and industry best practices. Updated factors, where applicable, were applied for purchased electricity and all vehicles commuting activities (from mileage activity data to fuel usage) for more accurate emission estimations. Global Warming Potential Values were updated from IPCC Second Assessment Report to IPCC Forth Assessment Report. Stationary sources at leased facilities were moved to from Scope 1 to the Scope 2 emissions category after learning SunPower did not own the machinery for combustion. Similarly, from further understanding of processes, equipment, and leakage rates of machinery, emissions from the release of chemicals have been adjusted. As a result 2013 and 2014 carbon emissions have been updated to reflect these changes.



Emissions		
	2013	2014
Scope 1 GHG Emissions (metric tons)	3,849	3,278
Scope 2 GHG Emissions (metric tons)	244,728	258,764
Scope 3 GHG Emissions (metric tons)	43,746	38,177
Total GHG emissions (metric tons CO ₂)	292,323	300,219
Metric tons CO ₂ emissions per MW (metric tons)	244	196

In measuring our total impact on the planet, it is important to take a look at both sides of the story. SunPower® products prevent millions of tons of CO₂ from entering the earth's atmosphere – helping to power a brighter, healthier and cleaner tomorrow.

	2013	2014
Cumulative terawatt-hours generated	17	25
Tons of CO ₂ avoided annually	3,226,475	4,441,054
Tons of CO ₂ avoided cumulatively	9,261,957	13,703,011

© 2015 SunPower Corporation. All Rights Reserved. SUNPOWER and the SUNPOWER logo are trademarks or registered trademarks of SunPower Corporation in the U.S. and other countries as well.