Scottsdale Solar Energy Trends 2023

City of Scottsdale Green Building Program

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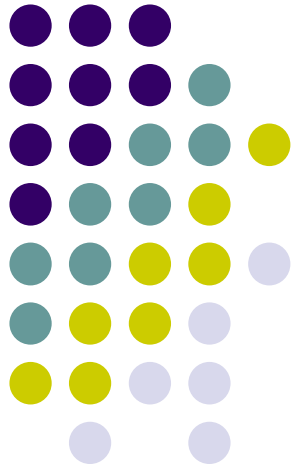
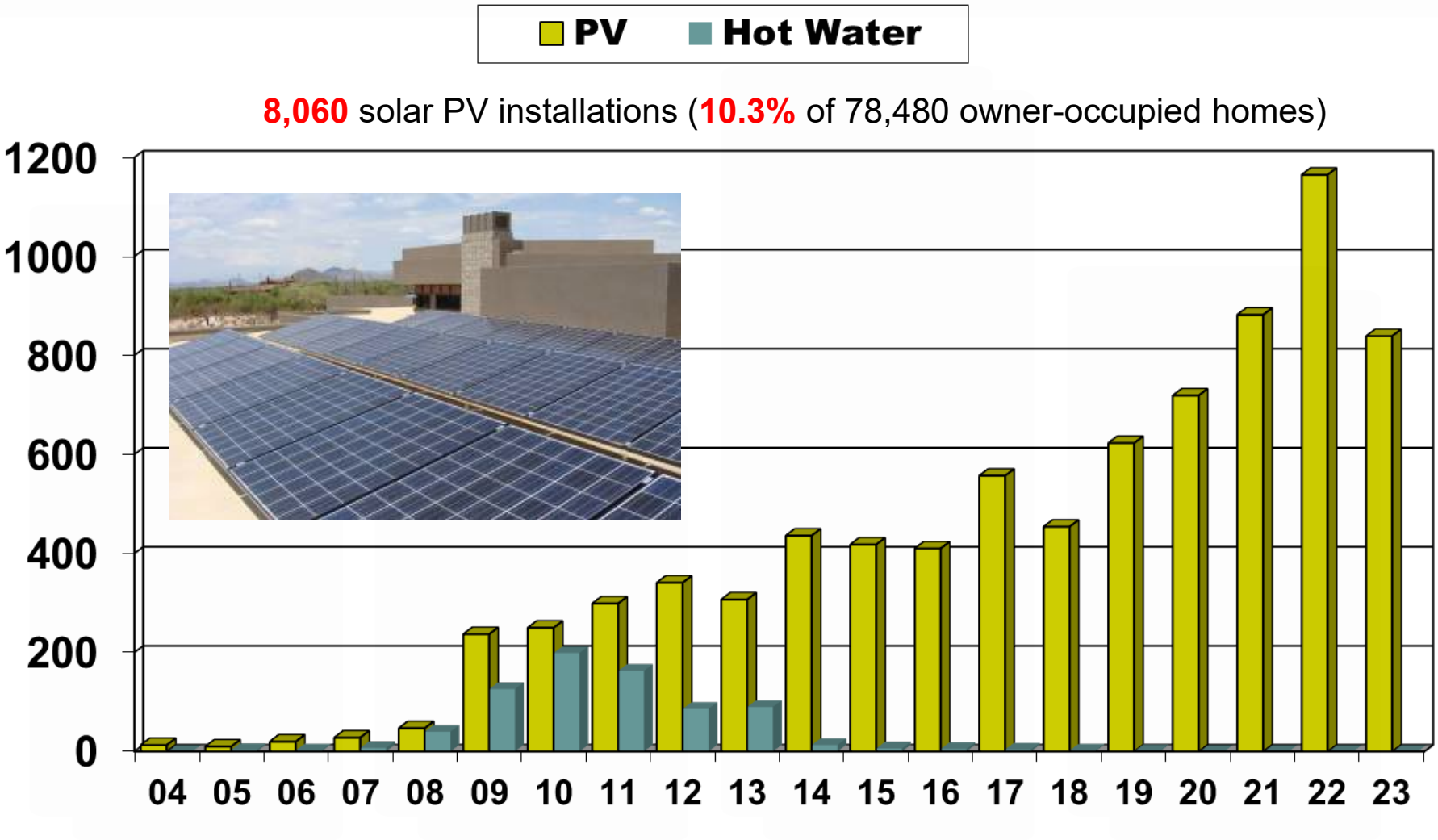


Solar installations 2002 to 2023



Source: Scottsdale CDS permit records and US Census 2021 housing estimates

Solar Permits - 2023

2022 Quarter	Solar Electric PV Permits Residential	Solar Electric PV Permits Commercial	Solar Hot Water Permits	Total Permits
1st	220	2	0	222
2nd	202	4	1	207
3rd	220	1	0	221
4th	190	0	0	190
Total	**832**	**7**	**1**	**840**

Source: Scottsdale CDS permit records

Solar Permits 2002 to 2023

Solar Electric (PV)

8,060 solar PV permits issued

Year	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Permits	2	3	13	10	20	28	47	237	250	299	341	307	436	418	410	557	454	623	719	882	1165	839

Solar Hot Water

748 solar hot water permits issued

Year	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Permits	-	1	0	3	2	7	40	126	199	163	86	90	13	6	5	4	2	1	0	0	0	0

Note: Many early solar permits (2002 – 2008) were designated as minimum electrical, plumbing or water heater permits.

Source: Scottsdale CDS permit records

On-Site Energy Generation and Environmental Impact Reduction of Solar Electric (PV) Systems

Estimated energy savings and equivalent greenhouse gas reduction resulting from installed roof top solar PV systems in **2023**.

Green Home Energy Measures	Annual Energy Savings and Pollution Reduction	
	Per Home	**Total Savings for 839 solar PV roof tops in 2023**
Average PV system size	**10 kW**	**8.39 MW**
Average Annual On-Site Energy Generation[1]	17,292 Kilowatt hours (kWh)	14,507,988 Kilowatt hours (kWh)
Average Annual Energy Value based on 11.96 cents/kWh	**$2,068.12**	**$1,735,152.68**
Equivalent Annual Greenhouse Gas Reduction[2]	7.9 tons of carbon dioxide ($C0_2$) avoided	6,628 tons of carbon dioxide ($C0_2$) avoided
Equivalent Passenger Vehicles removed from Street[2]	1.7 cars	1,427 cars
Equivalent miles driven by an average passenger vehicle[2]	18,438 miles	15,469,482 miles

Sources: [1]pvwatts.nrel.gov; [2]epa.gov/energy/greenhouse-gas-equivalencies-calculator

On-Site Energy Generation and Environmental Impact Reduction of Solar Electric (PV) Systems

Estimated energy savings and equivalent greenhouse gas reduction resulting from installed roof top solar PV systems from **2002 to 2023**.

Green Home Energy Measures	Annual Energy Savings and Pollution Reduction	
	Per Home	**Total Savings for 8,060 solar PV roof tops**
Average PV system size	**10 kW**	**80.6 MW**
Average Annual On-Site Energy Generation[1]	17,292 Kilowatt hours (kWh)	139,373,520 Kilowatt hours (kWh)
Average Annual Energy Value based on 11.96 cents/kWh	**$2,068.12**	**$16,669,047.20**
Equivalent Annual Greenhouse Gas Reduction[2]	7.9 tons of carbon dioxide ($C0_2$) avoided	63,674 tons of carbon dioxide ($C0_2$) avoided
Equivalent Passenger Vehicles removed from Street[2]	1.7 cars	13,702 cars
Equivalent miles driven by an average passenger vehicle[2]	18,438 miles	148,610,280 miles

Sources: [1]pvwatts.nrel.gov; [2]epa.gov/energy/greenhouse-gas-equivalencies-calculator