Scottsdale Solar Energy Trends

City of Scottsdale Green Building Program

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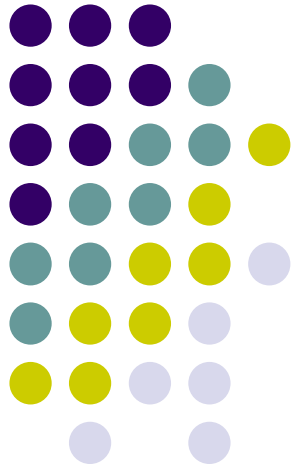
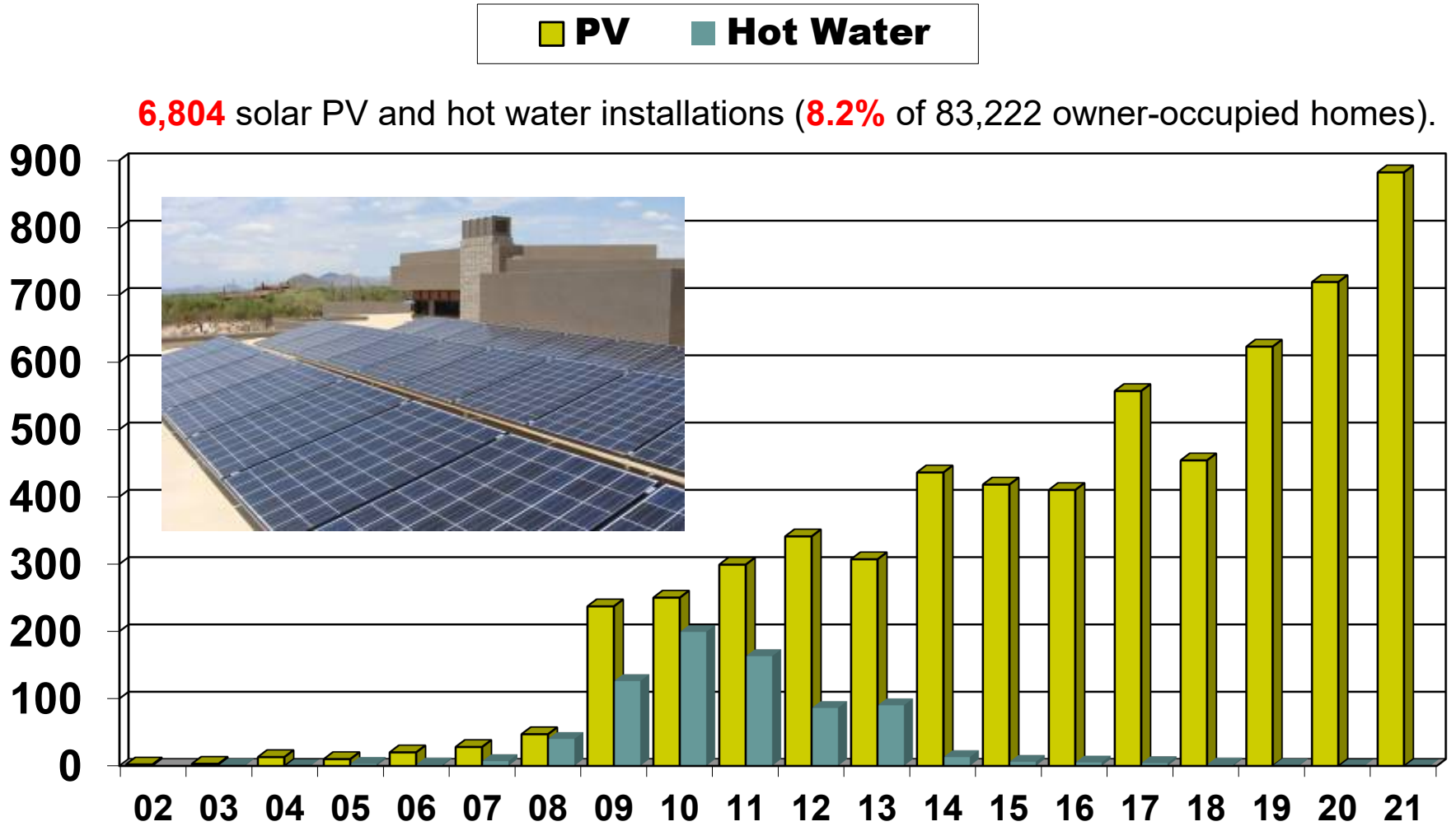


Solar Permits - 2021

2021 Quarter	Solar Electric PV Permits	Solar Hot Water Permits	Total Permits
1st	173	0	173
2nd	215	0	215
3rd	285	0	285
4th	209	0	209
Total	**882**	**0**	**882**

Source: Scottsdale CDS permit records

Solar installations 2002 to 2021



Source: Scottsdale CDS permit records and US Census 2019 housing estimates

Solar Permits 2002 to 2021

Solar Electric (PV)

6,056 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
No. of Permits	2	3	13	10	20	28	47	237	250	299	341	307	436	418	410	557	454	623	719	882

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
No. of Permits	-	1	0	3	2	7	40	126	199	163	86	90	13	6	5	4	2	1	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 **2021**.

Green Home Energy Measures	Annual Energy Savings and Pollution Reduction	
	Per Home	**Total Savings for 882 solar PV roof tops in 2021**
Average PV system size	**10 kW**	**8.82 MW**
Average Annual On-Site Energy Generation[1]	16,427 Kilowatt hours (kWh)	14,488,614 Kilowatt hours (kWh)
Average Annual Energy Value[1]	**$1,784**	**$1,573,488**
Equivalent Annual Greenhouse Gas Reduction[2]	12.8 tons of carbon dioxide ($C0_2$) avoided	11,290 tons of carbon dioxide ($C0_2$) avoided
Equivalent Passenger Vehicles removed from Street[2]	2.5 cars	2,205 cars
Equivalent miles driven by an average passenger vehicle[2]	29,257 miles	25,804,674 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 2021**.

Green Home Energy Measures	Annual Energy Savings and Pollution Reduction	
	Per Home	**Total Savings for 6,056 solar PV roof tops**
Average PV system size	**10 kW**	**60.56 MW**
Average Annual On-Site Energy Generation[1]	16,427 Kilowatt hours (kWh)	69,197,076 Kilowatt hours (kWh)
Average Annual Energy Value[1]	**$1,784**	**$10,803,904**
Equivalent Annual Greenhouse Gas Reduction[2]	12.8 tons of carbon dioxide ($C0_2$) avoided	77,517 tons of carbon dioxide ($C0_2$) avoided
Equivalent Passenger Vehicles removed from Street[2]	2.5 cars	15,140 cars
Equivalent miles driven by an average passenger vehicle[2]	29,257 miles	177,180,392 miles

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