

1 KW (solar array) * 5 hrs sunlight / day = 5 KW-hrs/day * 30 days / month =
150 KW-hrs / month per KW of solar panels in the mid-Atlantic region.

Average Electric Bill / month	electric rate in \$/KW-hr.	KW-hrs. used per month	Total # of KW needed to go off-grid	savings per year per each KW-hr. of solar array	30% Fed. Tax Credit & #yrs to pay-off at DIY \$4k/KW	30% Fed. Tax Credit & #yrs to pay-off at Installer \$6k/KW
\$100	\$0.08	1250	8.3	\$144	19.4	29.2
\$100	\$0.10	1000	6.7	\$180	15.6	23.3
\$100	\$0.12	833	5.6	\$216	13.0	19.4
\$100	\$0.14	714	4.8	\$252	11.1	16.7
\$100	\$0.16	625	4.2	\$288	9.7	14.6
\$100	\$0.18	556	3.7	\$324	8.6	13.0
\$150	\$0.08	1875	12.5	\$144	19.4	29.2
\$150	\$0.10	1500	10.0	\$180	15.6	23.3
\$150	\$0.12	1250	8.3	\$216	13.0	19.4
\$150	\$0.14	1071	7.1	\$252	11.1	16.7
\$150	\$0.16	938	6.3	\$288	9.7	14.6
\$150	\$0.18	833	5.6	\$324	8.6	13.0
\$200	\$0.08	2500	16.7	\$144	19.4	29.2
\$200	\$0.10	2000	13.3	\$180	15.6	23.3
\$200	\$0.12	1667	11.1	\$216	13.0	19.4
\$200	\$0.14	1429	9.5	\$252	11.1	16.7
\$200	\$0.16	1250	8.3	\$288	9.7	14.6
\$200	\$0.18	1111	7.4	\$324	8.6	13.0
\$250	\$0.08	3125	20.8	\$144	19.4	29.2
\$250	\$0.10	2500	16.7	\$180	15.6	23.3
\$250	\$0.12	2083	13.9	\$216	13.0	19.4
\$250	\$0.14	1786	11.9	\$252	11.1	16.7
\$250	\$0.16	1563	10.4	\$288	9.7	14.6
\$250	\$0.18	1389	9.3	\$324	8.6	13.0
\$300	\$0.08	3750	25.0	\$144	19.4	29.2
\$300	\$0.10	3000	20.0	\$180	15.6	23.3
\$300	\$0.12	2500	16.7	\$216	13.0	19.4
\$300	\$0.14	2143	14.3	\$252	11.1	16.7
\$300	\$0.16	1875	12.5	\$288	9.7	14.6
\$300	\$0.18	1667	11.1	\$324	8.6	13.0
\$350	\$0.08	4375	29.2	\$144	19.4	29.2
\$350	\$0.10	3500	23.3	\$180	15.6	23.3
\$350	\$0.12	2917	19.4	\$216	13.0	19.4
\$350	\$0.14	2500	16.7	\$252	11.1	16.7
\$350	\$0.16	2188	14.6	\$288	9.7	14.6
\$350	\$0.18	1944	13.0	\$324	8.6	13.0
\$400	\$0.08	5000	33.3	\$144	19.4	29.2
\$400	\$0.10	4000	26.7	\$180	15.6	23.3
\$400	\$0.12	3333	22.2	\$216	13.0	19.4
\$400	\$0.14	2857	19.0	\$252	11.1	16.7
\$400	\$0.16	2500	16.7	\$288	9.7	14.6
\$400	\$0.18	2222	14.8	\$324	8.6	13.0

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Taking the example above with a \$150 per month electric bill and an electric rate of \$0.10 per KW-hr. -- my Potomac Edison (First Energy) electric needs will be offset by a **5 KW** solar power system.

Type	cost/KW	system size	Total Cost	30% Federal rebate	WV \$2,000 rebate year 1	WV \$2,000 rebate year 2
DIY Install:	\$4,000 *	5 KW	\$20,000	\$6,000	\$2,000	\$2,000
Installer based:	\$6,000 *	5 KW	\$30,000	\$6,000	\$2,000	\$2,000

Type	Net cost after rebates and incentives	5 KW - total annual savings of \$180/KW solar per year	Pay-off time - in years:
DIY Install:	\$10,000.00	\$900	11.1
Installer based:	\$20,000.00	\$900	22.2

In this case, the state incentives have a larger impact on a smaller number - i.e. DIY install, as the reimbursements from the state of WV have a ceiling of \$2,000 which we took over 2 years - phase I and phase II of the install over 2 separate years -- i.e. December and January crosses over years.

So assuming that my install is DIY and I pay off my 5 KW solar power system in 11 years, and my panels continue to supply power for 30 years and my electric rate never goes up (not true!) --- my gross savings over 30 years for this system would be: $(30 - 11 \text{ years}) * \$180 * 5 = \$17,100$.

But wait, I can sell SREC's (Solar Renewable Energy Credits) to a buyer and net another \$200 per KW per year for perhaps 10 years -- nets another \$1,000 per year or \$10,000 over 10 years -- so my system ends up being FREE and the pay-off is even more rapidly accelerated with the SREC contract...

November SREC Prices	Energy Year Ending		
	2010	2011	2012*
Delaware	-	-	\$88.99
Maryland In-State	\$174.98	\$200.00	
Maryland Out-of-State	-	-	
Massachusetts	-	\$535.00**	
New Jersey	-	\$670.00	\$225.00
Ohio In-State	-	\$380.00	
Ohio Out-of-State	-	\$55.00	
Pennsylvania	-	\$10.00	-
Washington, DC	\$119.00	\$150.00	

source: <http://www.srectrade.com/blog/tag/solar-rec-prices>