Sustainable Energy Group Inc.
P.O. Box 721
Nevada City, CA 95959
530-273-4422
CSL # 868816
www.SustainableEnergyGroup.com

Solar Expert – Or Not – Part One

Do you have a friend or relative that claims to be a solar expert, a self-described know it all when it comes to solar energy? If so, chances are they're no expert at all. For example, does solar really take a decade or more to pay back?

Slick solar sales people, inundating our area with cold marketing calls and taking advantage of seniors and others with overpriced wares and high-pressure sales are another. The extent of the misinformation is so extensive I'll be covering it in this and the next couple of columns of Going Green. Lets take a look at the claims versus the realities spouted by some of these so-called experts!

Claim: Solar power will take ten years or longer to pay back.
Reality: Solar power usually saves more than it costs after 1 year.

Just hearing the word "payback" makes me bristle for a number of reasons. While it may be simple enough for a 5 year old to understand, it's so oversimplified as to be useless. People rarely pay cash for solar. The vast majority finance the installation, and for good reason as we'll find out below. The most obvious problem with payback is the electricity bill savings you get next year will be higher than last year, not the same. Electricity costs have been going up 6 to 7% per year for the past 30 years and will escalate at a much higher rate over the next 30 years.

The less obvious problems with the payback approach are a little more complicated but the bottom line is that the vast majority of our projects pay for themselves within the first year. That's how wrong "payback" is when it comes to decision making!

Let's look at a quick example based on a job we just quoted for a customer. The cost of their system is $16,000 after incentives and the system saves them $1,400/yr in electricity. The payback approach tells them it will take 11.4 years before they'll have it paid for and begin to see savings. But a sound, defensible "cash flow analysis" (favored by 9 out of 10 professional accountants!) shows they'll be ahead $643 after the first year of operation (see results in the table "Annual Savings From a Solar Power Installation"). Look at the first year and do the simple math:

Electric Savings – Loan Payment + Tax Effect of Loan = Net Savings

While most of the building owners we work with borrow money over a 5 to 20 year period, this family decided to refinance their home given today's record low rates. Their bank is charging them a fixed rate of 5% over 30 years which, as the table shows, is less than they would be paying PG&E for electricity. Also notice how the mortgage interest deduction credit at the end of the year sweetens their deal even more (Tax Effect: Loan). With solar they're now paying the bank less than they would have been paying PG&E, and less and less every year instead of more and more! They plan to retire in a few

years and this will be a huge help.

Annual Savings From a Solar Power Installation

Year	Electric Bill Savings	Loan Payment	Tax Effect: Loan	Net	Balance
2010	$1,401	$ (1,025)	$267	$643	$643
2011	$1,485	$ (1,025)	$263	$723	$1,365
2012	$1,574	$ (1,025)	$258	$807	$2,173
2013	$1,668	$ (1,025)	$254	$897	$3,070
2014	$1,769	$ (1,025)	$249	$993	$4,063
2015	$1,875	$ (1,025)	$244	$1,094	$5,157
2016	$1,987	$ (1,025)	$239	$1,201	$6,358
2017	$2,106	$ (1,025)	$234	$1,315	$7,673
2018	$2,233	$ (1,025)	$228	$1,436	$9,108
2019	$2,367	$ (1,025)	$222	$1,564	$10,672
2020	$2,509	$ (1,025)	$216	$1,699	$12,371
2021	$2,659	$ (1,025)	$209	$1,843	$14,214
2022	$2,819	$ (1,025)	$202	$1,996	$16,210
2023	$2,988	$ (1,025)	$194	$2,157	$18,367
2024	$3,167	$ (1,025)	$187	$2,329	$20,696
2025	$3,357	$ (1,025)	$179	$2,511	$23,206
2026	$3,559	$ (1,025)	$170	$2,704	$25,910
2027	$3,772	$ (1,025)	$161	$2,908	$28,818
2028	$3,998	$ (1,025)	$151	$3,125	$31,943
2029	$4,238	$ (1,025)	$142	$3,355	$35,298
2030	$4,493	$ (1,025)	$131	$3,599	$38,896
2031	$4,762	$ (1,025)	$120	$3,857	$42,753
2032	$5,048	$ (1,025)	$109	$4,131	$46,885
2033	$5,351	$ (1,025)	$96	$4,422	$51,307
2034	$5,672	$ (1,025)	$84	$4,730	$56,037
2035	$6,012	$ (1,025)	$70	$5,057	$61,095
2036	$6,373	$ (1,025)	$56	$5,404	$66,498
2037	$6,755	$ (1,025)	$41	$5,771	$72,270
2038	$7,161	$ (1,025)	$26	$6,161	$78,431
2039	$7,590	$ (1,025)	$9	$6,574	$85,005

Claim: This deal is only good today – sign here.
Reality: You've been snookered into paying way too much.

Now here's where those slick solar sales people come in. If you pay way too much for a system or get saddled with the wrong financing you can't expect the immediate savings shown here. Which is why you should never allow yourself – or anyone you know – to fall for the old "This is a special price we can only offer if you sign here, today!"

ALWAYS GET THREE BIDS, MINIMUM!

I've learned, usually after the fact, of so many local people that have fallen for this. They have no idea how badly they've been snookered because they only got one bid! If nothing else, call us and at least one other local solar company, tell us what they've proposed in the way of equipment, and we can give you at least a ballpark estimate of what it should cost. A short followup site visit is all it would take to firm up the cost in writing.

In the meantime, stay tuned to this column folks, there's more coming! Happy New Year!

Ray Darby is President of Sustainable Energy Group Inc., a Grass Valley company offering energy efficiency and solar services for residential and commercial buildings, from comparing the alternatives through installation and servicing of energy systems of all types. You can reach him at 530-273-4422, via email RayDarby@SustainableEnergyGroup.com, or visit their web site at www.SustainableEnergyGroup.com.