

Energy Efficiency, Putting the Cart Before the Horse

By James Quarello

Whenever taking on a major project the best thing to start with is a plan. Planning reduces mistakes and waste. The same principal should be applied when making your home more energy efficient. Having a plan will give direction on which improvements should be done first to gain the greatest efficiency and save the most money.

As an energy auditor my experience has been some folks think with their hearts. They want to do the right thing for the planet and that's great. Being more energy efficient is definitely being Green. But sometimes they are misdirected in their quest, starting out without a plan, letting their hearts lead them to do the "right thing."

Let me give you an example. As an energy auditor I do audits for a solar panel installation company. I have audited about 30 – 40 homes this year which have had solar panels installed. Some of these homes were extremely energy *inefficient*. Some with antiquated heating systems that were not well maintained, little or no insulation and drafty old windows and doors to name a few of my findings. But they all had solar panels supplying for the most part just a portion of their electricity use for each month.



As most everyone knows solar panels are not cheap even with subsidies. A 4 kW array can cost the homeowner in the neighborhood of \$20,000. *Some* of that money could be used, for example, to seal and insulated the home making it more energy efficient thus yielding essentially the same result as installing the solar panels, to reduce energy use and greenhouse gases.

In fact \$20,000 could more than cover the cost of all the repairs and energy upgrades in a vast majority of the homes that are audited. A recent client's home that was audited (with solar panels) was found to need \$14,000 worth of energy improvements. Implementing these improvements was estimated to result in an annual reduction of greenhouse gases equivalent to not driving a car for 13 months with an estimated annual energy savings of \$2038.

Now I am 100% behind solar panels, wind turbines and geothermal heating systems. They are technologies we should embrace and use as much as possible. But they are not solutions to an energy inefficient home. These technologies should be used at an appropriate phase in a homes energy improvement plan.

As I said earlier people want to do the right thing and sometimes think with their hearts. But being pragmatic can be good for our hearts as well as our planet. The most important thing to do before deciding to put solar panels on the roof or changing out old windows is to acquire a plan.



An energy audit is often the best way to begin forming an energy improvement strategy for a home. Through the audit process the biggest deficiencies can be identified and a plan formed for improving the efficiency of the home. In this way the home is improved sensibly yielding the greatest reduction in energy use while saving the homeowner the most money and reducing the maximum amount of greenhouse gas emissions....

And it's good for your heart and mind.