



Smart Choices for Energy Investments

Every time we spend money we're making a choice but, when it comes to investments in energy efficient or renewable energy products or services, it can be difficult to make a smart choice. Unfortunately, people often waste a lot of money on alternative building solutions providing little savings for the cost, unaware of far better solutions. Often it's the "marketing hype" that drives people to purchase a particular product, unaware that the actual savings they will receive is substantially less than what they're expecting.

Attic radiant barrier salesmen – like the one I ran into at the Nevada County fair recently - are an example of those making extraordinary claims like "25% to 50% or more savings on your utility bill!" In reality, if your home has a minimal amount of ceiling insulation (6" fiberglass or "R-19" is typical in older homes) you can expect a 2 to 10 percent reduction in just the cooling portion of your summer utility bill. In some cases the reduction might be as large as 17 percent of your air conditioning cost, but it depends on the amount of insulation you have in your attic. The more insulation you have the less you'll save with a radiant barrier.

This is just one example of the problem facing consumers when it comes to making smart energy choices. Do you simply trust the salespeople and believe the "marketing hype" or is there another way?

First let's define exactly what is meant by "Smart Energy Choices." Smart Energy Choices can provide a variety of benefits that fall into the following categories:

- Economic benefits
- Environmental benefits
- More sustainable use of energy (reduced waste)
- Improved comfort
- Reduced dependence on foreign sources of energy

Now let's look at how you can make smart energy choices. Your first step should be to obtain reliable, independent, third-party advice. My public service web site, www.TheEnergyGuy.com, has a variety of links to resources available from sources like the California Energy Commission, the U.S. Department of Energy and our National Energy Labs. If you're interested in investing just a little time or money for now, the Practical Tips page can show you how to get the most benefits for the least cost. These tips cover a wide range of energy solutions, from appliances to transportation, and will give you a fast overview of the possibilities. You'll be better prepared to speak to sales people and explore the products and services available locally in order to get the best value.

If you're interested in exploring your choices for reducing a building's energy use, there are a very large number of viable energy solutions to choose from – and probably a large number of dollars at stake as well! Because buildings are somewhat complicated "systems," sorting through the many possible solutions available in order to make smart choices is beyond the scope of most non-professionals. Taking the time to find and use an independent (reliable, trustworthy and unbiased) energy professional is a very good idea. Unless you are willing to invest a lot of your own time to fully understand the relative costs and benefits of the many choices available, it's likely you'll waste a lot of money without professional assistance.

There are many professionals available today to help you make appropriate energy choices. An unbiased energy professional, with a comprehensive knowledge of the full range of energy solutions, can provide the most appropriate and cost-effective energy solutions. Such a professional is generally found in building-related professions where "good advice" rather than "just buy our product" is their primary business motive. These can include such professions as energy consultants, energy auditors, and energy engineers. If you're building new or planning a major remodel or addition, there are quite a few local architects and designers I've worked with over the years who, when it comes to designing a building to minimize heating and cooling energy, do a great job. The best way to find an expert is to do a lot of "asking around" of people you trust. Ideally you want someone with practical sensibilities and experience combined with a strong technical background.

Imagine an ideal approach for making your most appropriate energy choices. You have an expert whose is familiar with the full range of energy solutions as well as their costs and benefits. The expert is unbiased towards any particular solution because their reputation depends on it.

First the expert makes a thorough assessment of your situation, starting with an evaluation of your utility bills. You'll be asked about such things as specific comfort problems you may have had, your budget for energy improvements, your average winter and summer thermostat setting, etc. The expert checks your heating/cooling system, your water heater and your building's construction for obvious defects and, if the budget allows, measures the defects. For example, your building's air leakage can be measured – if you have a forced-air heating/cooling system the duct system leakage can also be measured. A thermographic scan is a "picture worth a thousand words" because it will show your air leakage points as well as areas with missing or poorly installed insulation (extremely common). In the case of cooling systems, they often lack proper refrigerant charge, which lowers efficiency, so this might also be checked and fixed.

A new building (or major remodel/addition) can even be "simulated" with a sophisticated computer program, giving the expert your energy use for things like heating, cooling, and hot water when using different energy (solution) scenarios.

In either case, the installed cost and energy savings under each scenario as well as maintenance and replacement considerations and other factors can be thoroughly brought to light. The expert then gives you the bottom line on the particular energy solutions that will provide you with the most benefits for the least cost.

Sounds like the ideal scenario, doesn't it? Believe it or not, we have experts like this right here in Nevada County today, and the numbers are growing. There's no need to risk valuable investment dollars on the word of a single salesman offering this or that "great new thing". Get the "big picture"

and make sure you're getting the very most from your energy investment dollar!

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