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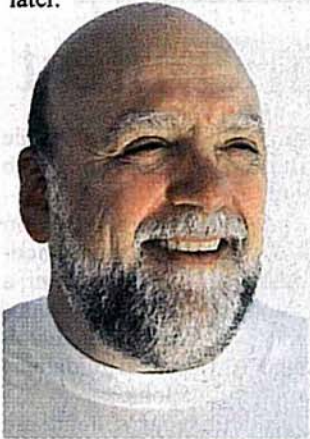
ENERGY & GREEN BUILDING

Warranties for energy investments

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I built my first deck 30 years ago. At the time, Wolmanized wood was the high-tech product of the day. Your deck would last at least 30 years -- guaranteed!

Fifteen years later, my deck was still strong as ever, with no sign of rot. But it looked awful. I found the warranty document and it clearly stated, "Guaranteed not to rot for 30 years." They had never guaranteed it would look good 30 years later.



Understanding warranties can be overwhelming. For example, warranties for photovoltaic systems (PV) get complicated because the two main components, solar panels and inverters, often have separate warranties.

Many manufacturers offer long-term warranties on solar panels. Such warranties typically cover only "output" and are intended to ensure that panels produce as much electricity as the manufacturer claims. Coverage normally extends to 80 percent of the promised output over a 20-

25-year period, or 90 percent over a 10-12-year period. Once your warranty expires, even if some of your panels are lemons, you will pay to replace them.

Power inverter warranties generally run two to 15 years. If the inverter is not sized correctly, it will wear out sooner, and the sizing error will probably void any warranty.

Note when warranties begin. If you hire an Energy Service Company (ESCO) to install a number of energy conservation measures at your facility, the installation period may be as long as a year. It is possible that a chiller could be installed in December and tested in January. Does the warranty clock start running in January, or during the summer when you start using it? Does the ESCO have any liability for the warranty period?

There are many components to an HVAC system, and these components may have multiple manufacturers and terms.

In addition to the start date and warranty period, you may be able to negotiate the start date. Also, if a third-party vendor stands between you and the manufacturer, you will want a copy of the manufacturer's warranty agreement.

Understand who holds a warranty. Will that company be viable if you need to exercise a claim? If the manufacturer is situated overseas, how do you collect on a product bought years ago? We all agree on the value of installation contractors who have experience and a good

reputation. We would expect them to verify warranties. However, in the emerging energy product markets, installers may represent niche companies that are new to the marketplace and have shorter track records. These new providers would probably be just as happy if customers didn't read warranties too closely.

Many energy industries police themselves and provide standards to measure performance. The Illuminating Engineering Society, for example, has procedural standards to measure LEDs. Additionally, organizations like NYSERDA and Con Edison require products that qualify for rebates to meet the industry standards.

While standards can be manipulated by manufacturers or even applied fraudulently, they still provide a good starting point for your research.

Here are some recommendations:

Always purchase equipment and energy installation projects competitively. Have a demonstration installation where feasible. Identify professional organizations that certify the type of equipment you intend to purchase.

Ask utility or energy efficiency experts if they can provide information about a product or technology.

If end-users generally purchase extended warranties, there is probably a good reason for it, so consider such a purchase as well.

And finally, understand the equipment's operating requirements.